

**Registration Choice in SEOs: the announcement, issuance, and withdrawal
impact on bondholder wealth.**

Joshua T. White

ABSTRACT

I examine the impact of announcement, completion or withdrawal of seasoned equity offerings on bondholder wealth for firms employing traditional and shelf registrations. Using a sample of X,XXX seasoned equity offering announcements between 2002 and 2008, I expect to find support for both the informational content hypothesis and leverage risk reduction hypothesis. I also expect to find evidence that the initial unallocated shelf registration involving seasoned equity conveys negative information about the future cash flow prospects of the firm that are reflected in the price drop of existing bonds. Firms that simply renew unallocated shelf registrations involving seasoned equity do so in order to time market opportunities when equity prices are inflated.*

Current Draft: September 9, 2009

First Draft: August 18, 2009

Contents

I.	Introduction.....	3
	A. <i>Dividend Policy</i>	3
	B. <i>Capital Structure</i>	4
	C. <i>Seasoned Equity Offerings</i>	5
	D. <i>Contribution to Literature</i>	8
	E. <i>Results</i>	9
II.	Related Literature & SEO Process.....	9
	A. <i>Traditional Registration (1933+)</i>	9
	B. <i>Allocated Shelf Registration (1982+)</i>	9
	C. <i>Unallocated Shelf Registration (1992+)</i>	11
	D. <i>Market Overhang</i>	11
III.	Competing Hypotheses.....	12
	A. <i>Informational Content Hypothesis</i>	12
	B. <i>Wealth Transfer Hypothesis</i>	13
	C. <i>Leverage Risk Reduction Hypothesis</i>	14
IV.	Sample and Descriptive Statistics.....	15
	A. <i>Data inclusion criteria and source</i>	15
	B. <i>Yearly and industry distribution of equity registration type</i>	18
	C. <i>Sample firm and bond characteristics</i>	18
V.	Empirical Tests and Results.....	19
	A. <i>Sample firm announcement abnormal stock and bond returns</i>	19
	B. <i>Sample firm issuance abnormal stock and bond returns</i>	24
	C. <i>Sample firm withdrawal abnormal stock and bond returns</i>	27
	D. <i>Sample firm shelf-registered expiration abnormal stock and bond returns</i>	27
VI.	Robustness Tests.....	28
	A. <i>Firm level and bond level abnormal bond returns</i>	28
	B. <i>Allocated vs. Non-Allocated Shelf Registrations</i>	28
	C. <i>Additional Robustness Tests</i>	29
V.	Conclusion.....	29
	Works Cited.....	32
	Tables.....	Error! Bookmark not defined.

I. Introduction

Information about a firm's future cash flows is valuable to bondholders and shareholders alike. Both types of investors obtain this information directly and indirectly from a firm's actions. Direct information may be obtained through press releases, earnings releases, and voluntary disclosures. The impact of these types of information is well developed.¹ There also exists a large body of literature studying the impact of indirect information found in changes in dividend policy and capital structure on bondholders and shareholders.

A. Dividend Policy

Extant literature examining the impact of changes in dividend policy on shareholders generally supports an information hypothesis. Miller and Modigliani (1961) suggest that a change in dividend payout policy could be viewed by *shareholders* as holding informational content regarding future firm profits. Dividend signaling models by Bhattacharya (1979), John & Williams (1985), Kalay (1980), and Miller & Rock (1985) all predict positive market reactions to an increase in dividends based on informational content. Empirical evidence by Aharony & Swary (1980), Eades, Hess, & Kim (1986), Kalay & Loewenstein (1985), and Pettit (1972) all support a positive relationship between share prices and increases in dividends. Dividend changes may also signal management's belief about future investment opportunities. Lang & Litzenberger (1989) argue that increased dividends signal management's commitment to avoid the overinvestment problem predicted by Jensen (1986). However, Denis, Denis, & Sarin (1994) find evidence that dividend changes signal future cash flows and support an informational content hypothesis while rejecting the overinvestment hypothesis.

¹ See Healy and Palepu (2001) for a survey on the impact of firm disclosures on shareholder wealth

Dividend changes may also impact *bondholders* in a world with information asymmetry. Firms could issue debt to pay unanticipated dividends thereby transferring wealth from bondholders to shareholders. However, Fama & Miller (1972) show a world with perfectly protective debt covenants eliminates the effect of changes in firm capital structure on shareholder or bondholder wealth. Although Smith & Warner (1979) find nearly all debt covenants limit cash dividends to shareholders, there exists empirical evidence that large changes in dividends impact bondholders. Woolridge (1983) examines bond price reaction to unanticipated dividend changes and finds support for an informational content hypothesis over a competing wealth transfer hypothesis. Handjinicolaou and Kalay (1984) also find that the impact of large changes in dividend policy on bondholders is more consistent with the information content hypothesis than with a competing wealth redistribution hypothesis.

B. Capital Structure

The informational content found in capital structure changes also impacts shareholders. Capital structure changes, and in particular seasoned equity offerings, convey important information regarding future firm profitability. Meyers and Majluf (1984) show that with asymmetric information, managers with superior information about the firm have an incentive to issue overvalued equity. Consequently, the stock price of the issuing firm drops on the announcement of a new issue as rational investors interpret the information of this signal and lower their valuation of the firm's future cash flows. The Myers and Majluf model has been confirmed by many studies, with existing shareholders punished with an average reduction in market value around 3% (see Kalay and Shimrat (1987), Asquith and Mullins (1986), Hess and Bhagat (1985), Kolodny and Suhler (1985), and others). However, Heron & Lie (2004) present evidence that the information content of seasoned equity offerings varies based on the type of

seasoned equity offering chosen by a firm's management. Whereas operating performance declines for firms issuing non-shelf registered primary offerings, firms issuing shelf registrations see a subsequent improvement in operating performance. Although Heron & Lie (2004) do not look at bondholder impact of various SEO types, we might expect the informational content differences to yield dissimilar impact on bondholders based on equity registration choice—shelf registration versus non-shelf registration.

C. *Seasoned Equity Offerings*

The impact of seasoned equity offerings on bondholders is not clear. To my knowledge, only two studies have examined this impact, Kalay and Shimrat (1987) and Elliot, Prevost, and Rao (2009), each testing similar theoretical predictions but arriving at different conclusions based on empirical evidence. Three competing hypotheses are tested in these studies. The *wealth transfer hypothesis* holds that SEOs should positively impact bondholders since wealth is being transferred from shareholders to bondholders. The *leverage risk reduction hypothesis* also predicts positive bondholder returns since the firm is reducing its risk of meeting debt payments at no cost to bondholders. Finally, the *informational content hypothesis* predicts negative bondholder returns since the need to raise external financing conveys a negative view of future cash flow prospects by management.

Kalay and Shimrat (1987) look at 62 non-secondary seasoned equity offerings for firms with outstanding bonds from 1970-1982 and find support for the informational content hypothesis. In particular, Kalay and Shimrat find announcements of seasoned equity offerings (SEO) negatively impact bondholders due to a signal of poor future firm prospects. However, using a broader and more recent data set, Elliot, Prevost, and Rao (2009) find a positive SEO announcement return to bondholders. However, the authors reject the wealth transfer hypothesis

because there is no consistent inverse relationship to shareholder returns. The authors find support for the leverage risk reduction hypothesis as bondholder returns increase for low quality, distressed firms and those with large changes in capital structure.

It is important to note that the sample period for Kalay and Shimrat (1987) excludes shelf registrations from inclusion. Further, Elliot, Prevost, and Rao (2009) only examine primary non-shelf registered offerings of seasoned equity offerings. It is plausible that a comparison of the wealth effects for bondholders of firms employing shelf registered SEOs and those with non shelf registered SEOs may resolve the conflicting empirical results.

There are a number of reasons why the information content may differ based on registration choice. First, there exists literature that suggests the motivation and information content differs between equity offering type. Heron and Lie (2004) document different motivation and information content among non-shelf registered primary offerings and completed shelf registrations. Firms issuing primary (non-shelf) SEOs appear to be timing the market based on evidence of recent market run-up, subsequent operating performance, earnings management, cash reserves and debt levels. However, firms that choose shelf registrations appear to be squeezed for capital as debt levels are high and cash reserves low. These firms have not experienced a run-up in their stock price relative to the overall market or their industry peers, but do exhibit lower levels of earnings management and increased future operating performance.

Second, shelf registrations could signal two pieces of information at separate periods: first when the registration is complete, and another when the actual equity is issued or the registration expires and is not renewed. Our knowledge of the differences in information content signaled through seasoned equity offerings, and especially shelf registrations, is limited. Heron and Lie (2004) examine operating performance and market reactions to both shelf registrations

and traditional registrations, but their sample of shelf registrations is limited only to complete offerings. Studies of *cancelled* equity offerings by Mikkelson and Partch (1988) and Clarke, Dunbar, and Kahle (2001) suggest information can also be deduced from the withdrawal of SEOs. Clarke, Dunbar, and Kahle (2001) examine insider trading activity around equity issuances and find that managers appear to be timing the market by issuing overvalued equity, but cancel the issue when the market penalizes the share price by the overvaluation amount. Mikkelson and Partch (1988) find that average returns in the period between the equity announcement and subsequent completion (or withdrawal) are positive for completed equity offerings, but negative for offerings that are eventually cancelled and withdrawn.

Although no study exists examining the informational content of *expiring* shelf registrations, we expect the action of not issuing equity to be met with non-positive abnormal returns. Heron and Lie (2004) present evidence that managers choosing shelf registrations are optimistic about future returns and operating performance subsequently improves. However, their study only examines completed offerings. We expect that firms withdrawing their shelf registrations in the form of expiration did not see their optimism come to fruition. We also predict that firms choosing not to “renew” their shelf registration will be met with a negative market signal as the market views this as confirmation of poor future cash flows and a lost sense of optimism by management.

A third reason the informational content may differ between shelf-registered SEOs and non-shelf registered SEOs is the differences in delay between announcement and issuance. The average delay for firms employing shelf registrations is much larger than firms using traditional (non-shelf) methods of issuing seasoned equity. For example, Heron and Lie (2004) found that a delay of 102 days exists from the filing date to the issue date for completed shelf registrations

during the years 1980-1998. The period was only 35 days for non-shelf registered primary offerings. Similarly, Bethel & Krigman (2009) find an average delay of 111 days following a shelf registration from 1990-2003. Given the conflicting results of Kalay and Shimrat (1987) and Elliot, Prevost, and Rao (2009), an analysis of the separate information signaled on the *registration, completion, or withdrawal date* for non-shelf registered and/or *non-renewal* for shelf registered SEOs is warranted and the **general scope of this paper**.

D. Contribution to Literature

This study contributes to extant literature in a number of ways. First, as Elliott, Prevost, & Rao (2009) point out, the large body of literature pertaining to seasoned equity offerings has largely ignored the wealth impact on bondholders for firms issuing seasoned equity. Second, the motivational content of various seasoned equity offers appears to differ among equity offering type (see Heron & Lie 2004). Understanding the market reaction to registering, issuing, or withdrawing traditional (non-shelf registered) and shelf registrations will give us greater insight into this motivation. This study will also help answer two timeless questions: First, do managers—as Heron & Lie (2004) suggest—make the decision to issue seasoned equity in the best interest of current owners? Second, are managers maximizing firm value (and not just shareholder value) when seasoned equity offerings are issued or withdrawn? As Elliott, Prevost, & Rao (2009) suggest,

“(evidence that) *SEOs are associated with positive returns to senior securities that outweigh the observed losses to common stockholders would suggest that SEOs are firm value maximizing events, albeit not shareholder wealth maximizing.*”

Finally, we are able to discern among three familiar hypotheses to interpret the announcement impact of SEOs on bondholder wealth.

E. *Results*

[Will write after running my analyses]

This paper proceeds as follows. The related literature is discussed in Section II. The sample selection and sample statistics are discussed in Section III. Empirical tests and results are presented in Section IV, and a summary of the paper is presented in Section V summarizes.

II. **Related Literature & SEO Process**

In order to identify the impact of SEOs on bondholders, it is important to understand the process firms encounter in issuing seasoned equity.

A. *Traditional Registration (1933+)*

Firms must register seasoned equity with the SEC before making the shares available to the public. Until 1982, firms could only employ a traditional registration procedure where each new security issue was registered independently and a 48-hour delay separated the filing period from the market issue period (Kidwell, Marr, & Thompson, 1984).

B. *Allocated Shelf Registration (1982+)*

In response to the 1967 Congressionally commissioned Wheat Report which viewed the traditional registration procedure as costly and burdensome, the SEC proposed Rule 462 (eventually becoming Rule 415) in 1980 allowing *allocated* shelf registration. After temporary implementation of Rule 415 in 1982, the rule was permanently adopted in November 1983 for firms eligible to use Form S-3 (firms with greater than \$150 million in stock held by unaffiliated investors).² Smaller firms were excluded from shelf registration because due diligence could not be adequately performed by underwriters (Kidwell, Marr, & Thompson, 1984).

Allocated shelf registration has several important features. Firms specify in a core prospectus the total dollar amount of debt **or** equity that it expects to offer and sell over the next

² *Federal Register*, March 16, 1982, pp. 11438-11439

two years. However, there is no guarantee that firms will raise any or all of the capital specified in the shelf registration (Bethel & Krigman, 2009). Following an SEC review, the shelf registration statement is declared effective and firms may issue securities without any regulatory delays. Advantages of shelf registration include reduced filing expenses and the ability to time markets. Since no preliminary prospectus must be filed, firms employing shelf registration reduce filing expenses. Managers also gain the ability to time markets since shelf registration eliminates the 48-hour delay of traditional registration.³ These advantages are reflected in empirical studies showing shelf registrations resulting in decreased issuance costs versus traditional offerings by Kidwell, Marr, and Thompson (1984), Rogowski and Sorensen (1985) and the U.S. Securities and Exchange Commission (1983).⁴

Despite the many advantages of allocated shelf registration, equity issues employing shelf registration fell out of favor quickly after the implementation of Rule 415. Although 25% of SEOs from 1982-1983 were shelf registered, this figure fell to less than 1% by 1991 (Bethel & Krigman, 2009). The initial decline in shelf registration may have been due to the negative impact on shareholder value. Moore, Peterson, & Peterson (1986) found no difference in the negative price reaction for firms employing shelf versus traditional registrations in the first two years of availability (1982-1983). Nevertheless, Heron and Lie (2004) document a marked increase in shelf registrations from 1991-1998 and these announcements were met with a slightly less negative market reaction upon announcement. Autore, Kumar, & Shome (2008) find that firms now prefer shelf-registered seasoned equity offerings over traditional SEOs. The “revival”

³ Shelf registration for debt securities also increases flexibility in issue design. Firms can sell a variety of bond issues (convertibles, zero coupon, and floating rate bonds), allowing the firm to take advantage of prevailing yields and maturities.

⁴ See Moore, Peterson, & Peterson (1986)

in equity shelf-registrations since 1990 is a profound shift from the 1980s, with the total proceeds of shelf offerings now exceeding those of traditional offerings (for the period 1999 to 2003).

C. Unallocated Shelf Registration (1992+)

Perhaps one reason for the recent uptick in shelf registration is the response by the SEC in 1992 of introducing *unallocated* shelf registration.⁵ The change permitted various types of securities to be shelf registered on a single statement. Firms specify the total dollar amount of debt **and** equity they expect to offer. It is important to note that firms are not required to specify the amounts of each type of security they expect to offer, which adds increasing flexibility to issue debt or equity as markets and capital needs change. Bethel and Krigman (2009) note that unallocated shelf registration further eliminates costly regulatory delays and allows managers to issue securities immediately to meet capital needs. Because the delay is avoided, firms can better time market pricing opportunities for equity.⁶ They find the ability to process unallocated shelf registrations has increased the usage of the shelf registration choice for equity. Autore, Kumar, & Shome (2008) show that half of all primary equity offerings from 1999-2003 were shelf-registered. However, Bethel & Krigman (2009) find that only 20% of SEOs eligible for shelf registration from 1992-2001 employed this technique.

D. Market Overhang

One potential reason cited for the underuse of allocated shelf registration is the uncertainty it introduces which results in a costly disadvantage: market overhang (Bhagat, Marr, & Thompson, 1985). Market overhang is the price drop that may accompany a shelf registration because firms register up to two years of security issues. Since actual sales of securities may or

⁵ U.S. Securities and Exchange Commission Proposing Release No. 33-6943, 7/22/1992

⁶ Bethel and Krigman (2009) point out that the evidence of market timing in debt securities is mixed. Kidwell, Marr, & Thompson (1984) find no timing benefits for that timing is not possible with debt offerings, but Thatcher and Thatcher (1988) and Kadapakkam and Kan (1989) find some timing

may not take place, stockholders may worry that managers could use common equity to pursue low or negative NPV projects. The severity of market overhang likely depends on the level of information asymmetry, similar to the models suggested by Myers & Majluf (1984). Heron & Lie (2004) also found that market overhang is less severe when markets anticipate the issuance of debt rather than equity. However, the added flexibility of unallocated shelf registration likely exacerbates market overhang. Nevertheless, many studies find little evidence supporting market overhang for allocated shelf registrations (see Bhagat, Marr, and Thompson (1985), Jensen, Hudson, and Sullivan (1995), Moore, eterson, and Peterson (1986), and Heron & Lie (2004)). However, Dennis (1991) found market overhang to be stronger for shelf offerings than non-shelf offerings. Similarly, Bethel & Krigman (2009) find evidence of market overhang for firms with high information asymmetry. These firms experience statistically and economically significant greater share price drops when employing shelf registration, with an average decline of 4.7% for shelf registrations versus a 1.9% average decline for traditional registrations.

III. Competing Hypotheses

At least three hypotheses are presented in extant literature to explain the market reaction to seasoned equity offerings. A summary of the predicted impact of SEOs on bondholder wealth is provided in Table 1.

A. Informational Content Hypothesis

The informational content hypothesis predicts negative bondholder returns since the need to raise external financing conveys a negative view of future cash flow prospects by management. Models by Myers & Majluf (1984) and Miller & Rock (1985) lend theoretical support to the informational content hypothesis. Managers issue equity when a firm's future prospects are dim. Empirical evidence by Kalay and Shimrat (1987), Asquith and Mullins (1986), Hess and Bhagat

(1985), and Kolodny and Suhler (1985) find empirical evidence supporting the informational content hypothesis. Kalay and Shimrat (1987) also show this effect is not limited to shareholders, as bondholders are also punished as the bond market interprets this event as a negative signal of future firm cash flows. Although Elliot, Prevost, and Rao (2009) find support for the leverage risk reduction hypothesis, the authors cannot completely rule out the information content hypothesis.

B. Wealth Transfer Hypothesis

The wealth transfer hypothesis holds that SEOs should positively impact bondholders since wealth is being transferred from shareholders to bondholders. Under this hypothesis, we would expect the losses to bondholders to be higher when shareholder gains are larger (inverse relationship). Elliot, Prevost, and Rao (2009) do not find an inverse relationship between bond and stock announcement returns for seasoned equity offerings. However, other studies have shown that wealth may be transferred from shareholders to bondholders in a number of events, such as announcements of LBOs, spin-offs, and CEO turnover. Warga and Welch (1993) find evidence of wealth transfer between shareholders and bondholders during successful leveraged buyouts. However, Lehn and Poulsen (1988) and Marais, Schipper, and Smith (1989) find only minimal price changes in bond prices in the days surrounding leveraged buyout announcements. Wealth transfer may also take place during the announcement of a spin-off. Whereas Hite and Owens (1983) and Schipper and Smith (1983) find no evidence of wealth transfer during spin-off announcements, Parrino (1997) finds a significant transfer of wealth around the announcement of a Marriott spin-off. Using a larger sample with more complete bond data, Maxwell and Rao (2003) also find systematic evidence supporting a wealth transfer upon the announcement of a spin-off. Adams and Mansi (2009) find evidence of wealth transfer during CEO turnover events.

C. *Leverage Risk Reduction Hypothesis*

The *leverage risk reduction hypothesis* predicts positive bondholder returns since firms increase their capacity to meet debt payments at no cost to bondholders. Under this hypothesis, bondholders reward managerial decisions to raise additional capital in the equity market, reducing leverage and thus the risk of potential bankruptcy. Masulis (1980) finds support for this hypothesis by examining capital structure changes via exchange offers. Masulis documents an inverse relationship between bondholder returns and the resulting leverage after the exchange offer. Elliot, Prevost, and Rao (2009) find significant positive bondholder returns on the SEO announcement date which are inversely related to bond ratings. This study also finds SEOs with large changes in leverage are significantly related to positive bondholder returns. These results are not particularly surprising since lower rated bonds stand to benefit the most from a reduction in leverage and hence a net savings of the expected costs of potential bankruptcy.

Given that Heron and Lie (2004) find that whereas firms issuing shelf registrations have lower cash ratios and higher debt ratios in the year preceding the announcement, and firms choosing a traditional offering of seasoned equity have sufficient cash levels and lower levels of debt than their industry peers, we would expect that firms filing shelf registrations should have a more positive bondholder reaction than those choosing a primary offering, even when controlling for debt ratings. Under this hypothesis, longer maturity bonds, as measured by duration, should also have stronger positive bondholder returns than those with shorter maturity since a reduction in leverage is more consequential for bonds with longer duration.

IV. Sample and Descriptive Statistics

A. Data inclusion criteria and source

The initial sample of SEO observations includes X,XXX primary non-shelf announcements and X,XXX primary shelf registration filings from Security Data Corporation's (SDC) Global New Issues database from January 2002 to December 2008. The SDC database is a Thomson Financial Securities Data service that provides seasoned equity information in addition to other corporate events. To be included in our final sample, the non-shelf registered SEO announcements must meet the following criteria:

1. *Industry.* The issuing firm must not be a financial or utility company (SIC codes 4900-4949 and 6000-6999).
2. *Time Period.* The equity issue announcement must take place between January 1, 2002 and December 31, 2008.
3. *Offering Type.* The equity issue must be primary offering, and not a secondary offering or rights offering.
4. *Equity Issuance.* Evidence of a subsequent equity issuance or withdrawal must be found in SDC's Global New Issues database.
5. *Stock Exchange.* The firms must be listed on the NYSE, AMEX, or NASDAQ.
6. *Stock Price Availability.* Pre-filing stock price data must be available in CRSP for 100 days prior to the announcement.
7. *Capital Structure.* The sample firms must be supported by outstanding public debt.
8. *Bond Price Availability.* Pre-filing bond pricing data must be available from TRACE or Bloomberg for 60 days prior to the announcement through 1 day after the announcement.
9. *Bond Type.* The bond must not be convertible into stock.⁷
10. *Bond Liquidity.* The bond must be traded a minimum of one time per week during the sample period.⁸

⁷⁸ See Kalay and Shimrat (1987)

11. *Bond Issue*. Only one bond per sample firm—the one traded most frequently—is chosen to prevent interdependence among realized returns.⁹

The shelf-registered SEO announcement must meet the following criteria:

1. *Industry*. The issuing firm must not be a financial or utility company (SIC codes 4900-4949 and 6000-6999).
2. *Time Period*. The shelf registration must be filed between January 1, 2002 and December 31, 2006.
3. *Offering Type*. The equity issue must be primary offering, and not a secondary offering or rights offering.
4. *Equity Issuance*. Evidence of a subsequent equity issuance or withdrawal must be found in SDC's Global New Issues database.
5. *Stock Exchange*. The firms must be listed on the NYSE, AMEX, or NASDAQ.
6. *Stock Price Availability*. Pre-filing stock price data must be available in CRSP for 100 days prior to the announcement.
7. *Capital Structure*. The sample firms must be supported by outstanding public debt.
8. *Bond Price Availability*. Pre-filing bond pricing data must be available from TRACE or Bloomberg for 60 days prior to the announcement through 1 day after the announcement.
9. *Bond Type*. The bond must not be convertible into stock.¹⁰
10. *Bond Liquidity*. The bond must be traded a minimum of one time per week during the sample period.¹¹
11. *Bond Issue*. Only one bond per sample firm—the one traded most frequently—is chosen to prevent interdependence among realized returns.¹²

Bond pricing data are obtained from Trade Reporting and Compliance Engine (TRACE) which are provided by the Financial Industry Regulatory Authority (FINRA), a non-governmental regulator of the entire securities industry formed in 2007 by the NYSE and NASD.

¹⁰¹⁰¹¹ See Kalay and Shimrat (1987)

[Previous studies utilized bond data from Tradeline.com (a subsidiary of Sungard Market Data Services) or the Wall Street Journal. TRACE should provide a more accurate depiction of the entire bond market as it provides data on over 30,000 securities spanning 100 percent of the OTC trading and 99 percent of U.S. corporate bond market activity from 2002 to 2008. However, if my sample period needs to be extended, I will need to access Tradeline data for 1995-2001.]

TRACE provides data for all publicly traded bonds including the price, yield, volume, and time of execution. Bond ratings are obtained through S&P Credit Ratings database via the Wharton Research Data Services (WRDS) interface. S&P provides issue-level credit rating history for the entire sample period. Bond maturity, duration, and issue par amounts are obtained through Bloomberg or Moody's Industrial Manuals. Stock pricing data are obtained from the Center for Research in Securities Prices (CRSP). Financial data are obtained from COMPUSTAT.

After matching TRACE bond pricing information with our sample period and event window, our sample includes XXX firms announcing XXX individual SEOs with XXX bond issues. Following the methodology of Elliot, Prevost, and Rao (2009), closing bond prices are captured for days -60 to -16 days, and the event Days -1 to +1, with Day 0 representing the SEO announcement for non-shelf registrations and the filing date for a shelf-registered SEOs. A summary of the date windows appears in Table 2. Bond pricing data are also captured for days -14 to -5 for the actual equity issuance for shelf-registered and non-shelf registered seasoned equity issuances, and the event Days -1 to +1, with Day 0 representing the actual equity issuance date. For withdrawn shelf-registered and non-shelf registered equity offerings, bond pricing data are captured for days -14 to -5 days, and the event Days -1 to +1, with Day 0 representing the withdrawal date. For expired shelf-registered equity issuance, bond pricing data are captured for days -14 to -5 days, and the event Days -1 to +1, with Day 0 representing the expiration date.

B. Yearly and industry distribution of equity registration type

The yearly distribution of seasoned equity offering announcements are presented in Panel A of Table 3. Based on the X,XXX offerings in our entire sample, XX.X% are non-shelf registered primary offerings and XX.X% are shelf-registered primary offerings. I expect these results to be consistent with the findings of Heron & Lie (2004) and Autore, Kumar, & Shome (2008), in finding an increase in the number of shelf-registered seasoned equity offerings beginning in the late 1990s.

Table 3, Panel B presents the yearly sample distribution by industry classification. Based on this distribution, I do not expect to see any industry clustering. Similar to previous studies, I expect chemical products and business services to employ shelf-registrations the most frequently at XX.X% and XX.X% respectively. I also expect manufacturing firms to employ shelf-registrations the least frequently at XX.% thereby opting for traditional non-shelf registered equity offerings.

C. Sample firm and bond characteristics

Descriptive statistics of our final bond sample are detailed in Table 4. Sample firms employing non-shelf registrations have a mean (median) book value of assets of \$X.X (\$X.X) billion, compared to \$X.X (\$X.X) billion for shelf registered. I expect firms employing shelf registration to be larger firms with a market value of equity of \$X.X (\$X.X) billion. These firms have a mean (median) return on equity of XX.X%, compared to XX.X% for firms employing non-shelf registered equity offerings. Consistent with DeAngelo, DeAngelo, & Stulz (2009) and Autore, Kumar, & Shome (2008), I expect my sample firms to have low Altman's Z-scores (see Altman, 1968). Completed shelf-registered seasoned equity offerings raise an average of \$XXX million. Firms employing non-shelf registered SEOs raise \$XXX million on average. The

market overhang period should be much higher for firms choosing shelf-registration with an average (median) of XX.X (XX.X) days versus only XX.X (XX.X) days for firms choosing traditional non-registered issuances.

Panel B of Table 4 shows an average of X.X (X.X) bond issues per firm for non-shelf registered (shelf registered) seasoned equity offerings. Sample firms employing non-shelf registrations have a mean (median) yield to maturity of X.X (X.X), compared to X.X (X.X) for shelf registered. I expect firms employing shelf registration to have longer duration at X.X (X.X) compared to X.X (X.X) for firms choosing non-shelf registration. I expect firms employing shelf-registration to be of higher credit quality based on a mean S&P credit rating of ABC compared to ABC for firms issuing equity without shelf registration. I anticipate firms employing shelf registration to have more liquid outstanding debt that is traded more frequently, with an average (median) of XX.X (XX.X) trading days during the estimation period, compared to XX.X (XX.X) for firms choosing non-shelf registration.

Where available, I also list the stated use of proceeds in Table 4, Panel B. The distribution among stated use should be fairly even, with “Acquisition of Securities” or “Acquisition Finance” being most common at XX.X%. Other frequently listed use of proceeds should be “Capital Investment Funds,” “Capital Expenditures,” or “General Corporate Purposes.” Consistent with Autore, Kumar, & Shome (2008), none of the sample firms should explicitly list “debt retirement” or “leverage reduction” as the use of proceeds.

V. Empirical Tests and Results

A. Sample firm announcement abnormal stock and bond returns

For each firm in our sample, I first measure the stock, market, and industry run-up prior to the equity announcement. The stock run-up is simply the performance during the year prior to

the seasoned equity offering announcement. The market run-up is the return on the CRSP value-weighted index.¹³ To calculate the industry run-up, I use the methodologies employed by Lee (1997) and Heron & Lie (2004). An industry benchmark index is developed by identifying firms that are similar to the sample firm in stock exchange, industry, size, and period of time. The control firms are sorted using the following procedure:

1. *Stock Exchange.* The common stock of the sample firm and control firms must trade on the same national stock exchange (NYSE, NASDAQ, AMEX).
2. *Industry.* All firms with identical three-digit SIC codes that trade within the specific stock exchange are selected. If less than five firms are identified, we repeat the procedure but relax the SIC codes to two-digits.
3. *Firm Size.* Firms within the same stock exchange and identical three-digit SIC code are selected if similar in size. We identify firm size by selecting the firms with ± 30 percent of the current market capitalization of the control firm in the year of the seasoned equity offering.
4. *Time Period.* The five firms that are closest in size and trade on the same stock exchange with identical three-digit SIC codes are selected if market data are available through CRSP for the year prior to the seasoned equity offering.

I construct an industry benchmark index by averaging the five control firms with similar market capitalization and identical three-digit SIC codes (relaxed to two-digit where necessary) and stock exchange. The purpose of the industry benchmark is to capture size and industry-level characteristics that impact our sample firm, with the difference yielding firm-level effects.

¹³ I will also re-estimate these figures using a market model to see if the results are similar.

Panel A, Table 5 displays the means and medians for market run-up, the industry run-up (market run-up less industry run-up), and the firm-specific run-up (industry run-up less stock run-up). I anticipate the mean and median market, industry, and stock specific run-up to be higher for firms employing non-shelf registered seasoned equity offerings. These findings would be consistent with Heron & Lie (2004) and the notion that firms use traditional non-shelf registered offerings to time the market and exploit temporary overvaluations of firms' stock.

To measure the abnormal stock price adjustment to seasoned equity offering announcements, I use two methods. First, the abnormal stock price reactions are calculated by subtracting a return on a market model. Second, I repeat the estimation using the CRSP value-weighted. Both values are displayed in Table 5, Panel B. Also consistent with Heron & Lie (2004), I expect firms announcing traditional non-shelf registered offerings see economically and statistically more significant reductions in equity value than those employing shelf registration. This difference could be interpreted in at least two ways. First, firms choosing traditional non-shelf registrations have been shown to manage earnings and have future declines in operating performance (see Heron & Lie, 2004). Second, there is greater uncertainty for shelf-registered announcements as to whether or not the firms will actually issue equity. I will investigate the second explanation by looking at the market reactions once the equity is actually issued or cancelled. I predict that no statistically significant market reaction should take place for non-shelf registered announcements. However, the actual issuance of equity may signal information content for shelf-registered equity offerings.

Bond price reaction to shelf registered and non-shelf registered seasoned equity offerings is measured using daily bond returns and a mean-adjusted return model developed by

Handjinicolaou & Kalay (1984) and later used by Elliott, Prevost, & Rao (2009).¹⁴ Where daily bond returns are not available due to illiquidity or non-reporting, I calculate the daily return as the unreported period return divided by the number of non-trading days. Similar to Elliot, Prevost, & Rao (2009) the daily bond returns are Winsorized if daily price movements are exhorbant ($\pm 1\%$ of the tails of the abnormal return distribution). I also control for the bond's sensitivity to interest rate changes in two ways. First, I match the selected sample firm bond to a Treasury bond on the date of announcement. Treasury bond data are obtained from www.federalreserve.gov. Where sample Treasury or samle firm bond data are not avialable on the announcement or registration date, I use the most recent trading data prior to the event. Second, I match the duration for each sample bond to the Treasury bond with the closest duration. Kraft and Munk (2007) argue that duration is a better measure of a bond's sensitivity to unanticipated interest rate changes.

¹⁵The expected return premium for bond i is estimated over the 45 day period from Day -60 to -16. The average premium bond return is estimated as:

$$\mu_i = \frac{\sum_{k=2}^{k_i} \left(\frac{p_i, n(i, k)}{n(i, k) - n(i, k - 1)} \right)}{K_i - 1} \quad (1)$$

where

- K_i is the number of estimation period trades on bond i
- $n(i, k)$ is the event time date of the k th trade on bond i

¹⁴ See Elliot, Prevost, and Rao (2009) for a discussion on reduced noise by using daily bond returns over monthly bond return data from the Lehman Brothers Bond Database (LBBD).

¹⁵ Because the methodology is so similar to Handjinicolaou and Kalay (1984) and Elliot, Prevost, and Rao (2009), and for simplicity of comparison, the notation of this section and formulas 1-3 are nearly identical to the description in Elliot, Prevost, and Rao (2009), pp.1475-1476. I will adjust these formulas as I tailor it to my study.

- $p_i, n(i, k)$ is the premium bond return between the $(k - 1)$ and k th trade

I then estimate the daily event window abnormal return (A) for bond i as follows:

$$A_{i,n(i,k)} = p_i, n(i, k) - \mu_i(n(i, k) - n(i, k - 1)) \quad (2)$$

To estimate the cumulative abnormal return (CAR) for each firm, we sum the three day returns from Day -1 to Day +1. The event window statistical significance is measured using a cross-sectional standard deviation test for each CAR¹⁶:

$$t_{CAAR} = \frac{CAAR(T_{-1}, T_{+1})}{\hat{\sigma}_{CAAR(T_{-1}, T_{+1})} / \sqrt{N}} \quad (3)$$

where

- N is the number of observations
- $CAAR(T_{-1}, T_{+1})$ is the mean CAR_i over the $(-1, +1)$ event window
- $\hat{\sigma}_{CAAR(T_{-1}, T_{+1})}$ is the event window CAAR standard deviation

The event study results surrounding shelf registered and non-shelf registered SEO announcements are presented in Panel C of Table 5. [DISCUSSION OF EMPIRICAL RESULTS HERE]. The mean (median) announcement period return for all bonds of non-shelf registered equity is X.XX (X.XX). For bonds of shelf-registered primary equity, the mean (median) announcement period return is X.XX (X.XX). I then bisect the bond returns based on investment grade and non-investment grade quality. Consistent with S&P credit rating definitions, firms with a bond rating of AAA to BBB are investment grade quality. Firms with bond ratings of BB to C are non-investment grade quality (junk bonds). Our sample includes XX non-investment grade bonds of non-shelf registered equity. Consistent with previous studies, I expect the excess returns to be positive and significant. For the XX investment grade bonds of

¹⁶ Brown and Warner (1985)

non-shelf registered equity, I expect the excess returns to not be statistically different from zero. However, for bonds of shelf registered primary equity issues, I expect both investment grade and non-investment grade excess returns to be positive and significant. The difference in the mean return of both samples should be significantly different from zero.

I compare the cumulative abnormal price changes in bond and stock prices in Table 5 to test three hypotheses: the *wealth transfer hypothesis*, the *leverage risk reduction hypothesis*, and the *informational content hypothesis*. Based on my initial results, traditional non-shelf registered issuances lend support to the leverage risk reduction hypothesis. Although I am not able to rule out the wealth transfer hypothesis since we see an inverse relationship between equity and bond returns, we do see more positive bond returns for lower rated bonds and bonds with longer duration. This is consistent with the predictions of the leverage risk reduction hypothesis. However, for firms using shelf-registration, we see a negative market reaction in both bond and stock prices. This is the result predicted by the informational content hypothesis. We need to now look at the market reactions surrounding the actual issuance of equity to see which of the hypotheses hold once the firm actually issues equity.

B. Sample firm issuance abnormal stock and bond returns

Mikkelson and Partch (1988) find that managers tend to withdraw previously announced equity offerings when market prices are too low. The market reacts positively to the decision to withdraw an equity issue if unfavorable market conditions are stated as the reason for withdrawal. However, the completion of previously announced offerings is met with another negative market reaction as share prices again decline by 0.65 percent. Korajczyk, Lucas, and McDonald (1991) interpret the smaller decline in share price as consistent with the one-period models of Leland and Pyle (1977) and Myers and Majluf (1984), but extend their analyses to a two-period setting.

The initial price drop takes place because of the information asymmetry that exists between managers (insiders) and shareholders (outsiders). However, the announcement of an equity issuance and the disclosures that follow shrink the amount of information asymmetry that exists, and the ultimate decision to issue equity is naturally met with a smaller reduction in share price. Nevertheless, consistent with the information content hypothesis, the market views the decision to complete an equity issuance as another signal that the market price is too high and future cash flows are in jeopardy. However, the decision to withdraw may signal that managers believe their equity prices are undervalued or future firm prospects have increased. To our knowledge, no previous studies have examined bond price reaction at the date of issuance or withdrawal. Doing so may shed light on the three competing hypotheses explaining the changes in bondholder wealth.

We repeat the empirical tests from Section V-A, but change our event date window to reflect the issue date. The results are presented in Table 6. For non-shelf registered equity, the average period of market overhang is XX days. For shelf registered equity, the market overhang swells to XX, which suggests greater uncertainty regarding the ultimate issue/do not issue decision. Because of the difference in market overhang, we predict the issuance of shelf registered seasoned equity will be met with a larger market reaction for bonds and stocks than those of non-shelf registered seasoned equity.

Stock price reactions to the issuance of non-shelf registered equity are consistent with the findings of Mikkelson and Partch (1988), and are presented in Panel B of Table 6. Markets react to the ultimate issuance of equity by reducing firm value by X.XX percent on average, which is significant at the X% level. Shelf-registered equity issues are indeed met with a larger negative

reaction, as share prices decline by X.XX percent on average, which is significant at the X% level.

Bond price reaction to the ultimate issuance of equity is consistent with the leverage risk reduction hypothesis for firms choosing non-shelf registration. Bond prices of firms that issue non-shelf registered equity decline. The average reaction for all bonds is negative. Further bisection of investment grade shows the market reaction is negative to both grades of bonds of non-shelf registered equity. A recent paper by DeAngelo et al. (2007) proposes that firms choose SEOs based on limited levels of cash reserves. However, Heron and Lie (2004) found that firms issuing non-shelf registered equity have greater levels of cash and lower levels of debt than those choosing shelf-registered equity, which suggests that the actual issuance of equity for shelf registered equity may be met with a different market reaction. Not surprisingly, the bond price of firms issuing shelf-registered seasoned equity actually increases by X.XX percent, which is significant at the X% level. We can interpret this increase as consistent with the leverage risk reduction hypothesis.

The examination of bond and stock price reaction to the ultimate issuance of equity is important because it sheds light on which of the three competing hypotheses best explains the decision to issue equity. While the information hypothesis better explains the stock and bond price reaction to the announcement and issuance of non-shelf registered equity, the leverage risk reduction hypothesis better explains market reactions to the ultimate decision to issue equity through shelf registration. If these hypotheses hold, we should see opposite market reactions to the decision to withdraw equity issues, especially when the reason cited is “unfavorable market conditions”. We examine this reaction next in Section V-C.

C. Sample firm withdrawal abnormal stock and bond returns

Managers choosing to withdraw equity issuances may signal that the market price is too high. Because the average periods of market overhang differ for shelf registered and non-shelf registered seasoned equity, examining bond and stock price changes may shed light on which hypotheses hold. For example, if the stock and bond prices increase for the withdrawal of shelf registered equity, but decline for withdrawing non-shelf registered equity, this would lend support to the leverage risk reduction hypothesis since shelf registered firms are typically more squeezed for liquidity than firms choosing non-shelf registration. Conversely, if we see bond and equity prices increase for both shelf and non-shelf registered equity, this would lend support to the information content hypothesis since managers no longer view the market price as overvalued or firm prospects may have recovered.

We repeat the empirical tests from sections V-A and V-B but substitute the withdrawal date as Day 0 of our event. For shelf-registered equity, we do not consider the expiration or decision not to renew the shelf registration as a withdrawal. We will discuss the implications of this non-action in section V-D. The results of our withdrawal event study are in Table 7. Panel A shows that our sample includes the withdrawal of XX non-shelf registered SEOs and XX shelf-registered SEOs. [will complete after running regressions]

D. Sample firm shelf-registered expiration abnormal stock and bond returns

Managers choosing not to renew shelf-registered equity issuances may signal that firm prospects have improved or the need for capital has declined. Because shelf registrations last for up to two years, it is possible that some firms renew the registration continuously so that momentary overpricing in equity markets may be quickly exploited.

We repeat the empirical tests from section V-C but substitute the expiration date as Day 0 of our event. We did not consider the expiration or decision not to renew the shelf registration as a withdrawal. The results of our expiration event study are presented in Table 8. Panel A shows that our sample includes the withdrawal of XX non-shelf registered SEOs and XX shelf-registered SEOs. [I will complete this section after running my regressions]

VI. Robustness Tests

A. Firm level and bond level abnormal bond returns

Although we examine a single firm-level bond abnormal return, our results are similar treating: (1) each bond issue as an independent issue or (2) estimating a single value-weighted excess return for multiple issues by weighing each bond issue's proportional amount. The results of these abnormal returns are presented in Table 9. Panel A presents the abnormal bond returns surrounding the announcement (registration) date at the most frequently traded level (which were reported in Section V), firm/SEO-level, and bond-level. [Will discuss results here] Panel B repeats the above results for the issuance date. [Will discuss results here] Panel C presents the three bond levels for the withdrawal date. [Will discuss results here] Panel D displays the three bond level results for shelf registrations that have expired. We look at those that were renewed and non-renewed. [Will discuss results here]

[A discussion of the similarity in results will take place here, as well as an argument for using the bond issue that is most liquid for purposes of my primary study]

B. Allocated vs. Non-Allocated Shelf Registrations

Bethel and Krigman (2009) note when firms file an allocated shelf registration, the dollar amount that managers anticipate to issue and sell over the following two years is disclosed in the core prospectus. However, they note that the shelf registration does not guarantee firms will

raise any or all of the capital specified in the shelf registration. If we bisect our shelf registered data and rerun our regressions, we might see a different market reaction.

Table 10 displays the results of our tests on the allocation decision for shelf registered equity. I expect firms announcing allocated shelf registrations should be met with a more negative market reaction by stockholders, as the mean abnormal return is $-X.XX$ percent for allocated versus $-X.XX$ percent for non-allocated shelf registrations. Bond markets meet the announcement of allocated shelf registrations with positive abnormal returns as the mean abnormal return is $X.XX$ percent. This yields support to the leverage risk reduction hypothesis since allocated shelf registrations are more likely to actually be issued.

C. *Additional Robustness Tests...*

V. **Conclusion**

In this paper, we have studied the abnormal stock and bond returns of firms issuing seasoned equity under both shelf registration and non shelf registered issues to discern among three competing hypotheses for the impact on bondholder wealth. The *wealth transfer hypothesis* holds that SEOs should positively impact bondholders since wealth is being transferred from shareholders to bondholders. The *leverage risk reduction hypothesis* also predicts positive bondholder returns since the firm is reducing its risk of meeting debt payments at no cost to bondholders. The *informational content hypothesis* predicts negative bondholder returns since the need to raise external financing conveys a negative view of future cash flow prospects by management. Prior studies by Elliot, Prevost, and Rao (2009) and Kalay and Shimrat (1987) arrive at dissimilar conclusions. While Elliot, Prevost, and Rao (2009) find support for the leverage risk reduction hypothesis, Kalay and Shimrat (1987) find support for the

informational content hypothesis. In order to differentiate among the competing hypotheses, we look at four seasoned equity offering events:

1. Announcement of non-shelf registered primary vs. shelf-registered primary
2. Issuance of non-shelf registered primary vs. shelf-registered primary
3. Withdrawal of non-shelf registered primary vs. shelf-registered primary
4. Expiration and non-renewal of shelf-registered primary

I anticipate finding the initial change in price is consistent with the leverage risk reduction hypothesis for both traditional and shelf registered SEOs (confirms Elliot, Provost and Rao (2000)). However, the price reaction to the ultimate issuance, withdrawal or expiration of shelf-registered SEOs lends support to the information hypothesis (consistent with Kalay and Shimrat (1987)). Therefore our interpretation of which hypothesis better explains the impact on bondholders is dependent upon the registration choice (consistent with Heron and Lie (2004)).
[Will finish after receiving empirical results]

The results hold using various measures of bond price reaction. Interestingly, when shelf registered equity is further sorted by allocated and unallocated shelf registration, we see that allocated shelf registrations are met with a more negative market reaction by bond and stock markets, suggesting markets anticipate the allocation as a better indicator of the probability of the ultimate equity issuance decision. Although we do not find support for the wealth transfer hypothesis, a caveat is in order. The bondholders of the firm may also be shareholders of the firm and therefore no wealth transfer is detected.

This study helps clarify the conflicting results of Kalay and Shimrat (1987) and Elliot, Provost, and Rao (2009) thereby contributes to the literature on information signaling and SEO impact on bondholders. This study also contributes to the growing body of literature on

management choices that maximize firm value (and not just shareholder value). There is also some recent literature that shelf registrations are making a strong comeback (Autore, Kumar, & Shome (2008) and Heron and Lie (2004). This study may help explain part of the “revival”. There is also recent literature on the choice between allocated and unallocated shelf registration (Bethel and Krigman (2009)). This study helps explain some of the costs of the allocation choice. Finally, there is literature discussing “market overhang”, which is the downward price pressure resulting from a shelf registration due to uncertainty of future equity issues. To our knowledge, market overhang for bondholders has not previously been examined.

Works Cited

- Aharony, J., & Swary, I. (1980). Quarterly Dividend and Earnings Announcements and Stockholders' Returns: An Empirical Analysis . *The Journal of Finance* , 35 (1), 1-12.
- Altman, E. (1968). Financial ratios, discriminant analysis, and the prediction of corporate bankruptcy. *The Journal of Finance* , 23, 589-609.
- Autore, D. M., Kumar, R., & Shome, D. K. (2008). The revival of shelf-registered corporate equity offerings. *Journal of Corporate Finance* , 14, 32-50.
- Bethel, J. E., & Krigman, L. (2009). Managing the Costs of Issuing Common Equity: The Role of Registration Choice. *Quarterly Journal of Finance & Accounting* , 47 (4), 57-85.
- Bhagat, S., Marr, M. W., & Thompson, G. R. (1985). The Rule 415 Experiment: Equity Markets. *Journal of Finance* , 40, 1385-1401.
- Bhattacharya, S. (1979). Imperfect Information, Dividend Policy, and "The Bird in the Hand" Fallacy . *The Bell Journal of Economics* , 10 (1), 259-270.
- Brown, S. J., & Warner, J. B. (1985). Using daily stock returns: The case of event studies. *Journal of Financial Economics* , 14, 3-31.
- DeAngelo, H., DeAngelo, L., & Stulz, R. M. (2009). Seasoned Equity Offerings, Market Timing and the Corporate Lifecycle. *Journal of Financial Economics*, forthcoming .
- Denis, D. J., Denis, D. K., & Sarin, A. (1994). The Information Content of Dividend Changes: Cash Flow Signaling, Overinvestment, and Dividend Clienteles . *The Journal of Financial and Quantitative Analysis* , 29 (4), 567-587.
- Eades, K. M., Hess, P. K., & Kim, E. H. (1985). Market Rationality and Dividend Announcements. *Journal of Financial Economics* , 14 (4), 581-604.
- Eckbo, B. E., & Ronald, W. M. (1995). Seasoned Equity Offerings: A Survey. In R. A. Jarrow, & V. M. Ziemba (Eds.), *Finance, Handbooks in Operation Research and Management Science* (Vol. 9, pp. 1017-1072). North-Holland, Amsterdam.
- Eckbo, B. E., Masulis, R. W., & Norli, O. (2000). Seasoned Public Offerings: Resolution of the 'New Issues Puzzle'. *Journal of Financial Economics* , 56, 251-291.
- Elliott, W. B., Prevost, A. K., & Rao, R. P. (2009). The Announcement Impact of Seasoned Equity Offerings on Bondholder Wealth. *Journal of Banking & Finance* , 33, 1472-1480.
- Fama, E. F., & Miller, M. H. (1972). *The Theory of Finance*. New York: Rinehart and Winston.

- Handjinicolaou, G., & Kalay, A. (1984). Wealth Redistributions or Changes in Firm Value: An Analysis of Returns to Bondholders and Stockholders Around Dividend Announcements. *Journal of Financial Economics* , 13, 35-63.
- Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics* , 31, 405-440.
- Heron, R. A., & Lie, E. (2004). A Comparison of the Motivations for and the Information Content of Different Types of Equity Offerings. *Journal of Business* , 77 (3), 605-632.
- Hite, G. L., & Owers, J. E. (1983). Security price reactions around corporate spin-off announcements. *Journal of Financial Economics* , 12, 409-436.
- Jensen, M. C. (1986). Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. *Papers and Proceedings of the Ninety-Eighth Annual Meeting of the American Economic Association* . 76, pp. 323-329. The American Economic Review.
- John, K., & Williams, J. (1985). Dividends, Dilution, and Taxes: A Signalling Equilibrium . *The Journal of Finance* , 40 (4), 1053-1070.
- Kalay, A. (1982). Signaling, Information Content, and the Reluctance to Cut Dividends . *Proceedings of the 17th Annual Conference of the Western Finance Association, June 16-19, 1982.*, 17, pp. 855-869. Portland, Oregon: The Journal of Financial and Quantitative Analysis.
- Kalay, A., & Loewenstein, U. (1985). Predictable events and excess returns: The case of dividend announcements . *Journal of Financial Economics* , 14 (3), 423-449.
- Kalay, A., & Shimrat, A. (1987). Firm Value and Seasoned Equity Issues: Price Pressure, Wealth Redistribution, or Negative Information. *Journal of Financial Economics* , 19, 109-126.
- Kidwell, D. S., Marr, M. W., & Thompson, R. (1984). SEC Rule 415: The Ultimate Competitive Bid. *The Journal of Financial and Quantitative Analysis* , 19 (2), 183-195.
- Korajczyk, R. A., Lucas, D. J., & McDonald, R. L. (1991). The Effect of Information Releases on the Pricing and Timing of Equity Issues. *The Review of Financial Studies* , 4 (4), 685-708.
- Kraft, H., & Munk, C. (2007). Bond durations: corporate vs. treasuries. *Journal of Banking and Finance* , 31, 3720-3741.
- Lang, L. H., & Litzenberger, R. H. (1989). Dividend announcements: Cash flow signalling vs. free cash flow hypothesis? *Journal of Financial Economics* , 24 (1), 181-191.
- Lehn, K., & Poulsen, A. (1988). Leveraged buyouts: Wealth created or wealth redistributed. In M. Weidenbaum, & K. Chilton (Eds.), *Public Policy Towards Corporate Takeovers*. New Brunswick, NJ: Transaction Publishers.

- Leland, H. E., & Pyle, D. H. (1977). Informational Asymmetries, Financial Structure, and Financial Intermediation. *Annual Meeting of the American Finance Association, Atlantic City, New Jersey, September 16-19, 1976*. 32, pp. 371-387. Atlantic City, New Jersey: Journal of Finance.
- Marais, L., Schipper, K., & Smith, A. (1989). Wealth Effects of Going Private for Senior Securities. *Journal of Financial Economics*, 23 (1), 155-191.
- Masulis, R. W. (1980). The Effects of Capital Structure Changes on Security Prices: A study of exchange offers. *Journal of Financial Economics*, 8 (2), 139-178.
- Masulis, R. W., & Korwar, A. N. (1986). Seasoned Equity Offerings: An Empirical Investigation. *Journal of Financial Economics*, 15, 91-118.
- Maxwell, W. F., & Rao, R. P. (2003). Do Spin-Offs Expropriate Wealth from Bondholders? *The Journal of Finance*, 58 (5), 2087-2108.
- Miller, M. H., & Rock, K. (1985). Dividend Policy under Asymmetric Information. *The Journal of Finance*, 40 (4), 1031-1051.
- Moore, N. H., Peterson, D. R., & Peterson, P. P. (1986). Shelf Registrations and Shareholder Wealth: A Comparison of Shelf and Traditional Equity Offerings. *Journal of Finance*, 41 (2), 451-463.
- Myers, S., & Majluf, N. (1984). Corporate investment and financing decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13, 187-221.
- Parrino, R. (1997). Spin-offs and wealth transfers: The Marriot case. *Journal of Financial Economics*, 43, 241-274.
- Pettit, R. R. (1972). Dividend Announcements, Security Performance, and Capital Market Efficiency. *Journal of Financial Economics*, 27, 993-1007.
- Rogowski, R. J., & Sorensen, E. H. (1985). Deregulation in Investment Banking: Shelf Registration, Structure, and Performance. *Financial Management*, 14, 5-15.
- Ross, S. A. (1977). The Determination of Financial Structure: The Incentive-Signaling Approach. *The Bell Journal of Economics*, 8 (1), 23-40.
- Schipper, K., & Smith, A. (1983). Effects of recontracting on shareholder wealth: the case of voluntary spin-offs. *Journal of Financial Economics*, 12, 437-467.
- Smith, J. C. (1986). Investment Banking and the Capital Acquisition Process. *Journal of Financial Economics*, 15, 3-29.
- Smith, J. C., & Warner, J. B. (1979). On financial contracting: An analysis of bond covenants. *Journal of Financial Economics*, 7 (2), 117-161.

Spiess, D. K., & Affleck-Graves, J. (1995). Underperformance in Long-Run Stock Returns Following Seasoned Equity Offerings. *Journal of Financial Economics* , 38, 243-267.

U.S. Securities and Exchange Commission. (September 1983). *The Rule 415 Experiment: Equity Markets*.

Warga, A., & Welch, I. (1993). Bondholder Losses in Leveraged Buyouts. *The Review of Financial Studies* , 6 (4), 959-982.

Woolridge, J. R. (1983). Dividend Changes and Security Prices . *The Journal of Finance* , 38 (5), 1607-1615.

Table 1

Competing Hypotheses and Predictions

Panel A: Predicted Impact of SEOs on Bondholder Wealth

Predicted Impact of SEOs on Bondholder Wealth	
Wealth Transfer Hypothesis	Positive
Leverage Risk Reduction Hypothesis	Positive
Informational Content Hypothesis	Negative

Panel B: Predicted Impact of SEOs on Shareholder Wealth

Predicted Impact of SEOs on Bondholder Wealth	
Wealth Transfer Hypothesis	Negative
Leverage Risk Reduction Hypothesis	No prediction
Informational Content Hypothesis	Negative

Table 2
Event Date Window Summary

Pricing Data Captured		
	Stock Price Data	Bond Price Data
Non-Shelf Registered Primary Seasoned Equity Offering Announcement	-100 days to +1 days	-60 days to -14 days, and Days -1 to +1
Non-Shelf Registered Primary Seasoned Equity Offering Issuance	-14 days to -5 days, and Days -1 to +1	-14 days to -5 days, and Days -1 to +1
Non-Shelf Registered Primary Seasoned Equity Offering Withdrawal	-14 days to -5 days, and Days -1 to +1	-14 days to -5 days, and Days -1 to +1
Shelf Registered Primary Seasoned Equity Offering Announcement	-100 days to +1 days	-60 days to -14 days, and Days -1 to +1
Shelf Registered Primary Seasoned Equity Offering Issuance	-14 days to -5 days, and Days -1 to +1	-14 days to -5 days, and Days -1 to +1
Shelf Registered Primary Seasoned Equity Offering Withdrawal	-14 days to -5 days, and Days -1 to +1	-14 days to -5 days, and Days -1 to +1
Shelf Registered Primary Seasoned Equity Offering Expiration	-14 days to -5 days, and Days -1 to +1	-14 days to -5 days, and Days -1 to +1
Shelf Registered Primary Seasoned Equity Offering Renewal/Re- registration	-14 days to -5 days, and Days -1 to +1	-14 days to -5 days, and Days -1 to +1

Table 3
Equity Offerings
Sample Distribution

		Sample Distribution					
Panel A		Non-shelf registered primary equity			Non-shelf registered primary equity		
Year		Announcement	Issuance	Cancellation	Registration	Issuance	Cancellation
1995							
1996							
1997							
1998							
1999							
2000							
2001							
2002							
2003							
2004							
2005							
2006							
2007							
2008							
	Total						

Panel B

Industry (# of firms)	Non-shelf registered primary equity			Non-shelf registered primary equity		
	Announcement	Issuance	Cancellation	Registration	Issuance	Cancellation
Entertainment (2)						
Drugstores (13)						
Petroleum producing (11)						
Broadcasting (9)						
Textiles						
Tire & rubber						
Integrated steel						
Air transport						
Toiletries & cosmetics						
Metals & mining						
Natural gas						
Precision instruments						
Retail stores, special lines						
Grocery stores						
Truck & transport leasing						
Integrated petroleum						
Hotels & gaming						
Coal, uranium, geothermal						
Construction machinery						
Multiform						
Building						
Replacement auto parts						
Home appliances						
Original equip. auto parts						
Packaging & containers						
Publishing						
Oilfield services						
Apparel						

Fast food & restaurants
Medical services
Food processing
Machinery
Retail stores
Industrial services
Computer data processing
Shoes
Mfg. how. & rec. vchicls
General steel
Aerospace & defense
Basic chemicals
Electrical equipment
Diversified chemicals
Toys & school supplies
Health care & hosp. supply
Drugs
Office equipment & supplies
Machine tool
Electronics
Paper & paper products
Specialty chemicals
Metal fabricating

Total

This table is not populated and presented only to show layout

Table 4
Descriptive statistics for sample companies and bonds

	Non-shelf registered primary equity		Shelf registered primary equity	
<i>Panel A: financial information and SEO data</i>	Mean	Median	Mean	Median
Book value of assets (\$000,000)	0000	0000	0000	0000
Market value of equity (\$000,000)	0000	0000	0000	0000
Net sales (\$000,000)	0000	0000	0000	0000
Return on equity (%)	0.0	0.0	0.0	0.0
Total liabilities/total assets (%)	00.0	00.0	00.0	00.0
Long-term debt/total assets (%)	00.0	00.0	00.0	00.0
Times interest earned	0.0	0.0	0.0	0.0
Altman's Z-score	0.0	0.0	0.0	0.0
Market-to-book ratio	0.0	0.0	0.0	0.0
Proceeds of equity offer (\$000,000)	000	000	000	000
SEO proceeds/total long-term debt (%)	00.0	00.0	00.0	00.0
Market Overhang (days between announcement and issuance)	00	00	00	00
 <i>Panel B: bond data</i>				
Number of bond issues per firm/SEO	0.0	0.0	0.0	0.0
Yield to maturity (%)	00.0	00.0	00.0	00.0
Duration	0.0	0.0	0.0	0.0
Amount of issue (\$mil.)	000	000	000	000
S&P rating	--	BBB	--	BBB
Trading frequency (trading days during estimation period)	00.0	00.0	00.0	00.0
 <i>Use of SEO proceeds</i>				
	Sample percentage			
	Non-shelf registered primary equity		Shelf registered primary equity	
"Acquisition of securities"	00		00	
"Acquisition finance"	00		00	
"Capital expenditures"	00		00	
"Capital investment fund"	00		00	
"General corporate purposes"	00		00	
Not Available	00		00	
Investment grade (AAA to BBB)	00		00	
Non-investment grade (BB to C)	00		00	

This table is not populated, and presented only to show layout. The layout is currently similar to Autore, Kumar, & Shome (2008)

Table 5
Event study results for announced equity

	Non-shelf registered primary equity		Shelf registered primary equity	
	Mean	Median	Mean	Median
Panel A: Pre-Announcement Environment				
Market Run-up	0.000	0.000	0.000	0.000
Industry Specific Run-up	0.000	0.000	0.000	0.000
Firm-Specific Run-up	0.000	0.000	0.000	0.000
Panel B: Announcement Event Study - Stock Price Reaction				
Announcement period return -- Value-weighted model	-0.000	-0.000	-0.000	-0.000
Announcement period return -- Market model	-0.000	-0.000	-0.000	-0.000
Panel C: Announcement Event Study - Bond Price Reaction				
Announcement period return -- All bonds				
Announcement period return -- Investment Grade				
Announcement period return -- Non-investment grade				
Duration				

This table is not populated and is presented only to show layout. Panel A is similar to Heron & Lie (2004)

Table 6
Event study results for issued equity

	Non-shelf registered primary equity		Shelf registered primary equity	
	Mean	Median	Mean	Median
Panel A: Market Overhang				
Days between announcement (registration) and issuance	00	00	000	000
Panel B: Issuance Event Study - Stock Price Reaction				
Announcement period return -- Value-weighted model	-0.000	-0.000	-0.000	-0.000
Announcement period return -- Market model	-0.000	-0.000	-0.000	-0.000
Panel C: Announcement Event Study - Bond Price Reaction				
Announcement period return -- All bonds (N)				
Announcement period return -- Investment Grade (N)				
Announcement period return -- Non-investment grade (N)				
Duration				

This table is not populated and presented only to show layout

Table 7
Event study results for equity withdrawals

	Non-shelf registered primary equity		Shelf registered primary equity	
Panel A: SEO Withdrawals				
Withdrawal of Previously announced equity issue	N		N	
	00		00	
Panel B: Withdrawal Event Study - Stock Price Reaction				
	Mean	Median	Mean	Median
Announcement period return -- Value-weighted model	-0.000	-0.000	-0.000	-0.000
Announcement period return -- Market model	-0.000	-0.000	-0.000	-0.000
Panel C: Withdrawal Event Study - Bond Price Reaction				
Announcement period return -- All bonds (N)				
Announcement period return -- Investment Grade (N)				
Announcement period return -- Non-investment grade (N)				
Duration				

This table is not populated and presented only to show layout

Table 8
 Event study results for expired shelf registered equity

Panel A: Shelf registered expiration		N
Withdrawal of Previously announced equity issue		00

Panel B: Withdrawal Event Study - Stock Price Reaction		
	Mean	Median
Announcement period return -- Value-weighted model	-0.000	-0.000
Announcement period return -- Market model	-0.000	-0.000

Panel C: Withdrawal Event Study - Bond Price Reaction	
Announcement period return -- All bonds (N)	
Announcement period return -- Investment Grade (N)	
Announcement period return -- Non-investment grade (N)	
Duration	

This table is not populated and presented only to show layout

Table 9
 Event period firm-level and issue-level abnormal
 bond returns

		CAAR	Positive: negative	N	t-Stat
Panel A: abnormal bond returns -- announcement date					
<i>Most Frequently Traded Issue (same as Table 5 Panel C)</i>					
Non-shelf	[-1,+1]	-0.0000	00:00	00	-0.00
	[-1, 0]	-0.0000	00:00	00	-0.00
Shelf	[-1,+1]	-0.0000	00:00	00	-0.00
	[-1, 0]	-0.0000	00:00	00	-0.00
<i>Firm/SEO-level</i>					
Non-shelf	[-1,+1]	-0.0000	00:00	00	-0.00
	[-1, 0]	-0.0000	00:00	00	-0.00
Shelf	[-1,+1]	-0.0000	00:00	00	-0.00
	[-1, 0]	-0.0000	00:00	00	-0.00
<i>Bond-level</i>					
Non-shelf	[-1,+1]	-0.0000	00:00	00	-0.00
	[-1, 0]	-0.0000	00:00	00	-0.00
Shelf	[-1,+1]	-0.0000	00:00	00	-0.00
	[-1, 0]	-0.0000	00:00	00	-0.00
Panel B: abnormal bond returns -- issuance date					
<i>Most Frequently Traded Issue</i>					
Non-shelf	[-1,+1]	-0.0000	00:00	00	-0.00
	[-1, 0]	-0.0000	00:00	00	-0.00
Shelf	[-1,+1]	-0.0000	00:00	00	-0.00
	[-1, 0]	-0.0000	00:00	00	-0.00
<i>Firm/SEO-level</i>					
Non-shelf	[-1,+1]	-0.0000	00:00	00	-0.00
	[-1, 0]	-0.0000	00:00	00	-0.00
Shelf	[-1,+1]	-0.0000	00:00	00	-0.00
	[-1, 0]	-0.0000	00:00	00	-0.00
<i>Bond-level</i>					
Non-shelf	[-1,+1]	-0.0000	00:00	00	-0.00
	[-1, 0]	-0.0000	00:00	00	-0.00
Shelf	[-1,+1]	-0.0000	00:00	00	-0.00
	[-1, 0]	-0.0000	00:00	00	-0.00
Panel C: abnormal bond returns -- withdrawal date					
<i>Most Frequently Traded Issue</i>					
Non-shelf	[-1,+1]	-0.0000	00:00	00	-0.00

		[-1, 0]	-0.0000	00:00	00	-0.00
Shelf		[-1,+1]	-0.0000	00:00	00	-0.00
		[-1, 0]	-0.0000	00:00	00	-0.00
<i>Firm/SEO-level</i>						
Non-shelf		[-1,+1]	-0.0000	00:00	00	-0.00
		[-1, 0]	-0.0000	00:00	00	-0.00
Shelf		[-1,+1]	-0.0000	00:00	00	-0.00
		[-1, 0]	-0.0000	00:00	00	-0.00
<i>Bond-level</i>						
Non-shelf		[-1,+1]	-0.0000	00:00	00	-0.00
		[-1, 0]	-0.0000	00:00	00	-0.00
Shelf		[-1,+1]	-0.0000	00:00	00	-0.00
		[-1, 0]	-0.0000	00:00	00	-0.00

Panel D: abnormal bond returns -- shelf expiration date

Most Frequently Traded Issue

Renewed		[-1,+1]	-0.0000	00:00	00	-0.00
		[-1, 0]	-0.0000	00:00	00	-0.00
Non-renewed		[-1,+1]	-0.0000	00:00	00	-0.00
		[-1, 0]	-0.0000	00:00	00	-0.00
<i>Firm/SEO-level</i>						
Renewed		[-1,+1]	-0.0000	00:00	00	-0.00
		[-1, 0]	-0.0000	00:00	00	-0.00
Non-renewed		[-1,+1]	-0.0000	00:00	00	-0.00
		[-1, 0]	-0.0000	00:00	00	-0.00
<i>Bond-level</i>						
Renewed		[-1,+1]	-0.0000	00:00	00	-0.00
		[-1, 0]	-0.0000	00:00	00	-0.00
Non-renewed		[-1,+1]	-0.0000	00:00	00	-0.00
		[-1, 0]	-0.0000	00:00	00	-0.00

This table is not populated and presented only to show layout

Table 10
 Event study results based on allocation
 decision

	Allocated shelf-registered primary equity		Non-Allocated shelf-registered primary equity	
	Mean	Median	Mean	Median
Panel A: Pre-Announcement Environment				
Market Run-up	0.000	0.000	0.000	0.000
Industry Specific Run-up	0.000	0.000	0.000	0.000
Firm-Specific Run-up	0.000	0.000	0.000	0.000
Panel B: Announcement Event Study - Stock Price Reaction				
Announcement period return -- Value-weighted model	-0.000	-0.000	-0.000	-0.000
Announcement period return -- Market model	-0.000	-0.000	-0.000	-0.000
Panel C: Announcement Event Study - Bond Price Reaction				
Announcement period return -- All bonds (N)				
Announcement period return -- Investment Grade (N)				
Announcement period return -- Non-investment grade (N)				
Duration				

This table is not populated and presented only to show layout