

Direct Investments in Securities: A Primer

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Equity investors today face the same problems that previous generations of investors have faced: transactions costs, diversification, and the relatively large dollar amounts necessary to purchase certain assets. Investors want to minimize transactions costs, but doing so usually means buying round lots (100 shares), which implies large initial investments. Investors also want diversification, but that, too, requires large investments. For investors of constrained means, direct stock ownership has brought high fees and inadequate diversification or has simply been impossible.

Recently, dividend reinvestment plans and their more general cousins, direct investment plans, have virtually eliminated the problems of direct stock ownership by permitting investors to bypass traditional investment channels, such as securities brokers.¹ For the purposes of this article, a dividend reinvestment plan is defined as a mechanism that permits shareholders to reinvest the dividends paid on their shares in additional shares automatically, without the use of a broker. These plans may or may not restrict investors to being current shareholders. If the firm does not restrict its plan to current shareholders, instead permitting them to purchase their first share directly from the company without resorting to a broker, then the plan is also what is called a direct investment plan or an open-enrollment plan. For brevity, in this article both types of plans are

labeled DRIPs and are differentiated only when the distinction is relevant. Also, following common usage, the redundant term “DRIP plan” is occasionally used.

DRIPs are not a different class of security, such as swaps or futures contracts. Rather, they are a new way of selling the traditional equity security. The privileges and obligations of equity ownership are unchanged. For example, DRIP investors retain all voting rights and receive all mailings, including annual reports and proxy statements. For taxable investors, dividends are still taxable income, and sales still generate capital gains or losses. DRIP investors are still subject to the rules of the stock transfer agent and to state and estate taxes. Many companies allow their DRIP to be used as a vehicle for an individual retirement account.

The key date in the proliferation of DRIPs was December 1, 1994. On that date, the Securities and Exchange Commission (SEC) granted an exemption from Rule 10b-6, essentially approving two model plans. This exemption eased restrictions on implementing and marketing these low-cost plans, cutting the time to set up a plan from as much as two years to under five weeks. Along with rapidly advancing technology, DRIPs have driven transaction costs to a bare minimum and brought diversified stock ownership to investors whose portfolios are well below modest. Companies may sell shares directly to investors without the services of brokers or investment bankers, in many cases absorbing all costs so

that the investor's transaction cost is measured in pennies. As of this writing, at least fifty companies impose absolutely no transactions costs at all, often with tiny minimum investments. Trust Company Bank of New York permits investors to purchase shares directly from the company with an initial investment of as little as \$25. This is less than the cost of a single share, and there are no transactions costs. In all, well over 1,100 corporations—over 5 percent of the firms listed in the 1999 Compustat database—offer some type of direct investment plan.

This article serves as a primer on direct investment plans. The discussion describes how the financial services industry has evolved to address the problems

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facing the small investor, identifies the remaining limitations, and presents reasons why companies might offer such plans. The article then describes the data and identifies empirical differences between the types of companies that offer DRIPs and those that do not. Finally, the discussion speculates about the future of direct investments and provides conclusions.

History and Overview

Until the later portion of the twentieth century, equity investors of minor means may well have bemoaned the problems they faced. The financial services industry, however, recognizes that identifying and resolving consumers' financial problems is a profit opportunity. The industry attacks these problems from two directions. One approach involves pooling assets of many small investors, using professional managers to operate the fund. Mutual funds and closed-end investment companies are common examples. The other approach relies on different delivery systems to reduce transactions costs and the size of initial investments, thereby preserving the individual investor as the direct owner. Direct investment plans result from this approach. This section traces the development of mutual funds and DRIPs, clarifies similarities and differences between them, and describes the limitations of both of these investment options.

Some history. Mutual funds and closed-end investment companies were among the first innovations to use emerging technology to address small investors' needs. The Investment Company Institute credits the Scudder funds with opening the first no-load mutual fund in the 1920s (Carlson 1997). Such funds failed to generate much interest initially, and growth, at least in terms of dollars, was slow. By 1945, mutual funds' assets were about \$1 billion, and by 1955 the figure was only \$8 billion (Bogle 1982). By 1999, though, total equity investments under fund management had risen an average of over 15 percent annually, to \$4.041 trillion.

The concept behind a mutual fund is simple: Fund managers pool money from small investors to permit large purchases of many stocks. Through this indirect ownership mechanism, each investor receives or bears a pro rata share of the fund's earnings or losses and pays a similar share of any costs the fund bears. This financial innovation solves, or nearly solves, many of the problems small investors encounter. First, large purchases have proportionally lower transactions costs. Thus, mutual fund investors pay lower transactions costs. Second, diversification becomes easy. Because fund managers invest a large pool of individuals' assets, managers are able to invest in many different companies in many different industries. In addition, investors may choose between index funds and actively managed funds. Index funds seek to match the returns on a popular index, such as the Standard and Poor's 500. By extension, managers of these funds do not attempt to uncover underpriced securities. Actively managed funds, by contrast, seek to purchase securities that fund managers believe are likely to outperform the market in general. Direct investments in individual securities remain extremely costly for small investors, though.

Another approach to solving the problems small investors face was the New York Stock Exchange's (NYSE) Monthly Investment Plan, which began in 1954 and ended in 1976.² This plan, which was operated by the NYSE itself, permitted individuals to invest in about 1,200 stocks, starting with as little as \$40. Total fees were small for that time, about 6 percent for investments under \$100. Moreover, there were no fees to open an account, no annual dues, and no obligation to invest. Participants could reinvest dividends for a small fee and could sell shares through the program. They could even purchase fractional shares if their investment did not purchase an integer number of shares. Participation in the NYSE's Monthly Investment Plan peaked in 1970, but despite its apparent appeal for small

investors, participation began to decline. The NYSE terminated the plan in 1976.

By 1976, and perhaps contributing to the demise of the Monthly Investment Plan, direct investment plans had emerged. DRIPs have obvious similarities to the NYSE's Monthly Investment Plan. Among these are low or even no commissions and often no explicit transactions costs at all. As with mutual funds, DRIP investors enjoy full investment of their funds because plans offer fractional shares. Initial investments are very low, and additional investments are convenient, even with tiny amounts. Coca-Cola, for example, accepts contributions of as little as \$10 from plan participants. Yet wealthier investors can invest large amounts optionally. Unilever permits optional investments of up to \$100,000 per year while for Southern Company the figure is \$150,000 per year.

By the end of the Monthly Investment Plan, companies also had begun to incorporate various new features into their plans. In 1972, almost eighteen years after the NYSE introduced its Monthly Investment Plan, Long Island Lighting Company offered the first new-issue direct stock-purchase plan (Finnerty 1989). This plan offered two fundamental differences from the Monthly Investment Plan. First, investors no longer dealt with the NYSE. Instead, they dealt with Long Island Lighting. Second, unlike transactions through the Monthly Investment Plan, purchases through Long Island Lighting's direct purchase plan increased the number of outstanding shares and raised capital for the firm.

Other innovations followed. In 1972, AT&T was the first company to offer shareholders the opportunity to buy more shares at a discount from the market price. For example, a \$95 investment might buy \$100 worth of stock. Other companies offered safekeeping of shares, began accepting sales orders by telephone, or permitted dividends on one security to be reinvested in a different kind of the company's securities. For example, dividends on common shares could be used to buy preferred stock. At one time, ABT Building Products even offered a no-load direct-purchase plan despite not paying a dividend. Rather than reinvest dividends to increase their holdings of ABT, investors simply mailed a check to the plan administrator to purchase stock. Several foreign stocks also allow direct purchases despite not paying dividends.

Beginning in the early 1980s, some corporations no longer restricted plan participation to shareholders of record. Among the leaders were Citicorp, Control Data, and W.R. Grace. Even investors who were not currently shareholders could buy their initial and subsequent shares through the plan without a broker.

Dollar-cost averaging. In addition to the benefits of these innovations, both mutual funds and DRIPs are well suited for investors who believe that dollar-cost averaging makes sense. In brief, dollar-cost averaging involves investing (approximately) the same amount in the same security at periodic intervals. The result is that the investor purchases more shares when prices are lower so that his average purchase price is less than the arithmetic average of the shares' prices on the purchase dates. The apparent appeal of this procedure has led to widespread acceptance of its economic value despite evidence that it has no wealth implications.³ Regardless of its value as an investing tool, though, many writers tout it as a wise strategy, and many investors use it. These investors see a benefit from participating in DRIPs because reinvesting regular dividend payments automatically results in dollar-cost averaging.

Mutual fund limitations. The success of mutual funds as an investment vehicle and the growing number of DRIPs available stand as strong evidence that these mechanisms serve investors' needs. Both approaches, though, have limitations. For example, the concept of purchasing a pro rata share of a portfolio has inherent drawbacks. In particular, three likely unavoidable features remain. First, no one expects the mutual fund's managers to work without pay. More generally, any mutual fund incurs expenses that must be recouped. Such costs fall into several categories. Management fees can range from under 0.5 percent to 7 percent or more. Updegrave (2001) reports that the typical U.S. stock mutual fund has operating expenses of 1.43 percent of assets annually. Load funds sold through brokers charge 12b-1 fees to cover marketing expenses. Administrative expenses, including mailing costs, tend to be smaller. Yet even relatively small fees can lead to large reductions in accumulated value over time. For example, an investor who invests \$1,000 per year for forty years at 6 percent accumulates \$154,762. If the total annual fund charges are only

1. Despite the similarity in names, direct investment plans discussed in this article have no relation to direct foreign investment.
2. Much of this section draws on Carlson (1997).
3. The apparent appeal probably traces to confusing the share-weighted average with the equal-weighted average of purchases. See also Constantinides (1979).

1 percent (about two-thirds of the average), so that the realized return is 5 percent, then the figure falls to \$120,800—a net reduction of \$33,962. The precise magnitude, of course, depends on management and its investment strategy. Investors seeking to minimize total fund charges can select an index fund, but even that involves some trading costs. The Vanguard Index Trust, perhaps the best-known index fund, reports a total expense ratio of only 18 basis points. For accounts under \$10,000, though, Vanguard imposes a \$10 annual maintenance fee. Thus, investors can select a fund based on its investment strategy and fees but still incur costs and surrender direct control of expense charges.

An investor in a mutual fund loses a portion of the value of tax-timing options. This loss occurs because a mutual fund essentially combines the options on each stock into just one option—the option pertaining to the entire portfolio.

A second disadvantage of investing in a mutual fund rather than holding stocks directly is that doing so makes it difficult for investors to diversify optimally. All investors in a single fund hold the same portfolio for the portions of their investment in the fund. A bank employee, though, might not want to hold the same portfolio as his identical twin, who is an auto worker. The bank employee probably wants to hold fewer bank stocks because his earnings at work are positively correlated with bank stocks. In other words, he could lose his job about the same time that the bank stocks in his investment portfolio decline. By the same logic, the auto worker might wish to own fewer automotive stocks. Such portfolio adjustments are difficult with mutual funds. Similarly, investors who wish to overweight individual securities that they believe are underpriced cannot do so with mutual funds alone.

Third, and perhaps most important, a mutual fund investor loses direct control of tax-timing options. U.S. tax law generally recognizes only realized capital gains. Thus, an investor who owns stock directly, unlike a mutual fund investor, can recognize losses for tax purposes by selling shares that have declined in price while deferring capital gains on shares that have increased in price.

How much are these tax-timing options worth? Constantinides (1984) shows that their value

depends on several factors, including the investor's trading strategy, transactions costs, the tax rate on capital gains, and the stock's volatility. Clearly, though, their value can be substantial. For example, for a stock of average volatility and 4 percent round-trip transactions costs, the tax-timing option is worth about 3 percent of the stock's value. If transactions costs are negligible, then the option's value increases to 6 percent. For high-volatility stocks, the corresponding figures are 10 percent and over 14 percent, and other scenarios imply option values of more than 25 percent of the original investment.

An investor in a mutual fund loses a portion of the value of these tax-timing options. This loss occurs because a mutual fund essentially combines the options on each stock into just one option—the option pertaining to the entire portfolio. This option is worth less than the combined value of the individual options. This reduced value has been shown formally by Merton (1973), but the intuition is simple. Consider a portfolio of stocks with some winners and some losers. An investor holding an option on the entire portfolio cannot take tax losses without also taking gains. In contrast, an investor holding a portfolio of options (one on each security in the portfolio) can selectively realize losses for tax purposes while continuing to defer gains.

A second type of tax penalty on mutual funds can be enormous. By law, funds must distribute nearly all of their realized capital gains. CNNMoney (2001) reports that in 2000, while the average U.S. stock fund lost 10.1 percent, it still paid 9.19 percent in taxable distributions. The SEC reports that more than 2.5 percentage points of the average stock fund's total return is consumed by taxes each year.

In principle, a mutual fund manager can behave in exactly the same manner as an individual investor, recognizing losses on the underlying securities and deferring the gains. Indeed, the Vanguard Group began offering tax-managed funds in 1994 (Jacob 1996). However, fund investors cannot force the manager to distribute gains and losses in this way. A mutual fund investor can choose to invest in funds that are sensitive to the tax-timing issue, but even if she does, she has no explicit control of the timing of sales and must bear the consequences of the manager's decisions. Even the most tax-conscious mutual fund imaginable cannot consider other factors that affect an individual investor's tax position, such as changes in marginal tax brackets due to, say, changes in marital status or a spouse's decision to enter or leave the work force.

Investors in mutual funds can also find themselves with a tax liability if their fund closes. Mutual

funds can and do cease operations more often than people realize. The Vanguard Group reports that of the 356 general equity funds that existed in August 1976, fully 45 percent had ceased operations by the summer of 2001 (Vanguard 2001). If the fund liquidates, then investors bear a pro rata share of any capital gain—and of the resulting tax liability. Sometimes, a mutual fund merges with another fund. In this case there are no taxes due immediately, but the new shareholders inherit liability for capital gains earned before they acquired shares of the ongoing fund. Perhaps worst of all, investors have no control over either liquidation or merger.

Finally, mutual fund investors face the problem of accumulating the funds to meet minimum investment requirements. Though this problem is not inherent in the concept of an intermediary holding a diversified portfolio of stocks, most funds impose an investment minimum that exceeds those of direct investment plans. Of course, this analogy is not an apples-to-apples comparison. An investment in a single mutual fund might provide sufficient diversification for most people; this claim cannot be made for an investment in a single DRIP. Still, investors face the problem of accumulating the initial investment that funds require. The Vanguard Index Trust, for example, requires a minimum investment of \$3,000 in most cases.

DRIP limitations. Investors who hold stocks directly through DRIPs face a different set of problems than those of mutual fund investors. Scholes and Wolfson (1989) say that DRIP investors bear a variety of implicit costs. For example, DRIP investors must become informed about the plans' details and must monitor the plans for changes in terms. Of course, mutual fund investors must also do this but for a much smaller number of investments. Though DRIP purchases often have no explicit cost, nearly all DRIPs provide for transactions costs when selling shares. Some even require plan participants to request stock certificates and to deliver them to a broker for sale in the traditional manner. Nor are transactions costs the only costs plan participants face: they also bear the costs of any tax implications of their direct equity holdings. Foremost among these are the usual taxes on dividends and capital gains. In addition, in some plans, the company pays commissions for the investor when the shares are purchased. If so, then the IRS treats such commissions as taxable income. Discounts on purchases are also taxable income.⁴

Tax rules also probably limit the value of the individual tax options that DRIP investors hold. Though the tax options in a DRIP are clearly more valuable than those in a mutual fund, they are unlikely to reach the levels that Constantinides (1984) calculates. Under the current U.S. tax code, gains and losses are calculated relative to the basis, which is usually the purchase price plus any transactions costs. DRIPs usually generate four purchases each year, so calculations of gains or losses tend to be tedious compared to an investment strategy built around larger purchases. One way around this problem is to receive dividends in cash. Nothing prevents an investor from doing so, and she can still make

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purchases through the plan if she wishes. In terms of the timing of purchases, this strategy is essentially the same one that an investor using a traditional broker would follow. Another solution is to sell all of the shares in a company as a block. This strategy lets the taxpayer use the average basis of the shares in the block as the basis for all shares in the block. A third strategy is to use one of the popular personal financial management software packages available today. Most record the basis and compute the gain or loss automatically when the shares are sold.

In defense of brokers. DRIPs and mutual funds do, of course, carry disadvantages for investors. Focusing solely on transactions costs ignores other advantages that traditional brokers can provide. For example, these investments offer less liquidity than investments through traditional brokers. DRIP and mutual funds investors cannot place limit orders or buy on margin, and execution of transactions is usually slower. In contrast, brokers are almost always faster in delivering the proceeds of sales. In addition, brokers offer a much wider variety of investment choices, such as bonds, options, money funds, collateralized mortgage obligations, unit trusts, and so on. Competent brokers offer useful advice regarding

4. These costs, however, can be reflected in the tax basis so that subsequent gains taxes are reduced and tax losses are increased. Thus, the tax liability is not only deferred but is also converted to a gain and usually taxed at a lower rate.

tailoring portfolios, such as matching investment opportunities with an individual investor's risk preferences, and can help monitor an investor's asset mix. For example, after a prolonged increase in stock prices, a busy investor might not realize that his portfolio contains a far greater proportion of risky assets than he prefers. A good broker can monitor and notify the investor of this situation—as well as the unhappy opposite case, when prices have declined and the risk profile is too conservative. Finally, some investors prefer having all of their transactions on one statement rather than receiving separate statements for each company or fund they own.

DRIP plans tend to attract a specific clientele. These plans are likely to provide a broad, relatively stable base of shareholders who, because they hold relatively small positions, are likely to be passive investors.

Many brokers provide some or all of these services at no explicit cost to their customers probably because brokerage firms usually keep their customers' securities in street name (that is, in the name of the brokerage on behalf of the customers), giving them the right to lend the securities for short sales and to collect any fees for doing so. In a competitive market for brokerage services, brokerage firms must provide some compensation for this right or else customers would move their accounts to firms that do. By contrast, DRIP and mutual fund investors must keep their securities in their own names. As a result, lending the securities is impractical, and the investors forfeit the fees they might gain. Two forces could tend to offset this disadvantage. First, the plan administrator may be able to lend the securities. If so, competition would tend to force him to compensate investors, just as it does for brokers. Second, if the plan administrator cannot arrange to lend for short sales, then company management may well view the resulting reduction in the number of shares available for shorting as a benefit. This situation would be especially true for DRIPs, and perhaps this circumstance explains why some plans offer such attractive terms to investors.

The best way of conceptualizing the role of brokers in relation to direct investment plans is to realize that brokers are no different from other middlemen.

They can stay in business only if they add sufficient value to earn at least a normal profit. In general, these services are of relatively little value to investors with limited portfolios (that is, mostly stocks) using a buy-and-hold strategy. Thus, DRIP plans, in particular, tend to attract a specific clientele. These plans are likely to provide a broad, relatively stable base of shareholders who, because they hold relatively small positions, are likely to be passive investors.

Why Do Corporations Participate?

What type of company might prefer a clientele of buy-and-hold investors? More generally, why do firms offer direct investment plans? Street lore offers several possible explanations. Quite possibly, funds can be raised more cheaply through DRIPs. DRIPs do incur expenses such as telephone charges, added personnel, extra printing, mailings, and so forth. One estimate is that such costs are between \$12 and \$16 per account, and this figure is virtually independent of the number of shares held (Carlson 2000). DRIPs, however, substitute these direct costs for the investment banker and the related administrative, legal, and accounting fees when issuing new shares.

These cost savings can be large. Carlson (1996, 16) reports new-issue costs of between 5 percent and 15 percent of the equity issue. Eckbo and Masulis (1992) report that total issue costs as a percentage of gross proceeds average 6.09 percent for industrial firms and 5.53 percent for utilities. Underwriter costs alone account for about 90 percent of that amount. In addition, existing stockholders can be worse off as a result of an issue of additional shares. Asquith and Mullins (1986) use event-study methods to conclude that the two-day abnormal return for industrial firms that announce equity issues is -3.14 percent. For utilities, the figure is -0.75 percent. Eckbo and Masulis report returns of -3.34 percent and -0.8 percent for announcements of firm-underwritten offers for industrial and utility firms, respectively. Again, these costs affect the entire equity base, not just the new issue. Scholes and Wolfson (1989) report that the equity base largely avoids these costs with DRIPs.

In addition to avoiding some of these costs, new-issue DRIPs permit large sums to be raised. For example, the prospectus for OneOk, Inc., dated February 7, 2001, reports that, "This prospectus covers 4,424,502 shares. . . ." Given a share price on that date of about \$22.25, almost \$100 million could conceivably be raised—and raised quickly—under the terms of this single offering. South Jersey Industries raised \$8 million with its DRIP in June 1990 alone. Scholes and Wolfson (1989) report such benefits in terms of the amount of dividends paid.

They report that firms with no discounts on reinvestments raise an average of 12 percent of the total common and preferred dividends they pay. If firms offer a 5 percent discount, then this amount rises to about 98 percent of the common and preferred dividends they pay. Clearly, many investors are reinvesting dividends or are making large optional payments. Why firms simultaneously pay dividends and encourage reinvestment in newly issued shares is a separate question, likely related to the question of why firms simultaneously pay dividends and raise funds through equity or debt issues.⁵

A second reason often given for the existence of DRIPs is that companies simply wish to provide a service to their owners. Goodwill is valuable, and owners who desire to increase their stake in their company want to do so in the lowest-cost manner. Certainly, high levels of telecommunications and computer technology are essential to administering such plans efficiently, and this has become easy and inexpensive in recent years. To the extent that a firm enjoys scale economies in transactions in its own stock, DRIPs are a logical option.

Third, having more shareholders could boost sales of a company's products. For example, an investor, even one who is not a current shareholder, can enroll in Bob Evans' DRIP with a minimum investment of only \$50 and with no transactions costs. Once he is an owner, an investor may be more likely to eat at Bob Evans rather than at a competing restaurant. Owners are also more likely to refer new customers to the restaurant.

A fourth reason for the existence of DRIPs could be what economists call economies of scope. A company that provides several goods or services may have an advantage in satisfying consumers' needs if the consumers are shareholders. Because a shareholder is already on the company's mailing list and is familiar with the company, normal shareholder correspondence provides an easy, inexpensive way to approach these investors as customers for other services. For example, Regions Financial often includes pamphlets regarding refinancing home mortgages or second mortgages with its mailings to shareholders. ExxonMobil recently sent information promoting SmartPass, a transponder system designed to save customers time at gasoline stations and convenience stores. ExxonMobil also announced its participation in Upromise, a plan to assist families saving for college expenses.

A fifth reason is rarely mentioned. Most plan administrators usually retain the option to execute the plan's trades on more than one exchange or market. Thus, a company or its agent might collect fees for routing order flow.

A firm also might want to attract its own employees as shareholders. Employees who are not owners have greater incentives to shirk because a larger portion of the costs are borne by the company's owners. To the extent that employees own the firm, shirking becomes less attractive to them. This motivation explains in part the popularity of employee stock option plans (ESOPs) and 401(k) matching programs. Consistent with this idea, some companies permit their employees to purchase their first share of stock directly from the company while requiring others to use a broker. Such preferential treatment is impossible with a regular stock issue. The SEC would probably prohibit a public offering that was available only to employees of a specific company.

One commonly cited reason for offering DRIPs is that they generate price pressure by providing a steady stream of buyers, keeping share prices high. This argument is implausible. For this scenario to be true, DRIP investors must consistently be net buyers. Although this situation may occur around the time of dividend payments, there is no reason to expect it to occur during other periods. Even if DRIP investors were net buyers, that motivation would still be insufficient for a price-pressure argument to carry force. This argument must further assume that other investors make no adjustment in their purchases because of the higher prices around dividend dates. In fact, though, other traders would probably time their purchases to take advantage of such predictable price behavior. They would sell around dividend payment dates and buy at other times. In fact, considerable academic work has shown that price pressure tends to have little impact on share prices (for example, see Smith 1986).⁶

Clienteles. Clearly, offering a DRIP appeals to some companies, and buy-and-hold investors are more likely to use DRIPs. What type of firm might prefer a clientele of buy-and-hold investors? One obvious candidate is a company that offers many products and services so that it can benefit from cross-selling. Customers who purchase one product from a company are more likely to choose another from that same company rather than incur the costs of learning about competing products.

5. Both questions are fascinating and well beyond the scope of this paper.

6. Both Harris and Gurel (1986) and Ederington and Goh (2001) provide some evidence that price pressure is indeed large enough to measure. Both report that any price effects vanish within a few weeks.

A second candidate could be firms that are subject to regulation and are therefore more heavily exposed to the political process. Voters, unlike shareholders, are equally weighted. Other things being equal, having ten shareholders with fifty shares each is a better political base than having one owner with 500 shares. Having many shareholders (and thus many investors who are also voters) makes it less likely that government will impose onerous regulations on the company. The company can even claim that voters are small investors and set them against the allegedly helpless groups typically cited as the people protected by regulation. Especially in the case of utilities, owners are less

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likely to complain to regulators about rate increases or to demand tight environmental restrictions.

This advantage for regulated firms is magnified because management has routine access to its shareholders and can tell its side of any political story to more people at lower cost. For example, CH Energy Group, Inc., included copies of its chairman's remarks at its annual stockholders' meeting with its routine DRIP statements. About one-fifth of the remarks were dedicated to explaining the company's position regarding power shortages in California (Ganci 2001). Similarly, Duke Energy Corporation used two full pages of a letter to shareholders to explain and defend its position on the California crisis. This explanation included reports of investigations by the Federal Energy Regulatory Commission, the compliance unit of the California Power Exchange, and the Northwest Power Planning Council—none of which found any basis for the charges by government officials in California that electricity producers were artificially driving up power prices. The letter called for "the cooperation and support of the highest levels of State government" and added that "the regulatory process must be streamlined to encourage investments in new power plants and the market must be restructured to allow all participants the ability to manage and hedge their exposure to power and gas prices" (Priory 2001).

This line of reasoning can be carried still further: Not all voters are equally valuable to a company. In the case of utility firms, management would particularly want to have its customers and state residents also be owners. These companies should be expected to offer plans with features designed to entice these individuals to buy shares. In fact, some DRIPs do exactly that. For example, Carolina Power and Light requires investors to purchase their first share from a broker unless the prospective plan participant is a customer. In that case, the company will sell the first share directly to the customer. Until Central Fidelity Banks, Inc., was acquired by Wachovia Corporation, its plan required participants to be existing shareholders unless the prospective plan participant was a resident of the state in which it operated. State residents, of course, carry more weight with local politicians than residents of other jurisdictions.

Regulated industries such as public utilities and financial institutions are not the only ones that can benefit from improved public relations and political influence. Companies at risk of being regulated, or at risk of increased regulation, may concentrate their efforts on U.S. investors to provide a channel for disseminating the company's position on major issues. For example, Pfizer, Inc., is a major force in pharmaceutical products, another industry often targeted for government intervention. Prior to the presidential election of 2000, Pfizer's letter to shareholders stated: "In the heat of campaigning, rhetoric thrives. It would, however, be a sad day for American health care if anti-industry rhetoric were translated into policy. It would stifle pharmaceutical research, deprive millions of people of new treatments and herd every American senior into a vast drug-access scheme administered by government bureaucrats" (Clemente 2000).

One of the clearest attempts to rally shareholders to support a company appeared in a SCANA Corporation mailing. This letter explicitly asked stockholders to join the Association of SCANA Corporation Investors. This association was begun in 1978 "to help insure the Company received a fair rate of return on its shareholders' investment from the state utility regulatory body." The letter added that, "More recently, the Association represented the interests of its members and other shareholders in the debate over restructuring the electric utility industry in South Carolina. Association leaders testified before the South Carolina Public Service Commission and legislative committees while Association members from South Carolina explained our organization's position on this issue to their individual legislators" (Quattlebaum and Strock 2001).

Public relations is clearly an important component of shareholder mailings. To the extent that DRIPs increase the number of stockholders, such plans can play a part in maintaining a positive corporate image and lowering the costs of reaching them.

A company might also institute a direct investment plan to insulate and protect management. To the extent that DRIP investors hold small positions, they are less likely to be active in monitoring management. While it can make sense for an institutional investor holding millions of shares to take action against weak management, becoming informed about management practices and acting on this information is very unlikely to be worth the effort if one owns only a few hundred shares. Such investors are likely to vote with management, usually by proxy, or not to vote at all. Thus, an active investor faces an uphill battle to convince a majority of voting shares to support his position. Management benefits by becoming entrenched, and most research concludes that such entrenchment is detrimental to shareholders.

In summary, there are several reasons that corporations offer DRIPs. Not all of these reasons have equal appeal to all companies or industries. This reasoning suggests that there may be systematic differences between companies that offer DRIPs and those that do not. The next section explores this possibility empirically.

Comparisons between DRIP Companies and Their No-DRIP Counterparts

To explore direct investment plans empirically, this study examines the firms listed in the *Guide to Dividend Reinvestment Plans* (1999). According to the publisher, Temper of the Times Communications, Inc., this guide encompasses all firms that offered DRIPs on the publication date. Of these approximately 1,135 companies, 906 provided plan terms and are included in the 1999 Compustat annual database for 1999.

It might seem tempting to compare these 906 companies with the universe of Compustat firms without plans. The problem with this comparison is that DRIP firms are, on average, much larger than firms without DRIPs. For example, using total assets as the measure of size, the mean DRIP firm in 1999 has total assets of \$13.87 billion compared to only \$2.33 billion for firms without DRIPs. The mean DRIP firm in 1999 is more than five times larger. The likelihood of DRIP firms being a random sample of all companies in Compustat is less than 0.01 percent.

Clearly, large firms are more likely to offer DRIPs than small firms. This likelihood suggests that large firms have an advantage in sponsoring direct invest-

ment plans. This advantage is not too surprising since some administrative expenses are likely about the same for 50,000 shareholders as they are for 25,000 shareholders. Thus, the cost of providing DRIPs is lower per participant for larger companies. For some purposes, such as investing, this preponderance of large companies may not be a problem. Small companies would be underweighted in a portfolio comprising only DRIP companies, but many mutual funds also underweight small firms. For gaining an understanding of the economic forces driving the decision to offer a direct investment plan, though, this large size differential complicates the analysis because large firms differ from smaller ones in many

A company might also institute a direct investment plan to insulate and protect management. To the extent that DRIP investors hold small positions, they are less likely to be active in monitoring management.

ways. Not the least of these differences is access to capital markets; large firms have many more options to obtain financing. To circumvent this difference, this analysis constructs a size-matched sample based on total assets in 1999. Each of the 906 companies offering DRIPs and having data in 1999 is matched to a company without a plan, for a total of 1,812 companies. Paired differences are also computed for the variables. Some observations for certain variables are missing from some firms, however, so the number of matched pairs for many variables is less than 906.

To obtain some evidence on how well the matching procedure worked, the mean total assets for the two groups of 906 companies are computed. Those without DRIPs have average total assets of \$14.41 billion in 1999 while firms that offer DRIPs average \$13.87 billion. The difference is less than 4 percent, and a *t*-test (0.25) is insignificant by any usual standard. Overall, the two groups are very similar in size. But the size-matching procedure can go only so far: For some ranges of total assets, there simply are not enough companies to provide a good match to each individual company. Thus, the difference in total assets of the 906 paired differences does differ statistically from zero.

The discussion in the previous section suggests that some industries might benefit more from

instituting DRIP plans than others. If that is true, then DRIPs would not be distributed randomly across industries. To test this assumption, a chi-square test using two-digit Dun & Bradstreet Standard Industrial Classification (SIC) codes is conducted.⁷ This test rejects the hypothesis that DRIP firms are randomly distributed across industries. Some caution is in order here, as some industries have too few observations to merit too much faith in the results. Still, the results are illuminating. The likelihood that the departures from a random distribution are due to chance is less than 0.01 percent.

Table 1 shows the ten industries with the largest absolute deviations from expected outcomes if the

Clearly, large firms are more likely to offer DRIPs than small firms. This likelihood suggests that large firms have an advantage in sponsoring direct investment plans.

distribution were random. The biggest departures from the expected distribution are, in descending order, the electric, gas, and sanitary services industries (DRIPs are over-represented), communications (under-represented), holding and other investment offices (over-represented), and business services (under-represented).

The higher concentration of electric and gas companies as DRIP providers makes sense because these industries tend to be regulated. Holding and other investment offices are over-represented because the category includes real estate investment trusts (REITs). REITs must distribute at least 95 percent of their earnings to shareholders to retain their preferred tax status. This limitation makes it nearly impossible for a REIT to grow using internal funds. Rather than continually going to the capital markets to raise funds, many REITs offer DRIPs to encourage reinvestment and essentially reduce the dividend yield.

Why might communications and business services be under-represented? The easiest answer is that, because some industries are over-represented, some must be under-represented, and communications and business industries happen to be among them. More insight can be gained, though, by realizing that the size-matching procedure, designed to eliminate the large difference in scale economies

between the universe of DRIP companies and non-DRIP companies, has limitations in practice. First, because DRIP companies tend to be large, smaller companies tend to be eliminated, and the size-matched sample comprises larger companies than the universe of Compustat firms. Second, industries dominated by smaller companies tend to be under-represented in the size-matched sample. Just as there are not enough companies to permit a good match to each individual company, there simply are not enough companies to permit accurate matching within industries; size-matching the entire sample is the best available option.

The business services industry illustrates these effects. Business services companies, which include advertising agencies, pest control services, employment agencies, computer-related services, security systems, and so on, tend to have fewer total assets than most other companies do. In the universe of Compustat companies, the average total assets of business services companies is about \$352 million compared to over \$2 billion for other industries. The size-matching procedure reduces the discrepancy substantially: the average total assets of business services companies is about \$5.08 billion compared to about \$14.49 billion for other industries. The size differential declines from about seven-to-one to less than three-to-one, but business services companies still tend to be on the smaller side. This tendency might explain why the business services industry is under-represented among companies that offer DRIPs.

This explanation fails for the communications industry, however, because communications companies tend to be a little larger than average after size matching. A better explanation might be that this industry includes telephone communications and cable services, which grew rapidly during the late 1990s. Many of these companies paid low or no dividends at all.

These deviations from random distribution suggest that the concentration of DRIPs might be due to a dividend effect. That is, perhaps DRIPs appear more often in certain industries because those industries tend to pay dividends more often. The easiest way to check this supposition is to drop all companies that reported no dividends in 1999 and repeat the chi-square tests. The result shows that companies offering DRIPs are still concentrated in certain industries, but the specific industries differ. In terms of absolute deviations from the expected distribution, the biggest departure is again electric, gas, and sanitary services, which are over-represented. The insurance carriers industry is second, and it is under-represented relative to the expected distribution.

TABLE 1**The Ten Highest Absolute Deviations from the Expected Frequency of DRIP Plans, by Industry**

	Actual DRIP frequency	Expected DRIP frequency	Difference
Electric, gas, and sanitary services	118	75.5	42.5
Communications	26	52.5	-26.5
Holding and other investment offices	79	54	25
Business services	11	32.5	-21.5
Insurance carriers	35	54.5	-19.5
Chemicals and allied products	63	45.5	17.5
Depository institutions	152	134.5	17.5
Nondepository credit institutions	8	23	-15
Amusement and recreation services	1	7.5	-6.5
Transportation by air	1	7	-6

Source: Author's calculations using data from Compustat and the *Guide to Dividend Reinvestment Plans*

Third are depository institutions, which are under-represented. Holding and other investment offices slip to fourth and remain over-represented. One problem with this analysis, however, is that the sample sizes are much too small for the results to be reliable. Another is that almost all of the excluded companies (ones that paid no dividends) do not offer DRIPs. This fact points to a third problem: The decision to pay a dividend and the decision to offer a DRIP are not independent. Disentangling the effects of DRIPs from those of dividends themselves remains a difficult problem for future work.

Table 2 reports the 1999 sample means for Compustat data for the size-matched sample of 906 companies with DRIPs and 906 companies without DRIPs. It shows the means for companies with and without plans and reports *t*-statistics for a test of equality. It also contains similar results for the subset of paired differences.

These paired differences permit an analysis of variance—specifically, whether or not the paired differences between companies with DRIPs and companies without them are jointly nonzero. This distinction is important because the right-most column in Table 2 reports almost forty *t*-tests. Some of those tests are likely to appear statistically significant even if they are not. Economists call this a type I error, and the chance of committing it increases as the number of tests increases. An analysis of variance takes this possibility into account. The trade-off is that, if differences are found, the test provides no information about which variable

or variables are the source of the difference. In such cases, further tests are necessary.

Here, the analysis of variance produces an *F*-statistic of 5.14. A value this large is very unlikely to be caused by chance, and the implication is that the magnitude of the paired differences between DRIP companies and no-DRIP companies is reliably different. The next task is to explore which of the variables are likely to be driving this result.

Previous discussion suggests that DRIPs are likely to provide a broad, relatively stable base of shareholders who, because they hold relatively small positions, are likely to be passive investors. The data support this. For example, in the size-matched sample of companies, firms with DRIP plans averaged 49,650 common shareholders in 1999 compared to only 23,460 for companies without such plans. The probability that this pattern is due to chance is less than 1 percent. In addition, companies with DRIPs had only 143.6 million common shares compared to 191.9 million traded by the shareholders of companies without plans. Put differently, the average number of shares traded per shareholder in a company offering a DRIP is about 2,890 shares annually compared to almost 8,200 for a company without a DRIP. Thus, the differences are economically and statistically significant. Using only the 521 paired companies with data on both firms, the results are similar. DRIP firms have almost twice the number of shareholders, but each of them trades only about one-third as much on average. DRIP companies generally have more stable shareholder bases.

7. SIC codes classify companies according to industry. For example, codes from 6000 through 6099 apply to the general category of depository institutions. Subcategories within this range represent specific different types of depository institutions.

TABLE 2

Means and t-tests, 906 Companies with DRIP Plans Compared to 906 Companies without, Size-Matched Sample, 1999

Variable	Unmatched sample					Matched sample			
	No DRIP plan		DRIP plan		t-statistic	No. of paired differences	No DRIP plan	DRIP plan	t-statistic, paired differences
	Observations	Mean	Observations	Mean			Mean	Mean	
Total assets (MM\$)	906	14,412	906	13,870	0.25	906	14,412	13,870	2.41*
PPE, gross (MM\$)	711	4,710	657	5,779	-1.55	509	4,313	5,742	-2.82**
PPE, net (MM\$)	851	2,428	831	2,644	-0.70	780	2,504	2,546	-0.18
PPE, capital expenditures (MM\$)	751	535.05	712	484.81	0.54	587	501.89	475.36	0.35
Capital expenditures (MM\$)	753	534.82	726	480.22	0.60	599	499.98	470.74	0.39
Research and development (MM\$)	317	265.96	381	260.40	0.09	131	263.30	105.00	2.34*
Common equity (MM\$)	897	2,394	905	2,645	-0.72	896	2,397	2,655	-0.91
Stockholders equity (MM\$)	904	2,510	906	2,682	-0.49	904	2,510	2,685	-0.61
Net sales (MM\$)	904	4,737	905	5,842	-1.79*	903	4,742	5,855	-2.54*
Interest expense (MM\$)	758	266.72	741	268.99	-0.03	617	250.98	205.21	1.17
Dividends to common (MM\$)	876	111.17	881	161.37	-2.45**	851	113.70	161.39	-2.98**
Dividends per share (\$)	876	0.36	905	0.85	-8.37**	875	0.36	0.85	-8.20**
Payout ratio (%)	875	19.34	880	52.77	-4.23**	849	19.54	49.41	-3.85**
Dividend yield (%)	777	1.46	905	3.96	-5.07**	776	1.46	4.07	-4.91**
Number of common shares outstanding (MM)	862	181.43	903	207.73	-1.20	859	181.04	205.07	-1.29
Number of common shares traded (MM)	774	191.90	906	143.56	1.92*	774	191.90	128.20	2.50*
Treasury stock, number of shares (MM)	884	5.16	891	14.39	-4.12**	870	5.12	13.96	-4.09
Number of common shareholders (M)	675	23.46	713	49.65	-3.17**	521	25.25	48.85	-2.34*
Number of employees (M)	800	18.49	820	24.10	-2.08**	722	18.66	24.67	-2.22*
Interest income (MM\$)	500	31.11	448	34.31	-0.35	261	31.09	44.40	-0.99
Sales, common & preferred (MM\$)	757	155.93	712	51.07	4.32**	594	144.18	53.86	4.21**
Purchases, common & preferred (MM\$)	706	75.49	711	170.21	-4.16**	551	72.90	157.38	-3.81**
Pretax income (MM\$)	905	473.80	905	621.55	-2.09**	904	474.33	622.24	-2.80**
Net income (MM\$)	906	313.83	906	403.33	-1.88*	906	313.83	403.33	-2.45*
Interest expense per share (\$)	678	8.40	739	1.38	1.32	550	10.01	1.26	1.28
Net profit margin (%)	902	1.30	905	8.20	-3.06**	901	1.30	8.14	-3.09**
Return on stockholders' equity (%)	903	13.35	906	13.25	0.01	903	13.35	13.24	0.01
Pretax interest coverage (X) ¹	735	30.04	735	14.91	0.61	595	11.58	16.47	-0.26
Pretax profit margin (%)	902	5.45	905	12.28	-2.57**	901	5.47	12.22	-2.62**
Pretax return on assets (%)	905	3.30	905	6.31	-5.66**	904	3.31	6.31	-5.82**
Operating income before depreciation to total assets (%)	857	9.16	825	11.38	-4.56**	780	9.18	11.38	-4.45**
Aftertax interest coverage (X) ¹	735	22.87	735	9.84	0.53	595	3.09	10.79	-0.43
Aftertax ROE (common, %)	896	14.79	905	4.85	0.78	895	14.80	4.78	0.78
Aftertax return on total assets (%)	906	1.53	906	4.04	-5.53**	906	1.53	4.04	-5.67**
Debt ratio	905	0.69	905	0.69	0.44	904	0.69	0.69	0.46
Market-to-book (ratio)	766	3.07	903	2.87	0.46	763	3.06	2.72	0.76
P/E at fiscal year-end (ratio)	777	20.80	905	16.31	0.91	776	20.80	15.73	0.94
Market value of common stock at calendar year-end (MM\$)	775	10,112	903	10,468	-0.21	772	9,995	9,409	0.36
Earnings per share	822	1.64	905	1.73	-0.21	821	1.64	1.69	-0.11

Note: The table is constructed so that positive t-statistics imply that the value for the companies without DRIPs is larger than for the companies with them. ** indicates significance at the 1 percent level; * indicates significance at the 5 percent level.

¹ Interest coverage is the ratio of income to interest expense. For example, \$30 of income times \$1 of interest expense yields an interest coverage of 30.

Source: Author's calculations using data from Compustat and the *Guide to Dividend Reinvestment Plans*

To the extent that employee ownership is advantageous, companies in labor-intensive industries would also be expected to offer more DRIPs for at least two reasons. First, if they have more employees, the advantage to be gained is presumably larger. Second, many employees are likely to be at most small investors, and DRIPs tend to attract such investors. In fact, DRIP firms are more labor-intensive than their no-DRIP counterparts. Computed from data on all 906 pairs, the mean number of employees for DRIP firms is 24,100 while corresponding no-DRIP firms average only 18,490. Statistically, this difference is much too large to be the result of chance.⁸

Previous discussion also suggests that companies in industries subject to relatively high levels of regulation are more likely to offer preferential access to their plans for customers, state residents, and employees. The data confirm that these effects are important. Of the twenty-three companies that offered customers, state residents, or employees preferential access to their plans in 1999, all but one are utilities. Moreover, the other is a financial services company. Given that only 16.7 percent of the DRIP companies in the sample are utilities, this difference is very unlikely to be due to chance, and tests confirm this.

One can make a case from Table 2 that DRIP companies tend to be more mature than those without DRIPs. Mature firms have more assets in place and fewer growth opportunities than younger firms. Older firms also tend to pay higher dividends and carry higher debt levels. Because such firms have fewer growth options, they tend to have higher current earnings but (relatively) lower expected future earnings; consequently, they usually have lower price-earnings ratios and market-to-book ratios.

All of these predictions for mature companies hold for DRIP firms except for the debt ratio, for which there is no significant difference. DRIP firms do, however, pay higher dividends per share and have higher payout ratios. They also tend to have more property, plant, and equipment (assets in place) but make smaller current capital expenditures, a pattern consistent with fewer growth opportunities. DRIP firms have higher net sales and higher profit margins. The evidence regarding price-earnings ratios and market-to-book ratios is mixed but generally supportive of the conjecture that DRIP firms tend to be more mature. In 1999 the mean ratios are higher for companies without DRIPs, but the difference is small enough that it may be due to chance. On balance, the evidence supports the conjecture that DRIP firms tend to be more mature.

The Future

Continuing technological advances, especially if unimpeded by regulatory constraints, are sure to foster the evolution of most financial services, including DRIPs. More DRIP plans are introduced every month, making it easier for investors to diversify as time passes. Another obvious tool for DRIP investors is the Internet. Ford, McDonald's, and Fannie Mae, among others, already let investors use the Internet to service their accounts. The Home Depot, Inc., takes this convenience a step further, permitting investors to buy their first share directly from the company via the Internet.

The Internet has fostered competition for many industries, and brokerage is no different. On-line brokers are now common; in a statement dated January 27, 1999, then-SEC Chairman Arthur Levitt reported that on-line brokers handle about 25 percent of all retail stock trades. Because on-line brokers offer fewer services than traditional brokers, on-line services tend to be cheaper. It seems unlikely, though, that on-line brokers can match the low costs of DRIPs. On-line brokerage accounts typically require a deposit balance, and these can be large. Brown & Company, for example, requires a \$15,000 minimum. Such a large minimum balance is unlikely to appeal to new investors, who tend to have smaller accounts.

Broker-run DRIPs provide another evolutionary direction. Competitive pressures have led most major brokerage firms to offer in-house DRIPs. These plans are similar to true DRIPs only in that dividends can be reinvested automatically and only sometimes without brokerage fees. However, the brokerage house usually holds the securities in street name, usually does not credit fractional shares, and charges commissions on optional purchases. This is not to say that these accounts are necessarily inferior to true DRIPs. Rather, brokerage DRIPs provide a different menu of services and costs that may or may not appeal to a given investor.

Conclusion

No one expects direct investment plans to be the answer to all of the modern investor's needs. Mutual funds continue to offer convenience and unmatched diversification for small accounts. Investors seeking to hold individual stocks, whether to compensate for nondiversifiable human capital, to place bets on mispriced securities, or for some other reason, can choose from a rich menu of financial service providers. Traditional brokerage accounts cost more than transactions using DRIPs but offer a wide

8. The numbers are almost identical for the 722 pairs for which data are available on both firms.

range of services that many investors find valuable. On-line brokers offer lower costs but fewer services; such brokers target investors who place less value on the services that a traditional brokerage firm can provide. Direct investment plans, which are concentrated by industry, make diversification more difficult. To offset this disadvantage, they offer a transactions cost advantage; they appeal to the buy-and-hold clientele who seek the lowest possible transactions costs.

Viewed in the broadest sense, all of these methods of distributing securities compete in the same arena for customers' favor. When examined more closely, though, differences become clear. Each offers a different combination of services and costs that appeals to different investors. The key is no different than

for any other menu of costs and services: Customers choose the product that offers services that they value and that charges less than the value of those services to them.

What sets direct investment plans apart from the other offerings of financial service providers is a clientele that is well suited for certain companies. A broad, stable ownership base provides benefits to companies that face political or regulatory scrutiny because the company has easy access to many voters. Such shareholders also tend to vote with management; hence, direct investment plans offer potential as a takeover defense. Finally, a broad ownership base provides opportunities for cross-selling, which is more valuable to companies with large-scope economies.

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