Homemade Equity Offerings

via Dividend Reinvestment and Stock Purchase Plans

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Abstract

This paper investigates equity issuances through Dividend Reinvestment and Stock Purchase Plans (DRSPPs). Using a unique sample collected from security registration filings, we show that firms can issue new shares through DRSPPs without using underwriters and consequently, save a large part of direct costs. This economical form of equity offering helps firms, especially those paying high dividends (i.e., Real Estate Investment Trusts), retain a substantial amount of cash flow from operations. The alternative source of capital is crucial for some financially constrained firms to maintain growth. The determinants of equity issuance via DRSPPs are different between REITs and industrial firms. Moreover, unlike seasoned equity offerings, equity offerings via DRSPPs can avoid negative stock market reactions around the issuance date. Overall, our findings expand upon an existing discovery of innovative strategic practices for equity financing and provide direct evidence showing that the Pecking Order still drives firms' financing.

1. Introduction

   U.S. companies began to offer investors the opportunity to participate in Dividend

Reinvestment Plans (DRIPs) starting in the 1960s. These plans were originally designed to

provide shareholders with a convenient and economical method to reinvest some or all of their

cash dividends in additional shares of common stock. The majority of companies have gradually

restated and amended these plans to incorporate both dividend reinvestment and stock purchases

(hereafter Dividend Reinvestment and Stock Purchase Plans or DRSPPs).[1] These new plans also

allow investors to make monthly or quarterly optional cash contributions, which are subject to

investment minimums and maximums.[2] Companies normally appoint a financial institution to

serve as the administrator of the plan. They also pay all the administration costs, such as

brokerage commissions, service charges, and other expenses.

   The plan administrator will use cash received from reinvested cash dividends and optional

cash payments to purchase common stocks. Shares purchased under DRSPPs will normally come

from one of the following: (1) newly issued shares directly from the sponsoring company, or (2)

shares repurchased from parties other than the sponsoring company in the open market, in

privately negotiated transactions, or a combination of both. In practice, both the company and the

plan administrator are not required to provide any written notice to investors about the source of

the common stock to be purchased under DRSPPs. This makes it hard for academic researchers

to identify the source and the magnitude of the use of newly-issued shares via DRSPPs (e.g.,

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[1] Companies may also use one of the following names for the plan: Direct Reinvestment Plan, Direct Investment Plan, Direct, Direct Stock Purchases Plan, Direct Invest Plan, Stock Direct, and Stock Purchase Plan Distribution Reinvestment Plan, Distribution Reinvestment, Direct Stock Purchase Plan, and Dividend Reinvestment and Share Purchase Plan. On December 1st, 1994, the U.S. Securities and Exchange Commission (SEC) released "Exemption from Rule 10b-6 for Certain Dividend Reinvestment and Stock Purchase Plans" to simplify the procedures for implementing such plans.

[2] Participation in the plan is entirely voluntary, and investors may terminate their participation at any time. If investors do not elect to participate in the plan, investors will continue to receive cash dividends, if any, in the usual manner.

Scholes and Wolfson, 1989; Todd and Domain, 1997; Baker and Johnson, 1998; and Berkman and Koch, 2016).[3]

Steinbart and Swanson (1998) argue that companies may not raise any additional equity capital through DRSPPs because most company prospectuses indicate that they acquire shares in the open market. Berkman and Koch (2016) also assume that firms with DRIPs use new shares from either seasoned equity offerings (SEOs) or shares repurchased in the open market. These shares are in lieu of cash dividends for investors who participate in DRIPs on each dividend payment date. However, these conventional views on the source of newly-issued shares for DRSPPs contradict the Pecking Order Model, which describes the corporate financing behavior. The model indicates that the incentive is weak for firms to move down the Pecking Order and issue new shares through SEOs to retain internal generated cash flow (i.e., cash dividends). One of the main contributions of this paper is to provide direct evidence showing that the Pecking Order still drives firms' financing, with a preference for internal over external finance. To be specific, I show that many firms shelf-register shares for DRSPPs at a very low direct cost and then sell these authorized shares through these plans over time. More importantly, this economical form of equity offering helps firms, especially those paying high dividends (i.e., Real Estate Investment Trusts), retain a substantial amount of cash flow from operations.

While traditionally negotiated cash offerings require companies to rely on financial intermediaries to underwrite new securities issued to the public, "homemade" equity offerings via DRSPPs (considered nontraditional cash offerings) do not need to use intermediation services and consequently, save some direct costs. In shelf registration for a DRSPP, a company can register a large issue with the Securities and Exchange Commission (SEC) and sell it in small portions via DRSPPs over several years. This means issuing equity reduces flotation costs and

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[3] From now on, we use the terms "DRSPP" and "Plan" interchangeably.

makes for a cost-effective way for firms to raise capital. It also implies that firms, especially those paying high dividends, have a strong incentive to adopt the DRSPPs to help retain some internally generated cash flow. Our study focuses on both industrial firms and Real Estate Investment Trusts (REITs).[4] Industrial firms in recent decades have used repurchases as a substitute for dividend payouts (Skinner, 2008), a fact that discourages firms from using DRSPPs to raise new equity. We also include REITs as they are required to pay out at least 90% of their taxable income to shareholders as dividends in order to qualify as a tax-exempt entity. In addition, REITs tend to frequently access external financing to raise capital due to their reduced ability to retain cash flow from operations. Therefore, studying the two different types of firms may provide innovative insight with regards to why firms adopt DRSPPs.

The first objective of this paper is to examine differences between industrial firms and REITs in implementing DRSPPs and issuing new shares via the plans. Using security registration filings from the SEC Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system and other data (see Section 3.1 for details), we hand-collect a sample of 629 industrial firms (non-utilities and non-financials) that have DRSPPs, in which 69 industrial firms issue new equity through such plans. In an interesting comparison, we document a sample of 162 equity REITs with DRSPPs, in which 98 REITs issue new equity via these plans. In other words, about 11% of industrial firms with DRSPPs have issued new shares via the plans and about 61% of REITs with DRSPPs have issued new equity through these plans. Thus, REITs rather than industrial firms are much more likely to adopt DRSPPs. A single REIT is also likely to issue new equity through a DRSPP at a higher frequency and to raise a higher proportion of total shares through the plan. For instance, among industrial firms, Verizon Communications Inc. (Ticker: VZ) has the highest

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[4] "A real estate investment trust is a company that owns, and in most cases operates, income-producing real estate". See details on the following website: https://en.wikipedia.org/wiki/Real_estate_investment_trust.

frequency (6 times since 1998) of issuing new shares via its "Verizon Communications Direct Invest" plan and generating about 3% of a total of 4.07 billion shares outstanding, as of March of 2016.[5] Of the equity REITs, Investors Real Estate Trust (Ticker: IRET) has the highest frequency (19 times since 1998) of issuing new shares through its "Distribution Reinvestment and Share Purchase Plan" and creating about 39% of total shares outstanding from inception until March 2016.[6]

We also compare the amount of new issues raised through the plans with that sold via SEOs by mainly focusing on the sample firms that have issued new shares through DRSPPs. Between 1998 and 2014, the sample of industrial firms issued about 937.32 million shares via DRSPPs and about 1,397.44 million shares by SEOs; the sample of REITs raised about 1,038.19 million shares through DRSPPs and about 2,948.67 million shares by SEOs. This suggests that like SEOs, equity offerings via DRSPPs are an appealing financing tool for firm managers to issue a substantial amount of shares and, as a result, to retain some internally generated cash flow.

The second objective of this paper is to investigate two primary questions: (1) what factors determine firms' decisions to issue shares via DRSPPs, and (2) how does the market react to equity offerings via DRSPPs as compared to SEOs? Even though issuing new shares via DRSPPs has low transaction costs, the question regarding whether equity offerings via DRSPPs are attractive ways to raise equity capital is still up for debate. This is because companies need to pay the administration cost to maintain the plans and consider the price discount for participating investors.

A large body of corporate finance literature has provided theoretical models and empirical evidence to explain firms' finance decisions and observed price impacts after security issues. For

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[5] VZ did not have stock split between July 1998 and March 2016.
[6] IRET has no split history.

example, Jung, Kim, and Stulz (1996) find that firms do not follow the Pecking Order Model to make security issue choices, and they prefer issuing equity to debt because of agency problems. Hovakimian, Hovkimian, and Tehranian (2004) find that high stock returns increase the probability of equity issuance, consistent with the Market Timing Model (Baker and Wurger, 2002). It is also well-known that firms experience negative valuation effects around the announcement dates of SEOs (e.g., Smith, 1986; Altinkilic and Hansen, 2003). Loughran and Ritter (1995) find that in the long run, equity issuing firms tend to underperform in control groups of non-issuing firms following SEOs. In regard to the stock price decline in SEOs, Myers and Majluf (1984) indicate that when managers issue new equity, shareholders think that the current stock price is overpriced because they suspect these managers have private information. This is an issue related to the information symmetries between firm managers and shareholders. However, issuing new equity via DRSPPs may not have negative implications for stock prices as a result of reduced information asymmetries. While firm managers intend to raise capital to finance a future positive Net Present Value (NPV) project over a long period, they also regularly disclose more information on firm performance (Scholes and Wolfson, 1989). Furthermore, the added benefit from positive NPV project can accrue to the existing shareholders who invest for the long run, rather than to new shareholders. This may also lead to a non-significant price impact when firms issue new shares via the plans. Koh and Walter (1989) suggest that rational investors can incorporate prices in the pro forma analyses, another explanation of the disappearing anomaly.

Using a logistic regression model, we first provide evidence showing that dividend payout policy, to some extent, affects firms' decisions to adopt DRSPPs. The odds of issuing new shares via DRSPPs is about five times higher for REITs compared to industrial firms, after controlling

for factors that affect issuance decisions. In other words, REITs that normally have high dividend distributions are more likely to issue new equity via DRSPPs than industrial firms that have a flexible payout policy. Second, we show that after controlling for relevant factors, industrial firms with larger sizes and higher percentages of institutional ownership tend to issue shares via DRSPPs; and REITs with smaller sizes and less earnings volatilities are more likely to make the decision to issue equity via the plans. In addition, REITs that issue new shares via the plans are more likely to pay dividends, issue new equity more often, have faster asset growth and hold less cash. This can be interpreted as evidence that retaining cash flow from operations via DRSPPs can be viewed as an alternative source of capital for REITs; managers intend to issue new equity via DRSPPs to access more capital when their firms hold less cash.

In our analysis of market reactions to new share issuances for DRSPPs, we document an insignificant stock price response in the days around the date of new equity issuance via DRSPPs. According to the SEC regulations, the Registration Statement of Securities pursuant to Dividend or Interest Reinvestment Plans becomes effective automatically upon filing. Firms that register new shares via DRSPPs have the same filing date, acceptance date, and effectiveness date for each new issue. By comparison, we also find significant negative stock price reactions to announcements of SEOs in the sample firms. Multivariate regressions confirm that the difference in market response to equity issuance via DRSPPs and SEOs is statistically significant, even after controlling for factors that affect the cumulative abnormal returns around the event.

This study extends a line of literature on equity issuance by introducing homemade equity offerings via DRSPPs as an important alternative source of capital. Scholes and Wolfson (1989, P29) identify a puzzling fact that after adopting DRSPPs, "firms are willing to incur such high costs to pay dividends and then issue an offsetting amount of new equity" through SEOs. They

called for more research to help understand this phenomenon. Our research responds to this call and sheds new light on why firms adopt DRSPPs. The costs that firms pay for the plan administration might be offset by the benefits of saving the underwriting discount on new issues via DRSPPs. Our findings also broaden the view of an innovative equity offering strategy, which is both economical and important for some firms to retain internally generated cash flows.

This paper is organized as follows. In Section 2, we review relevant literature and develop the testable hypotheses. Section 3 describes the data and presents our research design. Section 4 presents our empirical results and robustness checks, and Section 5 briefly concludes the paper. The Appendix describes two excerpts from the registration forms of the collected sample data on firm information and provides details on variable construction and results from additional tests.

2. Literature Review and Hypothesis Development

In this section, we first summarize extant studies on DRSPPs. Scholes and Wolfson (1989) found an anomaly that investing their own money in firms with DRSPPs resulted in a large profit. Their finding raises the question about whether investors can profit from the publicly available information under the efficient market hypothesis. Dammon and Spatt (1992) use theoretical and numerical methods to analyze the value of purchase options pursuant to DRSPPs. These options act like call options and give shareholders options to invest when the stock prices exceed the average prices. Berkman and Koch (2016) find that stocks with DRIPs are more likely to have significantly positive mean abnormal returns on the dividend payment date, due to a temporary price pressure from the demand of reinvested dividends to buy stocks on that date.

Regarding how firms may raise capital through DRSPPs, Baker and Johnson (1988) surveyed 600 utility companies with DRIPs in 1987 and received a 41.7% response rate. They found that compared with non-utilities, utilities have a higher participation rate by shareholders and a

greater use of newly-issued shares via DRIPs. Firm managers of utilities also consider shares used for DRIPs an important source of equity financing. Using analysis of survey questionnaires from a sample of firm managers in the utility industry, Todd and Domian (1997) show that when compared with non-utilities, utilities are more likely to offer discount features and use more newly issued shares through DRSPPs. All the extant studies assume that the newly-issued shares under DRSPPs are obtained from SEOs. However, the Pecking Order Model suggests that firms' financing policies follow a hierarchy, with a preference for internal over external fund (Myers, 1984; Myers and Majuf, 1984; Shyam-Sunder and Myers, 1999). In other words, firms that face financial constraints will first utilize available internal cash flow instead of equity. The Pecking Order would be rejected if firms were found to issue costly equity to retain cash dividends. If firms like REITs are required to pay high cash dividends, there is a motive for these firms to find ways to retain some cash flow. The implication drawn from the Pecking Order Model is that the newly-issued shares under DRSPPs should not be raised through SEOs due to the high cost.

On the other hand, for most companies, the prospectus indicates that if shares purchased directly from the sponsoring company under the DRSPPs are newly issued, then these shares are usually priced at a discount of 0% to 5% of the market price (at the time of the investment). The prospectus also shows that if shares are purchased from parties other than the sponsoring company, then the price of those shares will be the weighted-average cost for all common shares purchased under the plan in connection with the relevant distribution payment date or investment period. As a consequence, a company can raise new equity via DRSPPs only if the plan administrator directly purchases newly-issued shares from the company, as in the former case but not in the latter. The net proceeds from the sale of the original issue shares of common stock issued under the plan could be used to increase working capital and for other general corporate

purposes[7]. While Baker and Johnson (1998) and Todd and Domian (1997) refer to the question of whether dividend reinvestment plans can be used as efficient methods of raising equity financing, the precise mechanisms that may benefit firms the most through DRSPPs are largely unknown in the literature. Extant studies fail to provide evidence on the magnitude of sponsoring companies raising capital through the plans, mainly due to lack of data.

We propose a new channel to identify firms that issue new equity via DRSPPs. In accordance with the Securities Act of 1933, firms that offer securities to the public need to register shares with the SEC first, and Form S-3D is automatically an effective registration statement for securities issued pursuant to dividend or interest reinvestment plans. Since many companies have amended and restated their plans as DRSPP, they also use Form S-3 or Form S-3ARS to register new shares under the plan. Many companies may register multiple types of securities on a single unallocated shelf registration statement and later specify the number of new shares for DRSPPs on Form 424B2, Form 424B3, or Form 424B5.[8] Once these registrations become effective, firms can gradually sell the authorized securities through DRSPPs over the next few years. When the registered shares are close to being used up, the firms can register new shares and submit to the SEC's EDGAR system in a similar vein.

Our sample includes both industrial firms and REITs. Industrial firms are not obligated to pay dividends, but like other pass-through entities, REITs are required to pay out most of their taxable income in the form of dividends in order to be eligible for preferential tax treatment. The two types of firms provide a natural experiment to explore whether payout policy affects firms' decisions to adopt DRSPPs. Intuitively, raising capital through DRSPPs provides a valuable source of additional equity to REITs in the form of reinvested dividends. We expect that

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[7] General corporate purposes may include the repayment of outstanding debt, repurchase of common stock, investments in or extensions of credit to subsidiaries, or the financing of possible acquisitions or business expansion.
[8] See SEC release no. 33-6964 for details on universal shelf procedure

implementing DRSPPs are more appealing for REITs than for industrial firms. Our first

hypothesis is stated as the following:

H1 Compared with industrial firms, REITs have a greater probability of implementing

DRSPPs and a greater propensity to use new shares via such plans.

In terms of why firms adopt DRSPPs, Mukherjee, Baker, and Hingorani (2002) find that

firms adopting DRIPs have a significantly greater past asset growth rate, debt-to-asset ratio, and

systematic risk than do the matching firms without DRIPs; Mukherjee, He, and Baker (2012)

find that firms with direct stock purchase plans tend to be high growth firms. While the two

studies discuss DRIPs and direct purchase plans separately, we find that firms use only one form

to register new shares through these plans. Most DRSPPs allow investors to make one or two of

the following selections on the participation form: (1) full investment of dividends, (2) partial

reinvestment of dividends, or (3) optional cash investments.

We also follow the capital structure literature to investigate determinants of equity issuance

decision via DRSPPs. This line of research has identified firm characteristics including size,

Tobin Q, book-to-market, asset growth, and stock returns as key determinants of firm financing

choice (e.g., Titman and Wessels, 1998; Jung et al., 1996; Mukherjee et al., 2002; Mukherjee et

al., 2012). Companies might issue new shares via these plans when: (1) many shareholders are

willing to participate in the DRSPP and (2) the plan administrators choose to buy newly-issued

shares directly from the company. That is, a key incentive for firm managers to issue new equity

through DRSPPs is the demand side economies of scale so that cash flow from the plans will be

useful for general corporate expenses. The regulation on payout policy drives REITs to raise

capital through DRSPPs. On the investors' side, REITs' shareholders would expect stable

dividend payments based on steady firm performances, reflected in both stock market prices and

earnings. However, this might not be the same case in industrial firms that have a flexible payout policy. Thus, we make a second hypothesis:

H2 The possibility of firms issuing equity via DRSPPs is related to different firm characteristics between industrial firms and REITs.

Numerous empirical studies have documented significance underpricing for SEOs around the announcement dates or at a long run (e.g., Smith, 1986; Spiess, Affleck-Graves, 1995; Altinkilic and Hansen, 2003; Corwin, 2003). It is also of interest in knowing whether there is a price impact in the case of security issues via DRSPPs. Roden and Stripling (1996) mailed a questionnaire to a sample of public utilities for announcement dates of firms adopting DRIPs and investigated market reactions to these announcements. They found significant and statistically positive average excess returns around the announcement dates. They interpret their finding as providing evidence of DRIPs being efficient methods of raising equity financing, in that equity financing via DRIPs avoids the negative signal to investors that a traditional cash offering (i.e., SEO) provides. Furthermore, implementing a DRSPP aligns firm management and shareholder interest, as sponsoring companies are required to send out periodic prospectuses regarding the plans and the investment opportunity. Additionally, the added benefit from positive NPV projects can accrue to the existing shareholders. Moreover, the less affected price impact might be also due to the primary purpose of these plans for the benefit of long-term investors, not for the benefit of individuals or institutions that engage in short-term trading activities that could cause aberrations in the overall trading volume of common shares. In sum, we expect that:

H3 Equity issuance via DRSPPs will not result in significant negative market reactions.

3. Data and Research Design

3.1 Sample Selection

11

Our data on firms having issued new shares via DRSPPs are hand-collected from the SEC's EDGAR database. For industrial firms, we begin with all companies listed in WRDS COMPUSTAT with the following identifiers: *COMPANY NAME*, *CIK*, *GVKEY*, *TICKER*, and *SIC code*, excluding financial firms (SIC Code 6000-6999) and public utility firms (SIC Code 4900-4999). We collect a sample of equity REITs from SNL Financial data. Most equity REITs have SIC code 6798.

We obtain about 6,000 industrial firms and 700 REITs in the first step. We then input the *CIK* or the *TICKER* of each firm in the SEC's EDGAR system and pull out all the S-3, S-3ARS, and S-3D forms[9]. Each form of the three types of registration comes with a file number. Following the same file number, we can identify whether a registration has been withdrawn at a later date and when firms register new shares for DRSPPs, issue debt or equity, or make other security offerings (i.e., large private transactions). The S-3D form is only used to register shares for DRSPPs. But either S-3 form or S-3ARS form can be used to register shares for different purposes. Under each S-3/S-3ARS form, Form 424B2, Form 424B3, and Form 424B5 that have the same file number provide more details on a specific security issuance after the initial registration file.

For each firm, we read through each type of form. We identify 69 industrial firms that have registered new shares for DRSPPs 136 times and 98 equity REITs that have registered new shares for the plans 210 times over the sample period from 1998 to 2014. We select 1998 to be the beginning year, as data on the SEC's EDGAR system before 1998 is incomplete. Appendix A shows two examples of firm prospectuses along with the security registration forms of DRSPPs. We collect related information for each firm as shown in Table 1, including the filing

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[9] Note that most bond deals and equity issuances registered on the S-3 and S-3ARS forms can also be found in the SDC Platinum database.

date, the type of the form, file number, security type, amount to be registered, proposed maximum offering price per unit, proposed maximum aggregate offering price, and the amount of the registration fee. The price for paying the registration fee to the SEC is estimated pursuant to Rule 457(c) under the Securities Act of 1933.[10]

To identify firms that have DRSPPs but do not issue new equity through the plans, we do the following: (1) we collect 274 industrial firms from the annual lists of DRIP firms from the American Association of Individual Investors (AAII); (2) we identify another 286 industrial firms by searching a sample of 5,674 firms on Google Search and Factiva; (3) we collect 64 equity REITs from the AAII annual lists and the SNL financial data; for the second database, we use a field search for "dividend reinvestment plan" in Data Wizard. For all the sample firms, we also broadly search and record the announcement dates for DRSPPs. Our final sample includes 629 industrial firms with 7,436 firm-year observations and 162 equity REITs with 1,572 firm-year observations over the sample period.

We also require the selected firms to have positive market equity and non-missing institutional ownership data. We collect stock returns from the Center for Research in Security Prices (CRSP), accounting data from COMPUSTAT, and institutional ownership data from Thomson-Reuter institutional holdings (Form13F). The risk-free rate, momentum factor, the Fama - French (FF) 3-factor, and the FF 5-factor are from Ken French's website.

3.2 Examples of Two Firms Issuing New Shares through DRSPPs

Table 1 shows two firms that use DRSPPs to issue new shares. VZ has issued 114.75 million shares – about 3% of a total of 4073.84 million shares outstanding (as of March 2016) through

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[10] Rule 457(c) - "where securities are to be offered at prices computed upon the basis of fluctuating market prices, the registration fee is to be calculated upon the basis of the price of securities of the same class, as follows: either the average of the high and low prices reported in the consolidated reporting system (for exchange traded securities and last sale reported over-the-counter securities) or the average of the bid and asked price (for other over-the-counter securities) as of a specified date within 5 business days prior to the date of filing the registration statement ".

the "Verizon Communications Direct Invest" plan in five registrations from 1998 to 2014.[11] The most recent registration took place on April 30th, 2015, at which time VZ registered 5.43 million shares for the plan using Forms S-3ASR. Meanwhile, Monmouth Real Estate Investment Corp. (Ticker: MNR), another equity REIT, has registered shares seventeen times for its "Dividend Reinvestment and Stock Purchase Plan" from 1995 to 2016 using Forms S-3D. MNR has sold about 35.58 million shares through the plan between 1995 and 2015, which account for 55% of its total of 64.35 million shares outstanding (as of March 2016).[12] On March 1st, 2016, MNR registered 7 million shares for the plan on Form S-3D.[13]

Table 1 also shows that VZ has paid a registration fee of $793780.46 for 120.18 million shares to be registered (an average cost of ¢0.66 per share), and MNR has paid a registration fee of $48124.92 for 42.58 million shares to be registered (an average cost of ¢0.11 per share). While VZ generally uses debt to finance investment projects, MNR uses debt and SEOs to raise capital. In September 2009, MNR retained CSCA Capital Advisors, LLC to act as the placement agent to offer 2.00 million shares of common stock. In this arrangement, MNR paid ¢32.5 per share for agent fees and commissions along with additional registration fees and expenses. Both SEOs and equity offerings via DRSPPs are accompanied by legal service fees and other costs. The registration fees paid to the SEC are similarly calculated in both cases, but MNR saves a large portion of the direct cost by not paying placement agent fees and commissions in the latter case. Overall, without using an underwriter service, equity issuances via DRSPPs are much cheaper than those sold through SEOs.

[Put Table 1 about Here]

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[11] This does not count for the stock split effect. VZ had 2-for-1 stock split on June 1, 1998 (record date).
[12] No history of MNR stock splits has been reported during the same period.
[13] We compare the ratio of shares issued through each plan to total common shares outstanding of the corresponding company, rather than the ratio of market value of each equity issuance to its market capitalization because companies have no basis for estimating the prices at which such shares will be sold pursuant to DRSPPs.

3.3 Number of Shares Issued through DRSPPs vs. SEOs

In this section, we show the vast number of shares issued through the DRSPPs, in comparison with SEOs. We obtain SEO announcement dates and the number of common shares offered from the SDC Platinum database. In Panel A of Table 2, columns (2) and (4) show that the 69 industrial firms raise about 937.32 million shares through DRSPPs and about 1397.44 million shares by SEOs, respectively. Of the 98 REITs that issue new shares through DRSPPs, 74 firms also make SEOs. In Panel A, columns (6) and (8) show that the 98 REITs issue about 1,038.19 million shares via DRSPPs and about 2,948.67 million shares by SEOs, respectively. The considerable number of new shares registered for DRSPPs indicates that issuing new shares via DRSPPs has become a valuable capital-raising tool for the firms identified in this study. Overall, relative to industrial firms, REITs use DRSPPs more often to issue new equity.

In Table 2, Panel B of Table 2 shows that of the 69 industrial firms issuing new shares via DRSPPs, 19 firms also conduct SEOs. Panel B presents the number of firms by the frequency of using DRSPPs or SEOs to make equity offerings. Relative to industrial firms, REITs are more likely to issue new shares via both types of equity offerings. Panel C presents a brief summary of the DRSPP features, derived from the plan description on the registration form of each firm. Relative to industrial firms, REITs are more likely to offer a discount to market price, in order to attract investors to join the plans.

In Panel D, we show the plan administrators that companies have appointed to manage these plans. Besides the three well-known companies, such as American Stock Transfer & Trust company, Computershare Trust Company, N.A., and Wells Fargo Shareowner Services, many other financial institutions also participate as plan administrators.

[Put Table 2 about Here]

15

3.4 A Logistic Regression Model

In this subsection, we use a logistic regression model to investigate the determinants of the equity issuance decision. The dependent variable *New Equity Issuance via DRSPP* equals 1 if a firm registers shares via a DRSPP in year *t* and 0 otherwise. The model is estimated as follows:

$$\text{Pr} \ (\textit{New Equity Issuance via DRSPP}_t = 1) = \frac{1}{1 + e^{-\lambda}} \qquad (1)$$

Where $\lambda = \beta_0 + \beta_1$ *REIT* $+ \beta_2$ *Earnings Volatility* $_{(t-3, t-1)} + \beta_3$ *Beta* $_{(t-3, t-1)} + \beta_4$ *Idiosyncratic Volatility* $_{(t-3, t-1)} + \beta_5$ *Size* $_{(t-1)} + \beta_6$ *Cash* $_{(t-1)} + \beta_7$ *Cash Flow* $_{(t-1)} + \beta_8$ *Payout* $_{(t-1)} + \beta_9$ *Leverage* $_{(t-1)} + \beta_{10}$ *Dividend Dummy* $_{(t-1)} + \beta_{11}$ *Equity Issuance Dummy* $_{(t-1)} + \beta_{12}$ *Debt Issuance Dummy* $_{(t-1)} + \beta_{13}$ *IO* $_{(t-3, t-1)} + \beta_{14}$ *Abnormal Returns* $_{(t-3, t-1)} + \beta_{15}$ *Tobin Q* $_{(t-1)}$ (or *Book-to-Market* $_{(t-1)}$) $+ \beta_{16}$ *Asset Growth* $_{(t-2, t-1)} + \beta_{17}$ *Ln(Age)* $_{(t-1)} + \beta_{18}$ *Year Dummies* $+ \varepsilon$.

The variable *REIT* is an indicator variable taking the value 1 if a firm is a REIT and 0 otherwise. We use a joint sample of industrial firms and REITs to confirm our prediction *H1*.[14] We expect that coefficient on the variable *REIT* will be significantly positive, suggesting that rather than industrial firms, REITs are more likely to issue new shares via these plans, even after controlling for other factors that may affect the new share issuance decision.

We also consider firm risks and financial constraints that may affect manager decisions on issuing new shares via DRSPPs. Proxies for the firm risks include: (1) *Earnings Volatility*, measured as the standard deviation of quarterly earnings from year $(t - 3)$ to year $(t - 1)$ with at least 4 observations, (2) *Beta* (equity beta), estimated using daily returns from CRSP value-weighted index from year $(t - 3)$ to year $(t - 1)$, and (3) *Idiosyncratic Volatility*, estimated as the standard deviation of the daily residuals 3-year window period prior to the event year from the FF (1993) 3-factor model.

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[14] A similar approach can be found in Berg and Gider (2016). The authors use a joint sample of banks and non-banks to analyze the factors that affect leverage difference in the two types of firms.

The following selected variables are related to firm financial flexibility: (1) *Size,* measured as the log of book value of total assets in year (t - 1) deflated in 1998 dollars. Large firms have more financial flexibility due to their capability to access security markets, (2) *Cash*, the ratio of cash and marketable securities in year (t - 1) to total assets in year (t - 1), (3) *Cash Flow*, measured as operating cash flow in year (t - 1) scaled by total assets in year (t - 1), (4) *Payout*, the ratio of dividends and common stock repurchases in year (t -1) to operating income in year (t - 1), and (5) *Leverage*, measured as the ratio of total debt in year (t -1) to book assets in year (t - 1). We also follow Leary and Roberts (2014) to define three variables related to corporate financial policy: (1) *Dividend dummy*, an indicator variable taking the value of one if a firm pays dividends in year (t - 1) and zero otherwise, (2) *Equity Issuance Dummy*, an indicator variable taking the value of one if a firm issues new equity in year (t - 1) and zero otherwise, and 3) *Debt Issuance Dummy*, an indicator variable taking the value of one if a firm issues new debt in year (t -1) and zero otherwise.

Institutional investors play an important role in SEOs (Chemmanur, He, and Hu, 2009). Firms tend to issue equity in response to periods of high returns, especially when coupled with strong institutional investor demands (Alti and Sulaeman, 2012). Thus, we control for institutional ownership (*IO*) and *Abnormal Returns*. *IO* is measured as average quarterly institutional ownership from year (t - 3) to year (t - 1) with minimum 4 observations. *Abnormal Returns* are calculated using the FF 3-factor daily market model from year (t - 3) to year (t - 1).

Following Mukherjee, Baker, and Hingorani (2002) and Hartzell, Howton, Howton, and Scheick (2016), we include the following control variables: *Tobin Q*, *Book-to-Market*, *Asset Growth*, and firm age. *Tobin Q* is the ratio of the market value of assets in year (t - 1) to the book value of assets in year (t - 1). *Book-to-Market* is the ratio of the book value of equity in year (t - 1)

to the market value of equity in year (t - 1). We include *Tobin Q* and *Book-to-Market* in different specifications because these two variables are highly correlated. *Asset Growth* is measured as total book asset growth from year (t - 1) to year t. *Ln (Age)* is the log of the difference between the current year and the first year that a firm enters the COMPUSTAT database. To mitigate the influence of outliers, we winsorize all continuous variables at the 1st and 99th percentiles.

3.5 Descriptive Statistics

Table 3 presents descriptive statistics for the variables selected in the estimating equations. Panel A presents overall distributional statistics for sample firms with DRSPPs, including industrial firms and REITs. Panel B (C) shows distributional statistics for the two groups of sample industrial firms (REITs) with DRSPPs, depending on whether they issue new shares through the plans. The last two columns of Panel A reveal that firm characteristics are significantly different between industrial firms and REITs. For example, of the sample firms, REITs, rather than industrial firms, have smaller firm sizes, lower percentages of institutional ownership, and higher book-to-markets. REITs are also more likely to pay dividends and issue equity and debt. Panels B and C show that firms not issuing new equity through DRSPPs have more earnings volatility, pay lower dividends, and have more asset growth and idiosyncratic volatility than firms issuing shares via such plans.

[Put Table 3 about Here]

4. Empirical Results

4.1 What Determines Whether Firms Issue New Equity via DRSPPs

Table 4 displays logistic regression results estimated from equation (1). Excluding dummy variables, we standardize all the other independent variables to compare the effects of variables measured in different metrics. Panel A shows the marginal effects. The results show that the

18

decision to issue new equity via DRSPPs is more likely to be related to *REIT*, *Size*, *IO, Tobin Q,*

Earnings Volatility, Dividend Dummy, and *Equity Issuance Dummy*. The marginal effects are

difficult to interpret because (1) coefficients in Panel A are typically tied to log-odds and (2)

interpreting per standard deviation change in a dummy variable like *REIT* is futile.

We focus on odds ratios instead for ease of interpretation. Panel B reports the odds ratios. In

Panel B, the odds ratios on *REIT* are 5.139 (p-value = 0.00) and 4.591 (p-value = 0.00) in

columns (1) and (2), respectively. This indicates that the odds of issuing new shares via DRSPPs

is about five times higher for REITs compared to industrial firms. This result further confirms

that REITs have a greater probability of implementing DRSPPs, controlling for factors that affect

the issuance decisions, consistent with *H1*.

In Panel B of Table 4, columns (1)-(2) also show that in the full sample: (1) the odds ratios

on *Earnings Volatility* are about 0.515 (p-value =0.01) and 0.566 (p-value = 0.02), respectively,

(2) the odds ratios on *Beta* are 0.651 (p-value = 0.05) and 0.609 (p-value = 0.02), respectively,

and (3) the odds ratios on *Idiosyncratic Volatility* are all insignificant. This implies that of the

three risk measures, earnings volatility has a stronger effect on firms' issuance decisions than

market beta or idiosyncratic volatility. Firms with less earnings volatility and/or less market beta

are more likely to issue shares via DRSPPs, after controlling for other relevant factors.

Regarding financial constraints, we discuss the effects of firm size, payout policy, leverage,

and cash holdings in industrial firms and REITs separately. To be concise, we only focus on the

regression model that includes *Tobin Q*. Replacing *Tobin Q* with *Book-to-Market* does not affect

the magnitude or significance of coefficient estimates on the other factors. Column (3) shows

that a one standard deviation increase in *Size* (*Payout*, measured as the amount of dividends and

stock repurchase) produces, on average, a 1.560 (1.413) increase in the log-odds of industrial

firms issuing equity through DRSPPs, increases in *IO* or *Tobin Q* lower the possibility of industrial firms issuing equity through these plans. Nevertheless, column (5) shows that increases in *Size*, *Payout*, or *Cash* significantly decrease the possibility of REITs issuing equity via such plans, and a one standard deviation increase in *Asset Growth* produces an average of 1.949 increases in the log-odds of REITs issuing equity via such plans. Coefficients on *Cash* in columns (3)-(6) suggest that firms with lower cash holdings are more likely to issue shares through DRSPPs. Also, REITs with smaller size tend to issue shares via DRSPPs. Neither *Leverage* nor *Debt Issuance Dummy* affects equity issuance decisions related to DRSPPs in the full sample and the two sub-samples.

Therefore, the possibility of firms issuing shares via DRSPPs is associated with different firm characteristics between industrial firms and REITs. Our findings also indicate that this innovative equity offering strategy is important for REITs to raise capital. REITs with smaller size, faster asset growth, and lower cash holdings are more likely to issue equity via DRSPPs.

[Put Table 4 about Here]

4.2 Tobit Model of Percentage of Equity Issuance via DRSPPs

In our sample, firms do not issue new shares through DRSPPs often. For this censoring mechanism, we use the Tobit model to study the effects of related factors on percentage of new equity issuance via DRSPPs. The model is stated as follows:

Percentage of Equity Issuance via DRSPPs = f (*REIT*, *Earnings Volatility*$_{(t-3, t-1)}$, *Beta*$_{(t-3, t-1)}$, *Idiosyncratic Volatility*$_{(t-3, t-1)}$, *Size*$_{(t-1)}$, *Cash*$_{(t-1)}$, *Cash Flow*$_{(t-1)}$, *Payout*$_{(t-1)}$, *Leverage*$_{(t-1)}$, *Dividend Dummy*$_{(t-1)}$, *Equity Issuance Dummy*$_{(t-1)}$, *Debt Issuance Dummy*$_{(t-1)}$, *IO*$_{(t-3, t-1)}$, *Abnormal Returns*$_{(t-3, t-1)}$, *Tobin Q*$_{(t-1)}$ (or *Book-to-Market*$_{(t-1)}$), *Asset Growth*$_{(t-2, t-1)}$, *Ln(Age)*$_{(t-1)}$, Year Fixed Effects)

(If *Percentage of Equity Issuance via DRSPPs* > 0)   (2)

Where the dependent variable *Percentage of Equity Issuance via DRSPPs* is measured as the ratio of a number of new shares registered for a DRSPP each time to the total number of common shares outstanding on the same day. All other variables are defined the same as in Section 3.1.

Table 5 reports the marginal effects from the Tobit model. Columns (1)-(2) show that the coefficients on *REIT* are 0.107(p-value = 0.00) and 0.101(p-value = 0.00), respectively. This indicates that REITs are more likely to issue equity through DRSPPs. For industrial firms, *Percentage of Equity Issuance via DRSPPs* is significant and positively related to *Size* and *Idiosyncratic Volatility*, and it is significant and negatively related to *IO* (institutional ownership), *Tobin Q*, and *Beta*. For REITs, *Percentage of Equity Issuance via DRSPPs* is significant and positively associated with *Equity Issuance Dummy*, *Dividend Dummy*, and *Asset Growth*, and it is significant and negatively associated with *Size*, *Earnings Volatility*, *Debt Issuance Dummy*, *Cash*, *Payout,* and *Idiosyncratic Volatility*. These results are consistent with what we find in the previous section and further confirm *H1* and *H2*.

[Put Table 5 about Here]

4.3 Market Reactions to Equity Issuances through DRSPPs

In this section, we investigate whether there are abnormal stock returns around equity issuance dates. The abnormal stock returns in the announcement period are measured daily, and at three -, five -, and eleven - trading days around the equity issuance date (-1, 1), (-3, 3), and (-5, 5), separately. We first use the market model, where the value-weighted CRSP index is used to proxy overall market returns. The estimation period spans from 278 days to 22 days prior to the registration date. For comparative purposes, we also collect 1,073 SEOs from the SDC Platinum database for the sample firms having DRSPPs.

Table 6 displays the results. In Panel A, column (3) confirms the finding of the significant negative SEO announcement period returns, which has been well-documented in extant studies. Of more interest is the insignificant abnormal registration period returns shown in column (1). Panel B shows a similar result.

We also calculate the cumulative abnormal returns using two asset pricing factor models, including the Fama, French, and Carhart 4-factor model and the Fama and French 5-factor model. Panels C and D show consistent results. Overall, the effect of share issuances via DRSPPs on stock returns is insignificant. Therefore, equity issuances via DRSPPs do not result in significant negative market reactions (*H3*). Compared with SEOs, equity offerings through DRSPPs cause much less negative market reactions during the event period. We conclude that the market does not react to the large scale of share issuances via DRSPPs because investors perceive this new registration as harmless to future stock performance. Another interpretation might be that investors simply do not pay attention to this form of equity offerings.

[Put Table 6 about Here]

As a robustness check, we compare effects of share issuances via DRSPPs versus SEOs in a multivariate setting. Using a similar approach as in Hartzell et al. (2016), we apply a pooled OLS model for the full sample of new issuances via DRSPPs and SEOs as follows:

CAR = f(*DRSPP*, *Size*, *IO*, *Q*, *Earnings Volatility*, *Beta*, *Idiosyncratic Volatility*, *Abnormal Returns*, Year F.E., Industry F.E.) (3)

Where the dependent variable *CAR* is estimated using three different models. The main variable of interest is *DRSPP*, which takes the value of one if the new issuance is through a DRSPP during a year and zero otherwise. Other variables are defined the same as in section 3.3 and in Appendix B. The first row of Table 7 shows that estimated coefficients on *DRSPP* are all

around 1.800 (t-stat > 3.50) after controlling for other factors that may affect abnormal cumulative returns around the event. This indicates that compared with SEOs, equity offerings via DRSPPs result in a significant positive effect on stock returns. Therefore, we provide further evidence that is consistent with our predication *H3*. In sum, unlike SEOs, equity offerings through DRSPPs avoid negative signals to investors.

[Put Table 7 about Here]

5. Conclusions

In this paper, we show that firms can issue new shares via DRSPPs without using underwriters, and thus raise new equity capital with lower flotation costs. This provides direct evidence that firms prefer internal to external funds. We also show that both industrial firms and REITs issue a great number of shares are issued via DRSPPs. The innovative avenue for equity financing via DRSPPs helps firms identified in this study raise a substantial amount of capital in the form of reinvested dividends and additional cash contributions from existing shareholders. REITs, as opposed to industrial firms, are more likely to issue new shares via DRSPPs. Equity issuances via DRSPPs facilitate firms, especially REITs, to retain a significant portion of internally generated cash flows.

We find that the alternative source of capital is crucial for some financially constrained firms to maintain growth. The possibility of firms issuing equity via DRSPPs is related to different firm characteristics between industrial firms and REITs. For example, we show that earnings volatility play a key role in determining REIT (rather than industrial firm) equity issuance decisions via DRSPPs. Besides, REITs with higher asset growth, smaller firm size, or lower cash holdings are more likely to issue shares via these plans. We also provide empirical evidence that there is no penalty to the equity price when large amounts of new shares are issued via DRSPPs.

23

Overall, our findings broaden the view of strategic avenues for equity financing and provide interesting insight into why firms adopt DRSPPs.

Another implication of the adoption of DRSPPs is the link between payouts and share repurchases. Based on the SEC new share registration files, only a portion of firms with DRSPPs register new shares via such plans. Thus, a majority of firms with these plans actually repurchase shares in the open market or buy back shares from third parties. Future work which explores this relation would be of interest, and it would help us better understand why firms adopt DRSPPs from a different angle.

In addition, this research does not look into the question of why many firms with DRSPPs do not issue new shares through such plans. Possible explanations might be low shareholder participation rates in such plans or the plan administrators preferring to purchase shares in the open market and in private transactions.

If firms issue shares through DRSPPs, then the plan administrators in these firms do not need to buy shares in the open market around the dividend payment dates. This should alleviate the price pressure around these dates, as documented in Berkman and Koch (2016). However, we show that there is no difference in payment date effects between firms with DRSPPs that do not issue shares via the plans and those that issue shares via the plans. In Table I of Appendix C, we find significant positive abnormal returns on the third day before the dividend payment date for firms with DRSPPs, regardless of firms using such plans to issue new shares. We also find no difference in the significant dividend payment date effect, no matter whether firms use DRSPPs to issue new shares. We leave these paradoxes to future work.

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Appendix A. Excerpts from Registration Forms

A1. Verizon filed Form S-3ASR on April 30th, 2015

A Direct Stock Purchase and Share
Ownership Plan for Common Stock, $.10 par value per share, of Verizon Communications Inc.

Verizon
Communications

Direct

Invest

- *Purchase Verizon shares conveniently.*
- *Build your ownership systematically by reinvesting dividends and by making additional investments.*
- *Access your account online to review and manage your investment.*
- *Protect your Verizon stock certificates by turning them in for share safekeeping at no cost.*
- *Establish an IRA that invests in Verizon shares.*

Investing in Verizon stock involves risks. You should carefully consider the risks factors described on page 4 of this prospectus before participating in the Plan.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the securities discussed in this prospectus, or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

Prospectus dated April 30, 2015.

A2. Investor Real Estate Trust filed Form 424B5 on Oct.27, 2014 on form 424B5.

Prospectus Supplement, dated October 27, 2014
(To prospectus dated June 27, 2013)

DISTRIBUTION REINVESTMENT AND SHARE PURCHASE PLAN
10,000,000 Common Shares of Beneficial Interest

Investors Real Estate Trust's ("IRET") Distribution Reinvestment and Share Purchase Plan (the "plan") provides new investors and existing holders of IRET's common shares of beneficial interest (the "common shares"), and holders of the limited partnership units ("units") of IRET's operating partnership, IRET Properties, A North Dakota Limited Partnership ("IRET Properties"), a convenient way to purchase IRET common shares, by permitting participants in the plan to automatically reinvest cash distributions on all or a portion of their common shares and units (subject to a minimum reinvestment percentage of 10%), and to make monthly voluntary cash contributions under the terms of the plan. Participation in the plan is entirely voluntary, so that shareholders and unitholders may join the plan and terminate their participation in the plan at any time. If you choose not to participate in the plan you will continue to receive cash distributions on your common shares and units when, as and if declared, in the usual manner. Beneficial owners of our common shares whose shares are registered in names other than their own, by brokers, banks or other nominees, may join the plan by having the shares they wish to enroll in the plan transferred to their own names, or by arranging for the holder of record to join the plan.

Prior to this prospectus supplement, we sold 8,653,052 common shares under the plan pursuant to a prospectus supplement dated July 18, 2013 to the prospectus dated June 27, 2013, resulting in 1,346,948 common shares being previously registered but remaining unsold under the prospectus supplement dated July 18, 2013.

A summary of the plan is provided in this prospectus supplement in a question and answer format. We encourage you to read it carefully. If you have any additional questions, please call us at (701) 837-4738. We recommend that you retain this prospectus supplement for future reference.

You may purchase common shares under the plan by:

- Having the cash distributions on all or part of your common shares and units automatically reinvested;

- Receiving directly, as usual, cash distributions, if and when declared, on your common shares and units, and investing in the plan by making optional cash payments of $250 to $10,000 per month; or

- Investing both your cash distributions and your voluntary cash contributions.

This prospectus supplement relates to 10,000,000 common shares registered for purchase under the plan and makes certain amendments to our existing plan. Current plan participants automatically will continue to participate in the plan.

Common shares purchased for your account under the plan will be issued by us or purchased from third parties on the open market or in privately negotiated transactions. We may, in our sole discretion, determine the source from which common shares will be purchased under the plan; however, we expect these shares to be primarily shares issued by us. Newly issued common shares generally will be purchased at a discount ("purchase price discount") of

0% to 5% (in our sole discretion) from the market price for our common shares at the time of purchase, and will provide us with additional capital for general corporate purposes.

Common shares purchased for plan accounts through open market or privately negotiated transactions are not eligible for the purchase price discount. The purchase price for common shares acquired for plan accounts through open market or privately negotiated transactions will be equal to the weighted average price (excluding brokerage commissions) of all common shares acquired through open market or privately negotiated transactions during the investment period. Common shares purchased directly from us pursuant to an approved request for waiver as described in this prospectus supplement will be at the volume weighted average price, rounded to four decimal places, of our common shares, as traded on the New York Stock Exchange ("NYSE") only during regular NYSE hours on the applicable trading days and may be priced at a discount ("waiver discount") ranging from 0% to 5%, as described in this prospectus supplement. We may change or eliminate any discount at any time in our sole discretion.

In part so that we can continue to qualify as a "real estate investment trust" (a "REIT") under the federal income tax laws, our declaration of trust generally does not permit anyone to own more than 9.8% (in value or number of shares, whichever is more restrictive) of our outstanding common shares.

To the extent required by applicable law in any jurisdiction, common shares offered under the plan to persons not presently common shareholders of record are offered only through a registered broker-dealer in such jurisdiction.

Our common shares are listed on the NYSE under the symbol "IRET." The last reported sale price of our common shares on the NYSE on October 23, 2014 was $8.06 per share.

Investing in our common shares involves risks. See "Risk Factors" beginning on page S-1 of this prospectus supplement and beginning on page 11 of our Annual Report on Form 10-K for the fiscal year ended April 30, 2014, our periodic reports and other information that we file with the Securities and Exchange Commission, for certain factors that you should consider before purchasing our common shares.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS SUPPLEMENT IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus supplement is October 27, 2014

Appendix B. Variable Definitions

Earnings Volatility is measured as the standard deviation of quarterly earnings from year (t - 3) to year (t - 1) with at least 4 observations.

Beta (the equity beta) is estimated using daily returns from CRSP value-weighted index from year (t - 3) to year (t - 1).

Idiosyncratic Volatility is estimated as the standard deviation of the daily residuals 3-year window period prior to the event year from the FF (1993) 3-factor model.

Size is measured as the log of book value of total assets in year (t - 1) measured in 1998 dollars.

Cash is the ratio of cash and marketable securities in year (t - 1) to total assets in year (t -1).

Cash Flow is measured as operation cash flow in year (t - 1) scaled by total assets in year (t - 1).

Payout is the ratio of dividends and common stock repurchases in year (t -1) to operating income in year (t - 1).

Leverage is measured as the ratio of total debt in year (t -1) to book assets in year (t - 1)

Dividend dummy is an indicator variable taking the value of one if a firm pays dividends in year (t - 1) and zero otherwise.

Equity Issuance Dummy is an indicator variable taking the value of one if a firm issues new equity in year (t - 1), and zero otherwise.

Debt Issuance Dummy is an indicator variable taking the value of one if a firm issues new debt in year (t -1) and zero otherwise.

Tobin Q is the ratio of market value of assets in year (t - 1) to book value of assets in year (t - 1).

Book-to-Market is the ratio of book value of equity in year (t - 1) to market value of equity in year (t - 1).

Asset Growth is measured as total book asset growth from year (t - 1) to year t.

Ln (Age) is the log of the difference between the current year and the first year that a firm enters the COMPUSTAT database.

Appendix C

Table I
Abnormal Returns around Dividend Payment Date

This table reports average abnormal returns around dividend payment date. Panel A reports daily abnormal returns. Panel B, C, and D report cumulative abnormal returns (CARs) around the dividend payment date t, which are separately estimated from three event windows: $(t, t + 1)$, $(t + 2, t + 10)$, and $(t, t + 10)$. Panels A and B are based on the estimation of a standard market model, which use the value-weighted CRSP index to be the market return index and have the estimation period from 278 to 22 days prior to the issuance date. Panels C and D use the Fama, French, and Carhart 4-factor model and the Fama and French 5-factor model, respectively, to calculate the abnormal returns. In Columns (3) and (6) of each panel, the null hypothesis is that means of variables between the two different groups are equal. For firms that issue shares through DRSPPs, we require that dividend payment date is later than the issuance date that firms first issue equity via the plans. Of the sample of firms with DRSPP, 724 firms make dividend payments from 1998 to 2014. Of them, 152 firms with 6,010 dividend payments also issue new equity through DRSPPs, and 572 firms with 29,468 dividend payments do not have new issues via DRSPPs. Columns (1) - (3) show results based on the sample from 1998 to 2014; and columns (4) - (6) show results based on the sample from 2008 to 2012. T-Stat in bracket is the t-stat of the nonparametric Wilcoxon two-sample test.

Panel A. Daily Abnormal Returns

Day	(1)	(2)	(3)	(4)	(5)	(6)
	1998 - 2014			2008-2012		
	No Issuance via DRSPPs	Issuances via DRSPPs	Ab_Ret2 - Ab_Ret1	No Issuance via DRSPPs	Issuances via DRSPP	Ab_Ret2 - Ab_Ret1
	Ab_Ret1 (%)	Ab_Ret2 (%)		Ab_Ret1 (%)	Ab_Ret2 (%)	
-5	-0.041	-0.056	-0.015	-0.049	-0.076	-0.027
	(-3.07)	(-2.17)	(-0.18)	(-1.94)	(-1.37)	(-0.45)
-4	-0.005	-0.056	-0.051	-0.023	-0.096	-0.073
	(-0.345)	(-2.35)	(-0.531)	(-0.92)	(-1.91)	(-0.54)
-3	0.044	0.136	0.092	0.037	0.211	0.174
	(3.30)	(5.28)	(2.88)	(1.49)	(3.73)	(2.20)
-2	0.013	-0.057	-0.070	0.008	-0.105	-0.113
	(1.09)	(-2.35)	(-1.28)	(0.34)	(-2.01)	(-1.68)
-1	0.022	-0.023	-0.045	-0.024	-0.084	-0.060
	(1.77)	(-0.96)	(-0.48)	(-1.06)	(-1.68)	(-1.05)
0	0.102	0.151	0.049	0.121	0.221	0.100
	(7.77)	(5.99)	(1.50)	(4.91)	(4.36)	(1.30)
1	0.009	0.053	0.044	0.034	0.008	-0.026
	(0.66)	(2.12)	(3.26)	(1.35)	(0.16)	(0.60)
2	-0.052	-0.012	0.040	-0.055	0.005	0.060
	(-4.20)	(-0.51)	(1.27)	(-2.20)	(0.09)	(0.55)
3	-0.054	-0.097	-0.043	-0.012	-0.070	-0.058
	(-4.16)	(-4.04)	(-1.00)	(-0.45)	(-1.33)	(-0.12)
4	-0.036	0.006	0.042	-0.018	0.081	0.099
	(-2.89)	(0.26)	(2.08)	(-0.80)	(1.65)	(1.62)
5	-0.055	0.026	0.081	-0.056	0.096	0.152
	(-4.42)	(1.06)	(3.02)	(-2.26)	(1.85)	(2.22)

Table I (Cont'd)

	(1)	(2)	(3)	(4)	(5)	(6)
	1998 - 2014			2008-2012		
	No Issuance via DRSPPs	Issuances via DRSPPs	Ab_Ret2 - Ab_Ret1	No Issuance via DRSPPs	Issuances via DRSPPs	Ab_Ret2 - Ab_Ret1
Day(s)	Ab_Ret1 (%)	Ab_Ret2 (%)		Ab_Ret1 (%)	Ab_Ret2 (%)	
Panel B. Cumulative Abnormal Returns (CARs)-Market Model						
CAR(0,1)	4.894	7.495	2.601	2.590	4.106	1.516
	(5.55)	(5.07)	(1.73)	(4.43)	(3.23)	(1.19)
CAR(2,10)	-12.577	-3.354	9.223	-1.749	2.533	4.282
	(-7.65)	(-1.23)	(2.76)	(-1.46)	(1.04)	(1.19)
CAR(0,10)	-7.683	4.141	11.824	0.845	6.638	5.793
	(-4.48)	(1.42)	(3.39)	(0.65)	(2.60)	(1.45)
Panel C. Cumulative Abnormal Returns (CARs) - the Fama French Carhart 4-Factor Model						
CAR(0,1)	4.467	6.859	2.392	1.782	2.499	0.717
	(5.15)	(4.75)	(1.64)	(3.18)	(2.12)	(0.55)
CAR(2,10)	-11.208	-5.196	6.012	-2.600	-0.577	2.023
	(-6.92)	(-1.86)	(1.72)	(-2.21)	(-0.241)	(0.55)
CAR(0,10)	-6.741	1.664	5.929	-0.812	1.922	2.734
	(-4.06)	(0.56)	(2.51)	(-0.65)	(0.78)	(0.73)
Panel D. Cumulative Abnormal Returns (CARs) - the Fama French 5-Factor Model						
CAR(0,1)	5.052	6.425	1.373	1.626	3.000	1.374
	(5.502)	(4.41)	(1.14)	(2.99)	(2.51)	(1.14)
CAR(2,10)	-10.665	-3.627	7.038	-3.654	0.642	4.296
	(-6.25)	(-1.31)	(1.58)	(-3.03)	(0.26)	(1.06)
CAR(0,10)	-5.613	2.822	8.435	-2.019	3.640	5.659
	(-3.16)	(0.95)	(2.18)	(-1.57)	(1.40)	(1.62)

Table 1
Examples of Two Firms Issuing New Shares via DRSPPs

This table shows records of two firms that have registered new shares via DRSPPs, based on security registrations in the SEC's EDGAR system. Firms may use form S-3, form S-3ASR, form S-3D, and form 424B5 to register the new shares. Once the shares are registered, these shares can sell to the public via DRSPPs over time. Firms will register new shares in a similar vein when the registered shares are close to being used up.

Date	Source	File Number	Approximate date of commencement of proposed sale to the public	Security Type	Amount to be Registered	Proposed Maximum Offering Price Per Unit	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Verizon (Ticker: VZ)								
03/17/98	S-3	333-48083	From time to time	Common Stock	15,000,000	94.156	1,412,343,750	416,641.40
07/02/03	S-3	333-106750	From time to time	Common Stock	25,000,000	39.025	975,625,000	78,928.06
11/14/06	S-3	333-138705	From time to time	Common Stock	30,000,000	35.770	1,073,100,000	114,822
11/03/09	S-3ASR	333-162833	From time to time	Common Stock	15,000,000	29.080	436,125,000	24,336
07/19/12	S-3ASR	333-182749	From time to time	Common Stock	29,750,000	44.550	1,113,750,000	127,636
04/30/15	S-3ASR	333-203745	From time to time	Common Stock	5,425,770	49.830	270,336,120	31,417
Total					120,175,770			793,780.46
Monmouth Real Estate Investment Corporation (Ticker: MNR)								
05/11/95	S-3D	033-59239	ASAP	Common Stock	750,000	5.563	4,171,875	1,438.59
04/25/97	S-3D	333-25841	ASAP	Common Stock	750,000	5.875	4,406,250	1,335.23
02/25/98	S-3D	333-46851	ASAP	Common Stock	750,000	6.875	5,156,250	1,562.50
09/02/98	S-3D	333-62707	ASAP	Common Stock	825,000	5.813	4,795,312.5	1,453.13
02/04/99	S-3D	333-71745	ASAP	Common Stock	1,000,000	5.406	5,406,250	1,638.26
09/09/99	S-3D	333-86775	ASAP	Common Stock	1,500,000	5.450	817,500	2,477.27
11/28/00	S-3D	333-50818	ASAP	Common Stock	1,500,000	5.000	7,500,000	2,272.72
11/25/03	S-3D	333-110737	ASAP	Common Stock	2,000,000	8.620	17,240,000	1,394.72
02/04/05	S-3D	333-122570	ASAP	Common Stock	2,500,000	8.510	21,275,000	2,695.54
02/07/08	S-3D	333-149110	ASAP	Common Stock	2,500,000	7.995	19,987,500	613.62
02/05/10	S-3D	333-164711	ASAP	Common Stock	2,500,000	7.570	18,925,000	1,349.35
05/06/11	S-3D	333-173973	ASAP	Common Stock	3,000,000	8.260	24,780,000	2,876.96
08/01/12	S-3D	333-182995	From time to time	Common Stock	3,000,000	11.140	33,420,000	3,829.93
09/27/13	S-3D	333-191421	From time to time	Common Stock	4,000,000	9.030	36,120,000	4,926.77
06/16/14	S-3D	333-196820	From time to time	Common Stock	4,000,000	9.430	37,720,000	4,858.34
06/26/15	S-3D	333-205304	From time to time	Common Stock	5,000,000	9.600	48,000,000	5,577.60
03/01/16	S-3D	333-209856	From time to time	Common Stock	7,000,000	11.100	77,700,000	7,824.39
Total					42,575,000			48,124.92

Table 2
Equity Issuances via DRSPPs vs. SEOs

This table provides the distribution of equity issuance through DRSPPs and SEOs for industrial firms and REITs, respectively, from 1998 to 2014. The sample includes 136 new equity issuances via DRSPPs by 69 industrial firms and 210 new equity issuances via DRSPPs by 98 REITs. Of these firms, 19 out of the 69 industrial firms and 74 out of the 98 REITs also issue new equity through SEOs. Panel A shows numbers of firms and the average amount of common shares registered via DRSPPs and SEOs, respectively, by year. Panel B shows frequency of firms using DRSPP$_S$ or SEOs to issue shares. Panel C summarizes the DRSPP features that allow investors to direct invest in the company stocks with a range of discounts and allowable investment amounts. Panel D shows financial institutions appointed as plan administrators.

Panel A. Numbers of Firms and Average Amount of Common Shares Registered Via DRSPPs and SEOs, Respectively, By Year

	Industrial Firms				REITS			
	DRSPP		SEO		DRSPP		SEO	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Year	No. of issuances	Average Amt. of Common Shares Registered	No. of issuances	Average Amt. of Common Shares Registered	No. of issuances	Average Amt. of Common Shares Registered	No. of issuances	Average Amt. of Common Shares Registered
1998	11	2,280,166	2	7,087,700	10	2,900,000	70	1,562,731
1999	15	2,046,400	4	5,158,995	28	3,301,786	1	4,000,000
2000	3	1,033,333	0	0	11	1,572,150	3	5,978,333
2001	7	2,826,540	0	0	12	2,070,833	19	4,617,708
2002	2	15,250,000	4	13,563,044	13	1,572,308	15	5,930,363
2003	5	12,200,000	3	11,716,667	9	2,166,667	27	5,196,347
2004	4	27,500,000	6	36,783,293	15	2,666,771	22	6,735,454
2005	5	2,465,000	5	8,759,956	9	14,035,981	14	3,850,000
2006	5	8,410,000	3	12,182,960	10	3,365,000	17	3,942,505
2007	5	11,358,933	4	7,349,542	9	5,370,766	12	5,070,833
2008	20	3,041,931	1	547,825,000	15	4,765,571	17	5,230,443
2009	16	10,667,563	6	13,758,333	13	4,728,670	35	17,496,143
2010	4	8,484,401	7	13,528,571	9	3,283,704	37	10,577,121
2011	11	10,778,196	4	15,025,000	13	18,907,361	38	6,544,624
2012	10	4,914,194	4	24,750,000	12	5,585,821	32	7,953,761
2013	4	900,000	3	15,333,333	11	6,278,152	37	11,248,750
2014	9	12,136,309	2	6,300,000	11	3,813,995	20	7,917,190
Average	8	8,017,233	3	24,093,709	12	5,081,502	24	7,088,153
Total	136	937,319,362	58	1,397,435,138	210	1,038,194,722	416	2,948,671,614

Panel B. Frequency of Firms Using DRSPPs or SEOs to Issue New Equity

	Industrial Firms		REITs	
	DRSPPs	SEOs	DRSPPs	SEOs
No. of firms that have registered shares for the plan	69	19	98	74
Maximum number of times for a firm that has registered shares	6	19	15	19
No. of firms that have only registered shares once for the plan	38	10	58	10
No. of firms that have registered shares twice for the plan	11	2	17	11
No. of firms that have registered shares equal to or greater than three times	20	7	23	53

Panel C. Plan Features

	Industrial Firms	REITs
0~5% discount	13	75
No discount	56	23
Minimum Optional Cash Investment	$10 ~ $ 500 each time	$10 ~ $1,000 each time
Maximum Optional Cash Investment	$1,000/month ~ $50 mil./year	$750/month ~ $300K/month
No Direct Purchase Plan	15	15
DRSPP	54	83

Panel D. Institutions Appointed as Plan Administrators

	Industrial Firms	REITs
American Stock Transfer & Trust Company	8	26
Computershare Trust Company, N.A.	18	12
Wells Fargo Shareowner Services	11	14
Other institutions*	32	46
Total	69	98

* Beside the above three companies, one of the following institutions could also be enlisted as the plan administrator: ACS Securities Services Inc., American National Stock Transfer, LLC., BankBoston, BNY Mellon Shareowner Services, Boston Equiserve, L.P., Boston Financial Data Services, Broadridge Corporate Issuer Solutions, Chemical Bank, Chase Manhattan Bank, E*TRADE Securities LLC, EquiserServe Trust Company, N.A., Equity Office Properties Trust, First Chicago Trust Company of New York, First Union National Bank, Fleet National Bank, National City Bank, Norwest Bank, Registrar and Transfer Company, SunTrust Bank, UMB Banks, and Wachovia Bank, N.A.. Of our sample, only two companies -D&E Communications Inc. and Shenandoah Telecommunications Company- administer the plan themselves.

Table 3
Descriptive Statistics

This table presents descriptive statistics for a sample of 629 industrial firms with 7,436 firm-year observations and 162 equity REITs with 1,572 firm-year observations from 1998 to 2014. Panel A shows the descriptive statistics for the full sample. Panels B and C show the descriptive statistics for industrial firms and REITs, all with DRSPPs, respectively. *Size* is the log of book value of total assets measured in 1998 dollars. *IO* is average quarterly institutional ownership in the past 12 quarters with minimum 4 observations. *Tobin Q* is the ratio of market value of assets to book value of assets. *Book-to-Market* is the ratio of book value of equity to market value of equity. *Earnings Volatility* is measured as the standard deviation of quarterly earnings in the prior 12 quarters with at least 4 observations. *Dividend dummy* is an indicator variable taking the value of one if a firm pays dividends and zero otherwise. *Equity Issuance Dummy* is an indicator variable taking the value of one if a firm issues new equity and zero otherwise. *Debt Issuance Dummy* is an indicator variable taking the value of one if a firm issues new debt and zero otherwise. *Leverage* is the ratio of total debt to book assets. *Asset Growth* is measured as total book asset growth from year (t - 1) to year t. *Cash* is the ratio of cash and marketable securities to total assets. *Cash Flow* is operation cash flow scaled by total assets. *Payout* is the ratio of dividends and common stock repurchases to operating income. *Ln (Age)* is the log of the difference between the current year and the first year that a firm enters the COMPUSTAT database. *Beta* is the equity beta estimated using daily returns from CRSP value-weighted index during three fiscal years prior to the event year. *Abnormal Returns* is calculated using the Fama French 3-factor daily market model in year (t -1). *Idiosyncratic Volatility* is estimated as the standard deviation of the daily residuals 3-year window period from the Fama-French (1993) 3-factor model. In last two columns of each panel, the null hypothesis is that means (medians) of variables between two different categories of firms are equal.*, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Full Sample

	Industrial Firms			REITs				
Variable	Mean	Median	Std Dev	Mean	Median	Std Dev	ΔMean	ΔMedian
Size	7.981	7.952	1.591	7.416	7.458	1.215	-0.564***	-0.494***
IO	0.672	0.708	0.205	0.567	0.596	0.277	-0.105***	-0.112***
Tobin Q	1.779	1.334	1.353	1.197	1.119	0.340	-0.582***	-0.215***
Book-to-Market	0.468	0.402	0.336	0.680	0.619	0.387	0.212***	0.217***
Earnings Volatility	0.395	0.223	0.493	0.222	0.125	0.298	-0.173***	-0.098***
Dividend Dummy	0.771	1.000	0.420	0.940	1.000	0.238	0.169***	0.000***
Equity Issuance Dummy	0.123	0.000	0.328	0.494	0.000	0.500	0.371***	0.000***
Debt Issuance Dummy	0.375	0.000	0.484	0.665	1.000	0.472	0.290***	1.000***
Leverage	0.236	0.220	0.172	0.539	0.526	0.154	0.304***	0.307***
Asset Growth	0.114	0.065	0.237	0.151	0.066	0.286	0.036***	0.001
Cash	0.117	0.069	0.129	0.024	0.012	0.042	-0.093***	-0.057***
Cash Flow	0.113	0.107	0.061	0.028	0.024	0.030	-0.085***	-0.083***
Payout	0.441	0.333	0.525	0.042	0.253	1.087	-0.398***	-0.080*
Ln (Age)	3.259	3.497	0.727	2.556	2.565	0.679	-0.703***	-0.932***
Beta	0.982	0.953	0.479	0.769	0.709	0.532	-0.213***	-0.244***
Idiosyncratic Volatility	2.018	1.887	0.771	1.568	1.360	0.624	-0.450***	-0.527***
Abnormal Returns	0.033	0.025	0.074	0.031	0.027	0.060	-0.002	0.002
Firm Year Obs.		7,436			1,572			
No. of Firms		629			162			

Panel B. Industrial Firms

Variable	Issuances via DRSPPs			No Issuance via DRSPPs			ΔMean	ΔMedian
	Mean	Median	Std Dev	Mean	Median	Std Dev		
Size	8.220	8.373	1.934	7.952	7.930	1.543	-0.268***	-0.444***
IO	0.610	0.659	0.222	0.679	0.715	0.201	0.069***	0.056***
Tobin Q	1.624	1.24	1.250	1.797	1.347	1.363	0.173***	0.107***
Book-to-Market	0.488	0.432	0.338	0.466	0.397	0.336	-0.022*	-0.034***
Earnings Volatility	0.338	0.203	0.412	0.401	0.226	0.502	0.063***	0.024***
Dividend Dummy	0.886	1.000	0.318	0.757	1.000	0.429	-0.129***	0.000***
Equity Issuance Dummy	0.100	0.000	0.300	0.125	0.000	0.331	0.025**	0.000**
Debt Issuance Dummy	0.394	0.000	0.489	0.372	0.000	0.483	-0.022	0.000
Leverage	0.250	0.223	0.164	0.234	0.219	0.173	-0.016**	-0.004***
Asset Growth	0.100	0.059	0.232	0.116	0.066	0.237	0.016*	0.007*
Cash	0.085	0.048	0.093	0.121	0.073	0.132	0.036***	0.025***
Cash Flow	0.112	0.107	0.055	0.113	0.107	0.062	0.002	0.000
Payout	0.486	0.380	0.454	0.436	0.327	0.532	-0.050**	-0.053***
Ln (Age)	3.384	3.584	0.675	3.244	3.466	0.732	-0.141***	-0.118***
Beta	0.902	0.877	0.452	0.992	0.963	0.481	0.090***	0.086***
Idiosyncratic Volatility	1.929	1.783	0.791	2.029	1.893	0.768	0.100***	0.110***
Abnormal Returns	0.023	0.020	0.060	0.034	0.025	0.076	0.011***	0.006***
Firm Year Obs.	791			6,645				
No. of Firms	62			567				

Panel C. REITs

Variable	Issuances via DRSPPs			No Issuance via DRSPPs			ΔMean	ΔMedian
	Mean	Median	Std Dev	Mean	Median	Std Dev		
Size	7.350	7.411	1.190	7.535	7.591	1.251	0.185***	0.181**
IO	0.571	0.616	0.274	0.558	0.566	0.282	-0.013	-0.050**
Tobin Q	1.211	1.143	0.323	1.171	1.061	0.368	-0.040**	-0.082***
Book-to-Market	0.644	0.591	0.349	0.744	0.671	0.441	0.100***	0.080***
Earnings Volatility	0.180	0.112	0.218	0.297	0.164	0.394	0.117***	0.052***
Dividend Dummy	0.965	1.000	0.183	0.893	1.000	0.309	-0.072***	0.000***
Equity Issuance Dummy	0.520	1.000	0.500	0.446	0.000	0.497	-0.075***	-1.000***
Debt Issuance Dummy	0.659	1.000	0.474	0.676	1.000	0.469	0.017	0.000
Leverage	0.524	0.515	0.136	0.567	0.553	0.178	0.044***	0.038***
Asset Growth	0.144	0.061	0.264	0.162	0.077	0.321	0.018	0.016**
Cash	2.640	2.639	0.686	2.405	2.485	0.641	-0.234***	-0.154
Cash Flow	0.020	0.012	0.029	0.030	0.013	0.058	0.010	0.001
Payout	0.027	0.024	0.029	0.028	0.024	0.031	0.001	0.000
Ln (Age)	0.013	0.242	1.142	0.095	0.274	0.978	0.081***	0.032***
Beta	0.785	0.741	0.541	0.741	0.662	0.514	-0.044	-0.079
Idiosyncratic Volatility	1.527	1.320	0.606	1.643	1.435	0.649	0.116***	0.115***
Abnormal Returns	0.030	0.026	0.057	0.031	0.028	0.065	0.001	0.002
Firm Year Obs.	1,011			561				
No. of Firms	90			72				

This table shows estimation from the logistic regression model of equity issuance choice. Panel A displays marginal effects with standardized coefficients. Panel B presents odds ratios. The dependent variable *New Equity Issuance via DRSPPs* equals one if a firm registers new equity via DRSPP during a year and zero otherwise. *REIT* is an indicator taking the value 1 if a firm is REIT and 0 otherwise. Other independent variables are defined in detail in Table 3 and Appendix B. The full sample includes 9,008 firm-years observations and 263 new equity issuances via DRSPPs from 1998 to 2014. Year fixed effects are included in each specification. In bracket is the P-value. *, **, and *** indicate significance at 10%, 5%, and 1% levels, respectively.

Panel A. Marginal Effects

Variable	Full Sample		Industrial Firms		REITs	
	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent Variable - *New Equity Issuance via DRSPPs*					
REIT	0.343***	0.319***				
	(0.000)	(0.000)				
Size	0.156***	0.164***	0.392***	0.401***	-0.196***	-0.171**
	(0.001)	(0.000)	(0.000)	(0.000)	(0.006)	(0.014)
IO	-0.182***	-0.190***	-0.221***	-0.218***	-0.025	-0.050
	(0.000)	(0.000)	(0.000)	(0.000)	(0.746)	(0.509)
Tobin Q	-0.305***		-0.317**		-0.161*	
	(0.007)		(0.024)		(0.049)	
Book-to-Market		-0.001		0.060		0.004
		(0.990)		(0.371)		(0.950)
Earnings Volatility	-0.172***	-0.147**	-0.076	-0.063	-0.312***	-0.302***
	(0.007)	(0.018)	(0.227)	(0.306)	(0.003)	(0.004)
Dividend Dummy	0.153**	0.172**	0.099	0.117	0.166*	0.176*
	(0.029)	(0.014)	(0.247)	(0.173)	(0.090)	(0.072)
Equity Issuance Dummy	0.112***	0.104***	0.056	0.044	0.133**	0.131**
	(0.002)	(0.004)	(0.418)	(0.523)	(0.019)	(0.021)
Debt Issuance Dummy	-0.049	-0.050	-0.034	-0.037	-0.092	-0.089
	(0.255)	(0.236)	(0.591)	(0.551)	(0.103)	(0.114)
Leverage	0.029	-0.006	0.040	0.033	0.098	0.045
	(0.598)	(0.916)	(0.548)	(0.628)	(0.149)	(0.497)
Asset Growth	0.017	0.025	-0.078	-0.076	0.116**	0.129**
	(0.650)	(0.511)	(0.339)	(0.343)	(0.023)	(0.012)
Cash	-0.134	-0.183**	-0.129	-0.183*	-0.152**	-0.137**
	(0.103)	(0.025)	(0.196)	(0.065)	(0.029)	(0.049)
Cash Flow	0.056	-0.078	0.115	0.030	0.023	-0.084
	(0.493)	(0.272)	(0.164)	(0.693)	(0.803)	(0.279)
Payout	-0.022	-0.027	0.097*	0.085	-0.089*	-0.091*
	(0.438)	(0.334)	(0.087)	(0.133)	(0.065)	(0.060)
Ln (Age)	0.095**	0.083*	0.104	0.103	0.135**	0.114**
	(0.037)	(0.072)	(0.152)	(0.156)	(0.016)	(0.042)
Beta	-0.117*	-0.136**	-0.101	-0.106	-0.119	-0.138
	(0.051)	(0.023)	(0.230)	(0.206)	(0.278)	(0.211)
Idiosyncratic Volatility	-0.062	-0.037	0.154	0.175*	-0.195**	-0.156
	(0.343)	(0.581)	(0.106)	(0.072)	(0.044)	(0.110)
Abnormal Returns	0.013	-0.021	-0.010	-0.032	0.070	0.038
	(0.806)	(0.708)	(0.904)	(0.695)	(0.311)	(0.586)
Log Likelihood	365.238	356.541	97.071	91.856	85.41	81.41
Pseudo R^2	0.18	0.17	0.10	0.10	0.12	0.11
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,008	9,008	7,436	7,436	1,572	1,572
Frequency of New Issue	263	263	105	105	158	158

Panel B. Odds Ratios Estimates

Variable	Full Sample		Industrial Firms		REITs	
	(1)	(2)	(3)	(4)	(5)	(6)
REIT	5.139***	4.591***				
	(0.000)	(0.000)				
Size	1.201***	1.212***	1.560***	1.577***	0.743**	0.771**
	(0.001)	(0.000)	(0.000)	(0.000)	(0.006)	(0.014)
IO	0.227***	0.212***	0.140***	0.144***	0.852	0.721
	(0.000)	(0.000)	(0.000)	(0.000)	(0.746)	(0.509)
Tobin Q	0.644***		0.661**		0.410*	
	(0.007)		(0.024)		(0.049)	
Book-to-Market		0.997		1.391		1.017
		(0.990)		(0.371)		(0.950)
Earnings Volatility	0.515***	0.566**	0.761	0.797	0.123***	0.131***
	(0.007)	(0.018)	(0.227)	(0.306)	(0.003)	(0.004)
Dividend DumI	2.002**	2.183**	1.535	1.654	3.547*	3.823*
	(0.029)	(0.014)	(0.247)	(0.173)	(0.090)	(0.072)
Equity Issuance Dummy	1.682***	1.617***	1.362	1.275	1.622**	1.608**
	(0.002)	(0.004)	(0.418)	(0.523)	(0.019)	(0.021)
Debt Issuance Dummy	0.837	0.831	0.882	0.870	0.703	0.711
	(0.255)	(0.236)	(0.591)	(0.551)	(0.103)	(0.114)
Leverage	1.288	0.951	1.537	1.421	3.177	1.701
	(0.598)	(0.916)	(0.548)	(0.628)	(0.149)	(0.497)
Asset Growth	1.134	1.201	0.545	0.551	1.949**	2.101**
	(0.650)	(0.511)	(0.339)	(0.343)	(0.023)	(0.012)
Cash	0.141	0.069**	0.166	0.078*	0.000**	0.000**
	(0.103)	(0.025)	(0.196)	(0.065)	(0.029)	(0.049)
Cash Flow	4.682	0.116	28.647	2.363	4.775	0.003
	(0.493)	(0.272)	(0.164)	(0.693)	(0.803)	(0.279)
Payout	0.942	0.929	1.413*	1.356	0.879*	0.877*
	(0.438)	(0.334)	(0.087)	(0.133)	(0.065)	(0.060)
Ln (Age)	1.252**	1.215*	1.296	1.294	1.428**	1.351*
	(0.037)	(0.072)	(0.152)	(0.156)	(0.016)	(0.042)
Beta	0.651*	0.609**	0.681	0.670	0.667	0.626
	(0.051)	(0.023)	(0.230)	(0.206)	(0.278)	(0.211)
Idiosyncratic Volatility	0.864	0.916	1.435	1.507*	0.555**	0.626
	(0.343)	(0.581)	(0.107)	(0.072)	(0.044)	(0.110)
Abnormal Returns	1.392	0.595	0.789	0.455	8.958	3.278
	(0.806)	(0.708)	(0.904)	(0.695)	(0.311)	(0.586)
Log Likelihood	365.238	370.386	97.071	91.856	85.41	81.41
Pseudo R^2	0.18	0.17	0.10	0.10	0.12	0.11
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,008	9,008	7,436	7,436	1,572	1,572
Frequency of New Issue	263	263	105	105	158	158

Table 5
Tobit Model of Percentage of Equity Issuance via DRSPPs

This table reports estimation from Tobit model of the percentage of firms' equity issuance through DRSPPs. The dependent variable –*Percentage of Equity Issuance via DRSPPs* is measured as the ratio of the number of new shares registered for DRSPPs sometime during a year to the total number of common shares outstanding on the same day. REIT is an indicator taking the value of 1 if a firm is REIT and 0 otherwise. Other independent variables are defined in detail in Table 2 and Appendix B. The full sample includes 9,008 firm-years observations and 263 new equity issuances via DRSPPs from 1998 to 2014. Year fixed effects are included in each specification. In bracket is the P-value. *, **, and *** indicate significance at 10%, 5%, and 1% levels, respectively.

Variable	Full Sample		Industrial Firms		REITs	
	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent Variable - *Percentage of Equity Issuance via DRSPPs*					
REIT	0.107***	0.101***				
	(0.000)	(0.000)				
Size	0.009***	0.009***	0.015***	0.015***	-0.029***	-0.027***
	(0.004)	(0.003)	(0.000)	(0.000)	(0.000)	(0.001)
IO	-0.109***	-0.111***	-0.087***	-0.086***	-0.025	-0.032
	(0.000)	(0.000)	(0.000)	(0.000)	(0.499)	(0.391)
Tobin Q	-0.022**		-0.013**		-0.068**	
	(0.011)		(0.031)		(0.041)	
Book-to-Market		0.003		0.017		0.008
		(0.853)		(0.172)		(0.719)
Earnings Volatility	-0.031**	-0.026**	-0.009	-0.007	-0.135***	-0.133***
	(0.015)	(0.037)	(0.265)	(0.343)	(0.004)	(0.004)
Dividend Dummy	0.031*	0.036**	0.013	0.016	0.088*	0.095*
	(0.059)	(0.029)	(0.285)	(0.201)	(0.068)	(0.051)
Equity Issuance Dummy	0.036***	0.034***	0.009	0.007	0.041***	0.041***
	(0.001)	(0.001)	(0.501)	(0.620)	(0.008)	(0.008)
Debt Issuance Dummy	-0.010	-0.011	-0.004	-0.005	-0.029*	-0.028*
	(0.271)	(0.256)	(0.597)	(0.585)	(0.089)	(0.087)
Leverage	0.008	-0.005	-0.014	-0.011	0.102*	0.074
	(0.780)	(0.866)	(0.580)	(0.660)	(0.090)	(0.211)
Asset Growth	0.009	0.011	-0.020	-0.022	0.048**	0.055**
	(0.611)	(0.530)	(0.329)	(0.298)	(0.038)	(0.020)
Cash	-0.088	-0.128**	-0.065	-0.080*	-0.679**	-0.637**
	(0.162)	(0.040)	(0.159)	(0.081)	(0.015)	(0.021)
Cash Flow	0.082	-0.092	0.083	0.017	0.123	-0.208
	(0.502)	(0.389)	(0.322)	(0.824)	(0.787)	(0.588)
Payout	-0.003	-0.004	0.009	0.008	-0.010*	-0.011*
	(0.485)	(0.366)	(0.225)	(0.304)	(0.065)	(0.050)
Ln (Age)	0.012*	0.011*	0.009	0.009	0.025**	0.021*
	(0.060)	(0.090)	(0.139)	(0.133)	(0.024)	(0.061)
Beta	-0.028**	-0.032**	-0.023**	-0.025**	-0.029	-0.035
	(0.028)	(0.011)	(0.037)	(0.024)	(0.292)	(0.213)
Idiosyncratic Volatility	0.000	0.002	0.021***	0.022***	-0.045**	-0.036*
	(0.982)	(0.800)	(0.005)	(0.005)	(0.029)	(0.087)
Abnormal Returns	-0.007	-0.046	0.001	-0.005	0.176	0.091
	(0.925)	(0.562)	(0.991)	(0.936)	(0.277)	(0.581)
Intercept	-0.319***	-0.329***	-0.309***	-0.330***	0.013	-0.069
	(0.000)	(0.000)	(0.000)	(0.000)	(0.899)	(0.492)
Log Likelihood	-486.530	-490.385	-219.101	-221.004	-210.351	-212.869
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,008	9,008	7,436	7,436	1,572	1,572
Frequency of New Issues	263	263	105	105	158	158

Table 6
Abnormal Returns around Equity Issuances

This table reports average abnormal returns around new equity issuance announcements through DRSPPs or SEOs and percentage of positive daily returns during each event window. Panel A reports daily abnormal returns. Panel B, C, and D report cumulative abnormal returns (CARs) around the equity issuance date t, which are separately estimated from three event windows: $(t - 1, t + 1)$, $(t - 3, t + 3)$, and $(t - 5, t + 5)$. Panels A and B are based on the estimation of a standard market model, which use the value-weighted CRSP index to be the market return index, and have the estimation period from 278 to 22 days prior the issuance date. Panels C and D use the Fama French Carhart 4-factor model and the Fama-French 5-factor model, respectively, to calculate the abnormal returns. In the last column of each panel, the null hypothesis is that means of variables between two different categories of firms are equal. T-stat in bracket is the t-stat of the nonparametric Wilcoxon two-sample test.*, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively. Of the sample of firms with DRSPPs, 326 new equity issuances via DRSPPs and 1,073 SEO are included, with non-missing daily return data.

Panel A. Daily Abnormal Returns

	New Equity Issuances Via DRSPPs		SEOs		Differences
	(1)	(2)	(3)	(4)	(5)
Day	Ab_Ret1 (%)	% of Returns > 0	Ab_Ret2	% of Returns > 0	Ab_Ret2 - Ab_Ret1
-5	-0.243	49.39%	-0.033	47.16%	0.210
	(-1.39)		(-0.46)		(0.13)
-4	-0.089	48.77%	-0.022	46.88%	0.067
	(-0.67)		(-0.30)		(0.90)
-3	0.249	51.84%	-0.039	48.46%	-0.288
	(1.47)		(-0.51)		(-1.19)
-2	0.042	43.87%	-0.044	47.67%	-0.086
	(0.26)		(-0.67)		(-0.13)
-1	0.033	49.39%	-0.470***	41.81%	-0.503***
	(0.23)		(-5.37)		(-3.38)
0	0.166	51.84%	-1.253***	30.73%	-1.419***
	(0.97)		(-13.45)		(-8.36)
1	-0.095	47.23%	-0.390***	41.29%	-0.295***
	(-0.66)		(-4.33)		(-2.58)
2	0.048	48.47%	0.113	49.67%	0.065
	(0.34)		(1.96)		(0.30)
3	0.093	46.93%	0.061	51.07%	-0.032
	(0.82)		(1.11)		(-0.38)
4	0.155	46.01%	-0.009	47.34%	-0.164
	(1.32)		(-0.15)		(-0.16)
5	0.308**	56.44%	-0.054	47.44%	-0.362***
	(1.90)		(-0.99)		(-2.60)
Observations	326		1,073		

Panel B. Cumulative Abnormal Returns (CARs) - Market Model

Day	Equity Issuances Via DRSPPs		SEOs		Differences
	(1)	(2)	(3)	(4)	(5)
	Ab_Ret1 (%)	% of Returns > 0	Ab_Ret2	% of Returns > 0	Ab_Ret2 - Ab_Ret1
CAR(-1,1)	0.109	47.85%	-2.110***	26.44%	-2.219***
	(0.41)		(-14.58)		(-9.31)
CAR(-3,3)	0.533	50.00%	-2.020***	31.19%	-2.553***
	(1.41)		(-10.81)		(-7.16)
CAR(-5,5)	0.665	50.61%	-2.138***	33.71%	-2.803***
	(1.55)		(-8.83)		(-6.67)

Panel C. Cumulative Abnormal Returns (CARs) - the Fama French Carhart 4-Factor Model

Day	Equity Issuances Via DRSPPs		SEOs		Differences
	(1)	(2)	(3)	(4)	(5)
	Ab_Ret1 (%)	% of Returns > 0	Ab_Ret2	% of Returns > 0	Ab_Ret2 - Ab_Ret1
CAR(-1,1)	-0.015	49.39%	-2.202***	28.49%	-2.187***
	(-0.06)		(-14.80)		(-9.03)
CAR(-3,3)	0.199	46.63%	-2.200***	30.63%	-2.399***
	(0.56)		(-11.24)		(-6.89)
CAR(-5,5)	0.227	49.39%	-2.336***	33.52%	-2.563***
	(0.56)		(-9.56)		(-6.44)

Panel D. Cumulative Abnormal Returns (CARs) - the Fama-French 5-Factor Model

Day	Equity Issuances Via DRSPPs		SEOs		Differences
	(1)	(2)	(3)	(4)	(5)
	Ab_Ret1 (%)	% of Returns > 0	Ab_Ret2 (%)	% of Returns > 0	Ab_Ret2 - Ab_Ret1
CAR(-1,1)	0.085	49.69%	-2.177***	27.84%	-2.262***
	(0.32)		(-14.58)		(-8.94)
CAR(-3,3)	0.383	45.40%	-2.166***	30.00%	-2.549***
	(1.04)		(-11.10)		(-7.03)
CAR(-5,5)	0.337	49.39%	-2.261***	32.68%	-2.598***
	(0.84)		(-9.25)		(-6.26)

Table 7
Pooled CARs

This table reports estimation of the pooled OLS regression of cumulative abnormal returns (CAR) from the three different models. *DRSPP* is a dummy variable equal to one if the new equities are issued through DRSPPs and zero otherwise. *Size* is the log of book value of total assets measured in 1998 dollars. *IO* is average quarterly institutional ownership in the past 12 quarters, with minimum 4 observations. *Tobin Q* is the ratio of market value of assets to book value of assets. *Earnings Volatility* is measured as the standard deviation of quarterly earnings in the prior 12 quarters with at least 4 observations. *Beta* is the equity beta estimated using daily returns from CRSP value-weighted index during three fiscal years prior to the event year. *Idiosyncratic Volatility* is estimated as the standard deviation of the daily residuals 3-year window period from the Fama-French (1993) three - factor model. *Abnormal Returns* is calculated using the Fama French 3-factor daily market model from year (t - 2) to year t. Year fixed effects and the Fama-French 48 industry fixed effects are included in each specification. Observation shows the number of announcements. In bracket is the P-value. *, **, and *** indicate significance at 10%, 5%, and 1% levels, respectively.

Variable	The Market Model			The Fama French Carhart 4-Factor			The Fama French 5-Factor Model		
	CAR(-1,1)	CAR(-3,3)	CAR(-5,5)	CAR(-1,1)	CAR(-3,3)	CAR(-5,5)	CAR(-1,1)	CAR(-3,3)	CAR(-5,5)
DRSPP	1.868***	1.778***	1.873***	1.852***	1.735***	1.874***	1.832***	1.766***	1.857***
	(5.95)	(4.39)	(3.75)	(5.76)	(4.17)	(3.67)	(5.76)	(4.20)	(3.59)
Size	0.138	0.137	0.295	0.139	0.127	0.306	0.151	0.179	0.346*
	(1.18)	(0.90)	(1.58)	(1.16)	(0.82)	(1.61)	(1.27)	(1.14)	(1.79)
IO	0.962	1.289*	0.744	0.951	1.241	1.095	0.937	0.978	0.933
	(1.61)	(1.67)	(0.78)	(1.55)	(1.56)	(1.12)	(1.54)	(1.22)	(0.95)
Tobin Q	-0.146	-0.224	-0.283	-0.029	-0.073	-0.151	-0.078	-0.153	-0.120
	(-0.56)	(-0.67)	(-0.69)	(-0.11)	(-0.21)	(-0.36)	(-0.30)	(-0.44)	(-0.28)
Earnings Volatility	-0.672*	-1.025**	-0.301	-0.668*	-0.795	-0.038	-0.624	-1.050**	-0.499
	(-1.78)	(-2.10)	(-0.50)	(-1.72)	(-1.58)	(-0.06)	(-1.63)	(-2.07)	(-0.80)
Beta	0.735*	1.654***	1.992***	0.566	1.301**	1.399**	0.512	1.507**	1.592**
	(1.72)	(3.00)	(2.93)	(1.29)	(2.30)	(2.01)	(1.18)	(2.64)	(2.27)
Idiosyncratic Volatility	-0.046	-0.209	-0.265	-0.119	-0.205	-0.107	-0.054	-0.188	-0.092
	(-0.19)	(-0.67)	(-0.69)	(-0.48)	(-0.64)	(-0.27)	(-0.22)	(-0.58)	(-0.23)
Abnormal Returns	2.487	-0.853	-1.011	2.118	-2.323	-2.416	2.892	-0.960	-0.833
	(1.16)	(-0.31)	(-0.30)	(0.97)	(-0.82)	(-0.69)	(1.33)	(-0.33)	(-0.24)
Intercept	-6.420	-6.052	-3.336	-4.102	-2.150	1.386	-5.143	-4.888	0.371
	(-1.52)	(-1.11)	(-0.50)	(-0.95)	(-0.39)	(0.20)	(-1.20)	(-0.87)	(0.05)
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,057	1,057	1,057	1,057	1,057	1,057	1,057	1,057	1,057
Adjusted R^2	0.11	0.10	0.07	0.11	0.09	0.06	0.11	0.09	0.06