2000

Seasoned Equity Issuance by Closed -End Funds.

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SEASONED EQUITY ISSUANCE BY CLOSED-END FUNDS

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Interdepartmental Program in Business Administration

by
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May, 2000

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ACKNOWLEDGMENTS

I am grateful to my chairman, Dr. Ji-Chai Lin, for his valuable advice, his unstinting patience, and his steadfast encouragement. There was never a time I left his office that I didn't feel a little wiser and a little more optimistic. Also on my committee, I am indebted to Dr. Myron Slovin for his crucial insight and suggestions. He always asked the right questions, and helped me see how the pieces fit together. I would like to thank the members of my dissertation committee, Drs. Gary Sanger, Faik Koray, and Lynn Lamotte. From this day forward, I will always be thankful for the encouragement provided by Dr. John Broussard, a true friend.

My first and greatest debt is owed to my wife, Jane Mostellar Brigham. It is to her that I dedicate this work.

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ABSTRACT

This dissertation examines in detail the previously unexamined phenomenon of seasoned equity issuance by closed-end funds. Evidence presented here indicates that closed-end funds issue equity at a much higher occurrence rate than is the case for regular, operating firms in the US. Furthermore, these funds overwhelmingly use the rights offer method of equity floatation, which, outside the closed-end universe, has rarely been used in the US in recent years.

The evidence produced by this study indicates that, in contrast to industrial firms, the shares of closed-end funds show no significant reaction to announcements of either rights offerings or firm commitment offerings. This is consistent with adverse selection models of securities issuance. However, contrary to these models, closed-end funds also display strong price runups prior to issue, in both absolute and relative (relative to the market) terms, as evidenced in part by significant positive movements in fund discounts in the year prior to issue.

Closed-end fund rights offerings frequently involve nontransferable rights, an important feature which is exceedingly rare outside the closed-end universe. This nontransferability feature, when matched up with otherwise similar but transferable rights offerings, affords the opportunity to test for temporary price pressure in these securities events. Although the significant negative returns found during the offering periods are consistent with temporary price pressure, the very weak price rebound observed after the completion of the offers is more supportive of a permanent price pressure effect on the shares of closed-end funds that issue additional shares in equity offerings.

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CHAPTER 1.   AN OVERVIEW

1.1   Introduction

This dissertation looks at what happens when a closed-end fund returns to the capital market to raise additional capital. Closed-end funds are not unknown to financial researchers. Numerous studies have examined many of the unique characteristics of closed-end funds that distinguish them from regular, operating companies. Yet there is no literature on post-IPO securities issuance by closed-end funds. This void is all the more interesting when viewed in the light of the following facts: 1) closed-end funds are much more likely to do seasoned equity issues than are regular operating firms, 2) when funds do seasoned equity issues, they are much more likely than are regular firms to do so in the form of a rights offering, a type of equity issuance that is now quite rare in the US for operating firms, and 3) when doing rights offerings, these funds generally do so using nontransferable rights, a type of rights offering that is virtually absent outside the closed-end universe. Evidence regarding these items is presented in this study. By way of motivating the subject, consider the first item above - the frequency of seasoned equity issuance by closed-end funds. Although the universe of equity oriented closed-end funds in the US is small, this group has made a relatively high number of seasoned equity offerings in recent years. From the group of 63 US equity closed-end funds existing in December 1990 and still trading eight years later (December 1998), there have been 64 seasoned equity offerings during that eight year period, by 41 funds. There have been an additional 22 seasoned offerings by new funds that went public only after 1990. The

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prevalence of equity offerings by these funds contrasts with the incidence among regular US operating firms. For a randomly selected sample of listed firms, Mikkelson and Partch (1986) found that two-thirds of firms did no public offerings of any kind during their 11 year study period. By comparison, only about one-fourth of equity closed-end funds have failed to do some type of seasoned offering in the 11 year period ending in December 1998.

The value of a fund's investment portfolio, namely, its net asset value (NAV), is published every week. As a book value figure, the NAV is much more accurate and meaningful than the book value of a regular operating firm. For funds, but not for industrial firms, book value is the value of all assets, marked to current market prices. There is very little mystery about the current value of a fund's assets. Thus, closed-end funds can be characterized by their relative lack of information asymmetry between insiders (the managers) and outsiders (the fund's investors and potential investors). Also, the fact that funds are diversified means that the impact of any particular piece of private information that might exist is necessarily diminished in importance.

The absence of information asymmetry leads to the possibility of using closed-end funds as a known quantity or control group in order to study a disparate range of topics that have been of interest in finance. Some of the many contexts in which closed-end funds have been examined include:

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- Whether two well established models of estimating the adverse selection component of the bid-ask spread (those of Glosten and Harris (1988) and George, Kaul, and Nimalendran (1991)) are misspecified. This question was taken up by Neal and Wheatley (1995).

- Arguments for and against the investor sentiment model of Delong, Shleifer, Summers, and Waldmann (1990). This question is taken up by, among others, Lee, Shleifer, and Thaler (1991) and Chen, Kan, and Miller (1993).

- Whether international stock markets and risk factors are segmented, or integrated. This has been examined by Hardouvelis, La Porta, and Wizman (1994).

As the above list illustrates, closed-end funds have been examined from many angles. But, to date, there has been no research on seasoned equity issuance by these funds. This comes despite the fact that seasoned securities issuance is a well studied phenomenon, and, separately, most aspects of closed-end funds have been by this time been studied.

The remainder of this chapter describes the structure of closed-end funds, and briefly recapitulates some notable findings concerning the trading patterns of these funds. Some important legal and regulatory considerations governing closed-end funds are described, which again serve to distinguish funds from operating firms. The final section outlines the organization of this dissertation.

1.2 Structure and Trading Patterns of Closed-End Funds

Closed-end funds are publicly traded investment companies whose shares trade on a stock exchange (principally the NYSE). The value of the fund's holdings- its net asset

value- is calculated and published weekly. Exchange of the fund's shares takes place not at the NAV (as is true of open-end mutual funds), but at the current market share price. Closed-end fund shares can, and generally do, sell at substantial discounts or premiums to NAV. Numerous studies, including Malkiel (1977), Lee, Shleifer, and Thaler (1991), and Pontiff (1995), have examined the discount/premia trading patterns of funds. There is as yet no integrative understanding of these trading patterns. This dissertation does not attempt to explain discounts and premia. It does, however employ discount/premia data to aid in the empirical analysis of securities issuance by closed-end funds.

At any point in time, the cross-section of fund discounts is likely to be quite wide. For example, for a typical week (fund discount/premia information is disseminated on a weekly basis by some major publications, including the Wall Street Journal and the New York Times), the week ending March 24, 1995, discounts on equity closed-end funds ranged from a 34% discount to a 32% premium. Fund discounts also display quite pronounced time-series movement. Fredman and Scott (1991) report on the discount/premium ranges of a sample of 31 funds (those listed on the NYSE but targeting their investments in foreign countries), and find that the average fund in this sample had a 52-week range of discounts/premia of greater than 40 percentage points. There is also quite a bit of evidence that these time-series fluctuations are correlated across funds (Bodhurtha, Kim and Lee (1995), Thompson (1978), Lee, Shleifer, and Thaler (1991a)).

The initial public offerings of closed-end funds have also been studied. Funds always go public at a premium, a spread between NAV and offering price being necessary to cover underwriting and distribution expenses (paying $15 for $14 worth of assets is

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puzzling because there is nothing special about the fund's holdings- the assets immediately

after the time of the offering consist entirely of cash, and there are no patents, trademarks,

or innovative business operations involved). Almost invariably, the initial premium on the

fund begins to erode and within a few months turns into a discount (Weiss (1989), Peavy

(1990).

Finally, closed-end funds display significantly more volatility than their

underlying portfolios do. Sharpe and Sosin (1975) find that share price variance is 36%

greater than NAV variance. Pontiff (1993) finds share price variance to be 65% greater.

The differences in volatility are puzzling, since the fund shares and the underlying

portfolios hold identical claims to the same stream of dividends.

1.3 Legal and Regulatory Aspects of Closed-End Funds

Closed-end funds, as investment companies, are subject to the Investment

Company Act of 1940. One of the aims of that Act was to curb abusive practices by

management, including dilution of investment company shares. Accordingly, Section

23(b) prohibits the issuance of shares by investment companies at prices below net asset

value. An exception is made if an offer is made directly to existing shareholders, i.e., as a

rights offer. This rule, together with the fact that most closed-end funds have historically

traded below net asset value (meaning that any new shares issued at market prices would

be dilutive of NAV) most of the time, has resulted in rights offers being the predominant

method of issuing equity for funds.

In 1977, the SEC issued an interpretive position, Release No. IC-9932. This

position disallowed transferable rights offers by funds, unless management could make a

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case that a "very substantial majority" of the offer would be taken up by existing shareholders. Additionally, *non*transferable rights offers would be permissible, but only if the size of the issue and the discount on the subscription price were such that no substantial dilution would be suffered by nonparticipating shareholders. The effect of these provisions appears to have been to preclude virtually any possibility of rights offers by closed-end funds. In response to industry arguments (Phillips, 1984), the SEC changed its position in 1985. The "substantial majority" requirement on takeup was removed and transferable rights were henceforth allowed as long as: 1) an offer does not discriminate among shareholders, 2) an adequate trading market exists for the transferable rights, and 3) the allocation ratio (which is inversely proportional to the size of the issue) is at least 3:1 (thereby capping the size of the issue at one new share for every three old shares) (SEC Response, 1985).

The first closed-end fund rights offer subsequent to the SEC's regulatory adjustment occurred in 1989. From 1989 through 1998 there have been 88 rights offers by equity closed-end funds. During the same time period, there were 12 firm commitment offerings by seasoned funds. This highlights the fact that, through a combination of regulatory constraints and managerial choice, rights offerings are the predominant method of issuance for closed-end funds.

There are institutional reasons why closed-end funds are more likely than regular firms to issue seasoned equity. Regular operating firms primarily use retained earnings to achieve their expansion and investment goals. Funds, however, are bound by tax law to distribute to shareholders substantially all realized capital gains. Thus, funds with

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high or even moderate portfolio turnover find it difficult to retain their "earnings". Funds can mitigate this problem by enrolling some of their shareholders in automatic dividend reinvestment plans (DRIPs). However, it remains the case for most funds that in order for their asset base not to shrink over time, they must tap the public securities market for new capital.

1.4   Summary

The remaining chapters of this dissertation are organized as follows. Chapter 2 reviews the existing body of literature on public securities issuance by seasoned firms. Of particular relevance to this study are the implications of the choice between using a firm commitment (underwritten) offering or a rights offering, and how that choice might affect firm valuation not only at the time of announcement but also at the time of the actual offering. Also, ownership structure and ownership concentration are thought to both inputs that go into the rights versus firm commitment choice, as well as outputs that are changed as a consequence of the choice.

In Chapter 3 this study draws out the implications, including the formulation of testable hypotheses, of securities issuance by closed-end funds. The process of developing this study's sample is described in Chapter 4, along with some pertinent descriptive statistics about the sample. In Chapter 5 the main empirical analysis and results are reported. Conclusions about the findings of this dissertation are presented in Chapter 6.

CHAPTER 2. PUBLIC SECURITIES ISSUANCE

2.1 General

A wealth of literature on securities issuance by regular operating firms (including Asquith and Mullins, 1986, Masulis and Korwar, 1986, and Mikkelson and Partch, 1986) has established that the market reacts negatively to company announcements of seasoned equity offerings. Myers and Majluf (1984) provide a theoretical framework for this phenomenon in terms of an adverse selection problem. Managers possess private information about their firms' prospects, and form their own assessments of firm value, using this private information. If the firm's shares are currently undervalued by the market (which uses only public information to set the share price), the managers will avoid issuing new shares. But if the market overvalues the firm, managers have an incentive to issue new shares. Therefore, the market interprets a decision to issue seasoned equity as a sign that the shares are overvalued, and lowers its appraisal of the firm accordingly. It is important to note that this framework assumes that outsiders, not current shareholders, are the purchasers of seasoned equity issues. Together with the assumption that managers act in the interests of existing (not necessarily prospective) shareholders, this is sufficient to induce managers to issue overvalued shares but refrain from issuing undervalued shares.

An alternative interpretation of securities issuance is given by Miller and Rock (1985). In that model, a firm's investment opportunities are assumed to be known by all parties. But only management knows current earnings, i.e., the results from past investment projects. If these earnings turn out to be higher than the market had anticipated, cash flow will be 'positive' relative to expectations, and this positive cash flow will accrue

to investors as higher than anticipated dividends. If cash flow is sufficiently negative relative to expectations, the firm may require cash inflows in the form of unexpected securities issuance. The size of such an issuance is important, but the form (debt, rights offering, firm commitment equity offering) is not.

The Myers and Majluf model and the Miller and Rock model have in common that underwriters are not assumed to be informed. Hence, underwriters play no certification role, and do not help to bridge the information gap between management and investors. This is in contrast to those studies, including Booth and Smith (1986), Beatty and Ritter (1986), and Slovin, Sushka, and Hudson (1990), in which underwriters do play a certification role. The role of underwriters is of interest in the case of securities issuance by closed-end funds. It can be conjectured that the operation and performance of these funds may be 'transparent' enough that no certification is required (because the funds are simply investment portfolios, and the holdings in these portfolios are publicly disclosed at regular intervals). Indeed, it turns out that the vast majority of seasoned offerings by closed-end funds are in fact not underwritten.

Empirical evidence is also available that seasoned equity issues are on average preceded by a period of strong positive abnormal returns for the issuing firms (a 'runup'). Asquith and Mullins (1986) find an average excess return (over the T-bill rate) of +40.4% for days -480 to -10 before an announcement. Korajczyk, Lucas, and McDonald (1990) find an excess return of +43.8% for days -500 to -1.

Lucas and McDonald (1990) provide an explanation for this runup. In their model, overvalued, fairly valued, and undervalued firms all receive randomly timed positive net

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present value project opportunities. Delaying these projects by delaying raising the necessary capital is costly to firms due to the possibility of lost opportunities. Overvalued and fairly valued firms will therefore issue immediately upon project arrival (and overvalued firms may even issue in the absence of a project, if issue costs are low enough). Undervalued firms have an incentive to wait for their stock prices to reach more reasonable levels. Thus, undervalued firms will experience a price runup before issuance, while all other firms will have a flat price trend, on average. Therefore, the overall average will show a positive runup. As in Myers and Majluf, the new equity shares are assumed to be sold to outsiders.

Certain types of firms can be a priori characterized as having a relative absence of information asymmetry. Utility firms, which are relatively homogeneous and highly regulated, fit this description. For these type firms, adverse selection models would predict an attenuated market reaction to equity issue announcements. Empirical studies show that announcement returns for utilities are considerably less negative (though still significant) than for industrial firms (Asquith and Mullins (1986), Eckbo and Masulis (1992)). Furthermore, for utility firms, since the adverse selection problem is minimal, there should be little or no pre-announcement price runup. Asquith and Mullins find this to be the case, in contrast to the strong runup they find for industrial firms.

It can be argued that closed-end funds, like utilities, can be characterized by a relative absence of information asymmetry. With little information asymmetry and minimal adverse selection, it can be anticipated that the equity issuance announcement

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effects and pre-announcement price behavior will be weaker (perhaps nonexistent) for closed-end funds than for industrial firms.

2.2   Price Pressure Phenomena

Numerous studies have examined securities issuance events for evidence of either temporary (transactions costs based) or permanent (Demand Curve) price pressure resulting from the newly issued shares. In addition to these issuance events, other events examined in light of price pressure hypotheses include block trades (both secondary and unregistered issues) and additions and deletions to the S&P 500 Index. Hansen (1988) finds a significant negative correlation between returns in the period before rights offer commencement and the period after expiration, for a sample of insured US rights offerings. Since in his sample share prices decline and then bounce back around the offer period, Hansen interprets this as evidence of temporary price pressure. Eckbo and Masulis (1992) find negative offering period returns for rights offers, with no bounce back. This finding can be viewed as supporting the permanent price pressure hypothesis. In their study of firm commitment offerings, Barclay and Litzenberger (1988) find no relation between offer day returns and issue size and therefore reject the hypothesis of permanent price pressure. Asquith and Mullins (1986) find no significant price declines on the issuance date for firm commitment offerings. This can be construed as evidence against the existence of temporary price pressure during the time a securities offering is being conducted. Hess and Frost (1982), in a study of underwritten utility offers, and Marsh (1979), in a study of UK rights offers, reject both temporary and permanent price pressure.

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Both these last mentioned studies conclude that the market is liquid and that the demand for shares is very elastic.

The announcement of changes to the S&P 500 Index is said to provide a setting to examine price pressures without the presence of possibly confounding information effects. Of course, unlike securities issuance studies, the supply of shares is not being changed. Instead, there is a possible shift in the demand curve for shares. But, as in the case of securities issuance, the evidence on price pressure from S&P Index studies is very mixed. Shleifer (1986) finds excess returns for new S&P additions of over 3%. Since these returns are said to be far too large to be accounted for by the transactions costs of the relevant marginal investors, the results are attributed to a Demand Curve effect. Harris and Gurell (1986) also find excess returns over 3%, but these are fully reversed within two weeks. Thus, the results are attributed to temporary price pressure. Edmister, Graham, and Pirie (1994) find fault with the estimating procedure of earlier studies in this genre, and, with their technique, conclude that the market for shares is liquid and highly elastic, i.e., their evidence does not support either temporary or permanent price pressure hypotheses.

What is the likely nature and extent of price pressures around the time of equity issuance by closed-end funds? In the case of temporary, transactions costs-based pressure, the answer is likely to depend on who the marginal investor is in these events. If the marginal investor has low transactions costs, then temporary price pressure will be small. For instance, Shleifer (1986) argues that large institutions are the marginal investors at the time of S&P 500 Index changes, and that transactions costs for these institutions might be, at most, 1% (including commissions, spreads, and market impact costs). A nearly

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diametrically opposed view is presented by Hansen (1988), who attributes the very large (-6.41%) negative returns in the presubscription period of a sample of insured rights offerings to transactions costs, even though he also provides evidence that most of the issuing firms had very large capitalizations. (It would seem that the marginal investors in these large firms are large institutions with low transactions costs). Most closed-end funds have very small market capitalizations. The market capitalization factor by itself could limit the activity of large institutional investors in these funds. Additionally, there is abundant evidence (including Lee, Shleifer, and Thaler (1991), and Weiss-Hanley, Lee, and Sequin (1993)) that closed-end fund shares are held and traded overwhelmingly by small investors. If small investors also predominate in the trading of shares around closed-end fund equity issuance, then these small investors may serve as the marginal investors during those events. As small investors, they will have relatively high transactions costs, which could be made manifest in the form of relatively large price pressures. In other words, closed-end fund seasoned equity issuance events may be prime candidates for displaying transactions costs based price pressure. If other research has found evidence of price pressure in the shares of large firms, then it is all the more likely to be evident in the shares of small, thinly traded closed-end funds, whose shares are owned and traded predominantly by small individual investors.

Turning to the case of permanent price pressure, the claim that permanent price pressure should not exist in reasonably efficient financial markets rests on the supposition that there are many arbitrarily close substitutes available for a firm's shares. In one view, the close substitutes argument is especially appropriate for closed-end funds. Consider the

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alternatives to holding shares in a given closed-end fund: 1) hold shares in any of the several other closed-end funds in the same category (e.g., 'US General Equity Funds'), 2) buy an actively managed open-end mutual fund instead, 3) buy an index fund (probably reducing fees in the process), 4) build your own diversified portfolio of individual stocks. Even if the closed-end fund in question is a foreign country fund (such funds have a mandate to direct most of their investments to a single specific foreign country), there will likely be several alternatives: 1) buy another closed-end fund having the same focus (often, more than one closed-end fund targets the same country or region), 2) buy an open-end mutual fund targeting the same country or region, 3) buy ADR's of the country. From this perspective, closed-end funds are highly substitutable, and should be one of the least likely asset category to exhibit permanent price pressure.

On the other hand, closed-end funds may have a very limited clientele. Consider some of the disadvantages of these funds: 1) there are very few funds with superior medium or long-term relative performance, 2) volatility is much greater for fund shares than for the NAV portfolio (Sharpe and Sosin (1975), Pontiff (1993), Hardouvelis, La Porta, and Wizman (1994)), and most likely greater than for any reasonable substitute asset, 3) closed-end funds will for the most part be inappropriate investment vehicles for institutional investors because they would be delegating their investment decision-making responsibilities and incurring an extra layer of management fees. Pontiff (1993) provides empirical evidence to support the contention that closed-end funds are, for most purposes, redundant assets. From this perspective, if a closed-end fund issues new shares, it may find that there is no clientele for those shares. According to this view, and

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in opposition to the ease-of-substitution argument in the preceding paragraph, these funds may have the potential to exhibit pronounced Demand Curve effects in equity issuance events.

2.3 Rights Offers

Smith (1977) and Eckbo and Masulis (1992), among others, document the relative scarcity of rights offerings by industrial firms in the US and indicate that these offerings had virtually ceased after about 1976. The appeal of rights offers for industrial firms has waned in the US, despite evidence that rights offerings involve significantly lower direct float costs than firm commitments (Smith (1977); Eckbo and Masulis (1992); Hansen (1988)).

In the context of Miller and Rock, the decision between using rights offerings versus firm commitment offerings is of no particular significance. The choice of debt versus equity is also not important. Nor does it matter whether an offering is directed to existing shareholders, or to outsiders. All that matters is the fact of the inferred fact that there is a need for cash inflow into the firm, and the size of that inflow. All of these choices, however, are important in the adverse selection models of Myers and Majluf (1984) and Lucas and McDonald (1990). These models come into play to the extent that outsiders participate in the equity offering. That is, the adverse selection problem increases with the proportion of shares that are purchased by outsiders. In a rights offering, shares are offered to existing shareholders, via subscription rights. If these rights are transferable, outsiders can buy these rights and participate in the offering. For an offering in which all the rights are exercised by current shareholders, there is no possibility of a transfer of

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wealth between current shareholders and outside parties, therefore, there is no adverse selection problem (the stock may have been undervalued, but that just means the existing shareholders, by subscribing to the offer, were able to increase their dollar stake in the firm at a favorable price). For all other patterns of offer participation, the adverse selection problem of Myers and Majluf increases in tandem with the fraction of outside participation.

Using this logic, Eckbo and Masulis (1992) construct and then test a model where managers choose the optimal form of equity issuance, based on their private information about the firm. Suppose a firm's equity issue, whether it be a rights offering or a firm commitment, can be bought up by two groups: current shareholders, and outsiders. If the firm knew that the entire issue would be bought up by current shareholders, then it would issue equity even if managers considered the firm undervalued, because there would be no transfer of wealth to outsiders, and current shareholders would suffer no dilution. On the other hand, if managers thought outsiders would buy a significant fraction of the issue, then they might issue when overvalued, but not when undervalued. Thus, issuance in the form of a rights offering is perceived by the market as having only minimal adverse selection implications, to the extent that the issue is expected to be taken up by current shareholders. In actual practice, the 'takeup' can be signaled, even before the issue, by managers who obtain and make public the precommitments of large shareholders to subscribe to the rights offer. Firms that cannot obtain such precommitments (i.e., expected takeup is low) must do a "standby" rights offering, in which an underwriter commits to buy up and place all unsubscribed shares. The standby rights offer thus implies more of an

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adverse selection problem, and the market reaction is more negative than an uninsured offering. The strongest negative reaction is reserved for firm commitment offers, where the expected takeup is assumed to be near zero, i.e., the firm is overvalued. Thus Eckbo and Masulis assign places for uninsured and standby rights offers in the pecking order of security issuance that runs the spectrum from risk-free debt to bank debt to risky public debt to rights offers to firm commitments.

Heinkel and Schwartz (1986) develop a model slightly different than Eckbo and Masulis. The lowest quality firms issue via firm commitment offerings (as in Eckbo and Masulis). But the highest quality firms choose insured (standby) rights offers (not uninsured rights offers). Standbys involve an 'insurance' fee for the contingent underwriting activity, but this insurance is fairly priced and observable, so it carries no adverse selection implications. Furthermore, standbys entail certification by an underwriter, a positive signal lacking in uninsured offerings.

Consider that even an uninsured rights offering will be fully subscribed if the subscription price is set sufficiently low. In the pure theory of rights offers (ignoring adverse selection considerations), the subscription price is irrelevant- it cannot affect firm value. In the model of Heinkel and Schwartz, subscription price is irrelevant for insured offerings. The firm buys insurance in lieu of setting an arbitrarily low subscription price, but this insurance is fairly priced. For uninsured offerings, however, the market infers value from the level at which the subscription price is set - the lower the subscription price, the lower the market should set its appraisal of the company's value. Management is

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said to set the price low enough so that any bad news that might be released before the offering will not cause the offer to fail.

Consistent with their predictions, Eckbo and Masulis find no significant announcement effect for uninsured rights offerings by industrial firms, a small but significantly negative -1.0 % for standbys, and the usual -3% for firm commitment equity offerings. This compares to the two-day announcement abnormal return of -2.61% found by Hansen (1988) for a sample of industrial standby rights offerings, and -1% found by White and Lusztig (1980) for a combined sample of standby and uninsured rights offerings by industrial and utility firms.

The finding by Eckbo and Masulis of no negative market reaction to uninsured rights offering is not supported by Slovin, Sushka, and Lai (1999). The latter authors find, for a sample of British rights offerings between 1986 and 1994, an average -2.90% negative excess return upon announcement of insured rights offerings but a -4.90% response to uninsured offerings. Uninsured offerings are associated with larger subscription price discounts. Controlling for the choice between insured and uninsured rights offerings, they find the discount (which is known at announcement time) to be negatively related to announcement period returns. That is, the larger the discount, the more negative the announcement returns.

In the model of Eckbo and Masulis, an undervalued firm can avoid the adverse selection problem by choosing an uninsured rights offer (if only current shareholders subscribe to the offer, then only these shareholders benefit from the undervaluation). In particular, the firm can avoid having to delay issuance until its share price has runup to

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more reasonable levels. Thus, there will be no runup, on average, for firms that choose uninsured rights offers. Consistent with their model, Eckbo and Masulis find no price runup for uninsured rights, a small runup (+4.57%) for standbys, and a larger runup (+12%) for firm commitments, for the three months before announcement. They also find significant negative abnormal returns of about -4% during the subscription offer period of uninsured offerings, which typically lasts about three weeks. Possible reasons for these negative returns are given as: 1) the compensation required by investors for rearranging their portfolios (this is the 'transactions costs' version of the price pressure hypothesis), and 2) "the fact that the primary market, where there are no purchaser-borne fees, draws buyers away from the secondary market".

Marsh (1979) examines a sample of UK rights offers. He finds a very small (-0.9%) but significant price pressure effect on returns during the offer period. But a subsequent bounceback, along with the fact that the negative offer period returns are not related to issue size, suggests again a transactions cost based, temporary price pressure effect. In contrast to the model of Eckbo and Masulis, he finds a very large (+30%) price runup in the 12 months before the rights offers.

Several observations are in order with regard to the institutional setting of securities issuance by closed-end funds. First, the method of equity issuance (rights offer or firm commitment) probably does not have the same signal content as it would for industrial firms. During the time of the study period, the vast majority of funds would have been precluded by SEC regulations from conducting firm commitment offers, as fund share prices tended to trade below NAV. Also, the Eckbo and Masulis concept of using

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precommitments as a signal of the offer's takeup does not appear to apply to closed-end funds. In general, as discussed below, these funds lack institutional holders and blockholders, whose role in the Eckbo and Masulis model is to make the necessary precommitments. Finally, though a thorough search was not conducted, it appears that closed-end funds do not issue public debt. The Investment Company Act caps the allowable leverage of closed-end funds at 25% of total capitalization. Perusal of fund annual reports indicates that funds in fact carry virtually no debt. Closed-end fund shareholders still carry debt to the extent that the companies in the fund's investment portfolio are leveraged. It can be conjectured that funds choose not to use further leverage in an effort to appeal to the broadest possible clientele.

There is no literature on nontransferable rights, for either closed-end funds or firms in general. The majority of rights offerings in this study involved nontransferable rights. Nontransferable rights also are used by regular operating firms in the US, but they apparently constitute less than a majority of rights offers (Moody's). SEC regulations would seem to dictate the use of nontransferable rights for at least some closed-end fund offerings. This is due to the requirement that transferable rights must have an adequate trading market. The value of a transferable right is determined by arbitrage between the rights price and the share price. The rights price is directly related to the size of the issue and to the discount on the offer subscription price. If the discount is small or the relative size of the issue is small, the value of the rights will be too small (i.e. the rights may be worth only a fraction of a dollar) to make an effective market in the rights, and management may feel compelled to use nontransferable rights instead.

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2.4 Ownership Structure and Concentration

The ownership structure of this study's sample is of interest in light of the findings of Hansen and Pinkerton (1982). For a sample of 54 US rights offerings (offerings by operating firms, not closed-end funds) from 1971 to 1979, they find that insiders or single blockholders own a 61% stake, on average, before issuance. For a firm where most of the shares are held by a very few shareholders, the distribution costs of an equity offer should be low, and there is no reason to pay for the distribution capabilities of an underwriter. The authors contend that firms with diffuse ownership will find it cheaper to employ an underwriter than to distribute the shares internally (via a rights offer). Thus, in general, highly concentrated firms will choose rights offerings, while diffusely held firms will choose firm commitment offerings. Another aspect of high ownership concentration is that monitoring is presumably done effectively by the blockholders, reducing the need for external certification by underwriters. This diminishes one of the theoretical advantages of an underwritten offer, and makes a rights offering relatively more advantageous.

Hansen and Pinkerton analyze only the direct costs associated with a rights offering. Kothare (1997) maintains, and provides evidence for, the contention that the indirect costs of rights and firm commitment offerings are much larger and of a more lasting duration. In a before-and-after issuance analysis, she finds that rights offerings decrease the liquidity of a firm's shares, post-event. Since the rights offering is marketed by design to the firm's existing shareholders, and, as it turns out, the takeup is skewed toward those who already have the largest stakes, the result is that ownership concentration is increased. With higher ownership concentration there is less trading

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liquidity. Kothare finds that percentage bid-ask spreads increase significantly after rights offers. Higher bid-ask spreads mean higher trading costs. Investors require compensation in the form of higher expected returns, which implies a lower value for the firm. Firm commitment offerings, on the other hand, have the effect (Kothare reports) of broadening the firm's ownership. She finds that bid-ask spreads significantly decrease for firms that do firm commitment offerings. This would imply a higher value for the firm. Thus, while rights offerings may have lower direct costs, they also entail higher indirect costs, while firm commitment offerings entail indirect benefits. Kothare contends that the heavy predominance of firm commitment over rights offerings in the US is explainable in terms of these ownership concentration and trading cost phenomena.

In Eckbo and Masulis (1992), firm managers are said to be able to signal the eventual takeup of a rights offer by divulging the precommitments of outside blockholders. This scheme, of course is contingent upon there being sufficient blockholdings in the firm's ownership. Evidence in this regard in presented in Chapter 4.

CHAPTER 3.   IMPLICATIONS OF SECURITES ISSUANCE BY CLOSED-END FUNDS

3.1   Implications for Pre-announcement and Announcement Period Returns

Under a standard interpretation of the Semi-Strong Form Efficient Market Hypothesis, managers of mutual funds hold no information about securities that is not also known by the market. This assertion is supported by the many studies (dating back to Sharpe (1966) and Jensen (1968)) showing that mutual fund managers as a group fail to outperform the market. This implies that neither closed-end fund managers nor open-end fund managers hold any nonpublic information. Some researchers have even taken it as axiomatic that there is no information asymmetry in closed-end funds (see Peavy, 1990). For instance, Simon and Wheatley (1995) test some established models of the adverse selection component in bid-ask spreads using closed-end fund spreads as a control group for which there should be *no* adverse selection component. Adverse selection is said to be minimal because both managers and the public can observe the value of the fund's underlying portfolio. This value is the NAV, which is published weekly. Also, the fact that funds are diversified means that the impact of any particular piece of private information is necessarily mitigated.

The managers of closed-end funds have the ability to raise new equity in the public securities market. What inferences should the market draw when managers do this? From the perspective of Myers and Majluf, since there is no asymmetric information between the market and fund managers, the markets should view the event as being neutral. This

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conclusion applies whether the issue involves a debt issue, a rights offering, or a firm commitment offering. Closed-end funds should exhibit no significant abnormal returns at the time of issue announcement. From a Miller and Rock perspective, the firm's important information releases are unexpected dividends and unexpected external financing. But for closed-end funds, dividends are largely dictated by investment portfolio performance and tax statutes. Investment performance is readily observable by shareholders, in the form of weekly published NAV figures. Thus it seems that an external financing event would impart very little relevant information to the market.

In the offering prospectuses of closed-end funds, there are several reasons given for why a seasoned equity offering may be beneficial for shareholders. By expanding the asset base, fund managers are said to be able to take advantage of attractive new investment opportunities, without having to sell off current holdings. A larger asset base achieves economies of scale, perhaps allowing lower expense ratios. And in the case of rights offerings, shareholders can enlarge their holdings at a 'discounted' price, without having to pay commission costs. It is also usually noted in the prospectus that an offering, by expanding the asset base, will have the effect of increasing the dollar amount of the compensation paid to the management firm.

How does the pre-announcement price path model of McDonald and Lucas (1990) apply to closed-end funds? In their model, if information asymmetry between a firm and the market is small, so too is the magnitude of possible undervaluation. Modest undervaluation or overvaluation would not be an important factor for managers choosing the frequency or timing of equity issues. On average for this small-asymmetry group, there

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should be no price runup before equity issues. We would, however, expect closed-end equity issues to cluster around periods of large returns for the US market (i.e., large absolute returns). For stocks in general (and, by extension, for the special category consisting of closed-end funds), both the model of Lucas and McDonald and the empirical findings of Korajczyk, Lucas, and McDonald (1990) find that seasoned equity issues are on average accompanied by large runups in the US market. In summary, closed-end fund equity issues should be associated with runups in the US market, but not with runups by the funds relative to the US market. As for post-issue performance, this is an open question. In general, the securities issuance literature indicates that issuing firms issue new shares after market runups, but quite often the market continues to run up after issuance. In this sense, firm managers cannot be said to have 'timing' ability.

In contrast to the Lucas and McDonald model, the investor sentiment hypothesis can be viewed as leading to somewhat different implications concerning closed-end fund equity issues and pre-announcement price runups. Lee, Shleifer, and Thaler (1991) draw as an implication of the investor sentiment model that IPO's for new closed-end funds will coincide with an average narrowing of discounts in the closed-end industry. The narrowing of discounts is said to reflect positive sentiment on the part of sentiment investors and this leads to excess returns for closed-end funds relative to the US market. Positive sentiment also makes the market receptive to IPO's of new funds, and entrepreneurs exploit these opportunities. Lee et al. find that the closed-end industry's value-weighted average discount narrows by 7 percentage points for years in which new funds go public, compared to years in which no funds go public (during their study period,

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the closed-end fund universe was much smaller, so that it was not unusual for there to be no new funds launched in a given year).

It may be that investor sentiment influences closed-end fund seasoned equity issues (a phenomenon which has never been studied) as well as the IPO's by these funds (which have been studied). The same positive sentiment that allows new funds to be floated may also allow managers of existing funds to float additional shares. Of the 71 seasoned equity issues in this study (60 rights offerings and 11 firm commitments), 57 occurred during the 1992-94 period. This same period saw an approximately 50% increase in the number of equity closed-end funds, with 45 new funds going public. Arguably, favorable valuations, possibly driven by investor sentiment, influenced both phenomena. Evidence would come in the form of significant positive movements in the discounts/premia, on a fund by fund basis, during the time leading up to issue announcement, for those funds that did seasoned equity issues. That is, if a fund announces a seasoned issue, we should be able to look back and see a positive movement in its discount/premium series leading up to the announcement. And, because total returns on fund shares are determined in part by discount movements, in the pre-announcement period we should also observe abnormal returns (price runups) for the sample of issuing funds, relative to the US market. Again, this investor sentiment prediction is in contrast to the predictions about closed-end funds that would follow from the adverse selection literature.

The investor sentiment model has no strong implications for the returns to be expected upon announcement of a closed-end fund equity issue. Sentiment may have

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carried a fund's price higher before an issue, but there is nothing in the model to say that sentiment would reverse (causing negative announcement returns) immediately upon notice of an impending issue. The investor sentiment model does not lead to any hypothesis about the announcement effects of closed-end fund equity issues.

In contrast, adverse selection models do lend themselves to a prediction about announcement effects of closed-end equity issues. The adverse selection model makes an exception for its own rule that securities issuance is always bad news. The exception is that if there is very little information asymmetry, there will be very little market reaction. As discussed above, if the market is efficient, closed-end funds should be associated with a virtual absence of information asymmetry. Therefore, a finding of no significant announcement effects for closed-end fund issuance would tend to *confirm* the adverse selection model.

The testable hypotheses developed thus far are as follows:

Hypothesis #1

H_o: In the year prior to announcement of a seasoned equity issue, closed-end funds show no significant price runup, relative to the US market.

H_a: In the year prior to announcement of a seasoned equity issue, closed-end funds show a significantly positive price runup, relative to the US market.

Hypothesis #2

H_o: In the year prior to announcement of a seasoned equity issue, closed-end funds show no significant movement in their discount/premium.

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H_a: In the year prior to announcement of a seasoned equity issue, closed-end funds show a significantly positive movement in their discount/premium.

Hypothesis #3

H_0: There is no significant market reaction to the announcement of seasoned equity issues by closed-end funds.

H_a: There is a significantly negative market reaction to the announcement of seasoned equity issues by closed-end funds.

3.2 Implications for Offering Period Returns

Marsh (1979), Hansen (1988), and Eckbo and Masulis (1992) all find evidence of a price pressure effect around the offering period of rights offers (again, using samples of regular operating firms). These studies find negative returns during the offering period, or in the period after announcement and running through the offer period, and positive returns in a period after expiration of the offer. An exception is Eckbo and Masulis, who find the negative offering period returns but no bounceback after the offer.

In the price pressure literature (including Scholes (1972), Kraus and Stoll (1972), Dann, Mayers, and Raab (1977), and Barclay and Litzenberger (1988)), two types of price pressure are discussed most frequently. Temporary price pressure is said to occur because the buyers of blocks of shares require a price concession to compensate for the transaction costs of rearranging their portfolios. Prices return to normal once the block has been placed. ('Blocks' here include the placement of a large number of shares via a rights offering or a primary or secondary firm commitment offering, in which, generally, the block is split between many buyers.) The second type of price pressure is of a more

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permanent nature. It is associated with the hypothesis from Scholes of a downward-sloping demand curve for a firm's shares. To the extent that there is no perfect substitute for a firm's shares, incrementally placed shares are priced according to a downward-sloping demand curve (in contrast to the ideal in finance of a perfectly elastic demand curve). Thus, a seasoned equity issue causes a permanent downward adjustment in a firm's share price.

Consider how price pressure may relate to rights offerings. If temporary price pressure is present, there will be negative abnormal returns during the offering period, and a recovery after the offer expires. If permanent price pressure is present, the price recovery will be absent, or will be smaller in magnitude than the negative offering period returns (i.e., if there is both a temporary and a permanent effect, the recovery will be only partial). But, according to Eckbo and Masulis, it is difficult to distinguish between permanent and temporary effects in rights offerings using tests for price reversal. Such tests lack power: the events lack a common event-window size, since offer period durations vary from rights offer to rights offer.

Notwithstanding Eckbo and Masulis, there may be another way to distinguish between permanent and temporary price pressure effects in rights offerings. The sample in this study has both transferable and nontransferable rights offerings. In a nontransferable offer, to the extent that the offered shares are placed, they must be taken up by existing shareholders. Shareholders must subscribe or suffer dilution. The amount of dilution (in percentage terms) a shareholder can suffer is a function of both the size of the issue and the percentage discount on the offer's subscription price. In contrast, in a transferable offer,

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a shareholder who does not wish to subscribe for additional shares can sell his rights on the market. There are transactions costs involved in selling rights, but those costs are likely to be much lower than the costs facing the shareholder in a nontransferable offer. For the shareholder who lacks a transferable right, transactions costs could include selling off unwanted shares, or selling other holdings to raise money for the subscription. (To give a numerical example that is typical of rights offerings, the shareholder who does not wish to participate in a *transferable* rights offering can seal his N rights at, say, $0.75 per right. But the unwilling shareholder in a *nontransferable* offering must sell N shares at, say, $15 per share). All of these costs could lead to temporary price pressure, and the higher the transactions costs, the greater the temporary price pressure. All of this is consistent with the evidence that Hansen (1988) supplies: (transferable) rights offers impose higher transactions costs on nonparticipating shareholders than firm commitment offerings do. If that is true, then it is a simple extension to say that nontransferable offerings impose even greater costs on nonparticipating shareholders.

On the other hand, if an equity issue is to have a permanent, demand-curve effect on share price, it should not matter what the mechanics of the rights are or how the takeup occurs (the takeup could be by existing shareholders, new investors, or a combination). That is, whether the rights are transferable or nontransferable should not affect the price. And transactions costs are not important in permanent price pressure. Only the size of the issue matters. Since the issuing firm faces a downward-sloping demand curve, the greater the number of new shares that are issued, the lower the market clearing price will be for those shares.

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If the price pressure is temporary and driven by transactions costs, then nontransferable offerings should have a larger price impact than transferable offerings, since the former involve higher transactions costs. Furthermore, the amount of price pressure in a transferable offering will be relatively insensitive to the size of the issue. This is because nonparticipating shareholders can just as easily (and at about the same dollar cost) sell their rights in a large-sized offering as they can in a small offering. Contrast this to the strategy of a shareholder in a nontransferable offering who simply wishes to maintain his pre-existing holdings. The shareholder could sell shares before the ex-rights day (thereby losing the right to subscribe to the issue), then buy them back on the open market during the offer period. This would involve two market transactions, with commissions and bid-ask spreads. A possibly less costly strategy would be to hold the shares until after the ex-rights day (thereby retaining the right to subscribe to the offer), then sell N shares on the open market during the offering period while also subscribing to buy N shares (the shareholder's full allotment under the offer), so as to finish with the same holdings as before the event. The transactions costs here would be proportional to the size of the offering (the offer size determines how many shares need to be sold off to maintain the investor's pre-offer position). The third option would be to do nothing, and absorb the dilution. But the amount of potential dilution, and therefore the transactions costs one is willing to absorb in order to avoid the dilution, is proportional to both the offer size and the offer discount. Using the mean subscription price discount of 10.9% (see Table 3, discussed in Chapter 4) and the mean offer size (see Table 4) for nontransferable

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rights offerings, a typical dilution from nonparticipation can be calculated as slightly more than 2%.

In summary, if the price pressure in rights offerings is of the permanent, demand-curve variety, then there should be negative returns during the offer period, with no reversal in the post-expiration period. Also, there should be no difference in offer period returns between transferable and nontransferable offers, controlling for issue size. By contrast, if the price pressure if of the temporary, transactions-cost variety, there would be a price rebound after expiration. Also, nontransferable issues should have stronger negative returns during the offer period, controlling for issue size. Finally, the offering period returns of nontransferable issues, but not necessarily those of transferable issues, will be negatively related to the product of relative issue size and relative subscription discount. The competing hypotheses are as follows, with the null hypotheses being associated with permanent price pressure and the alternative hypotheses favoring temporary price pressure:

Hypothesis #4:

H_o: There are no significantly positive returns in the period immediately following the expiration of closed-end fund rights offerings.

H_a: There are significantly positive returns in the period immediately following the expiration of closed-end fund rights offerings.

Hypothesis #5:

H_o: There is no difference between transferable and nontransferable rights offerings in the average returns during the offer period, controlling for issue size.

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H_a: Average returns during the offer period are significantly more negative for nontransferable than for transferable issues, controlling for issue size.

Hypothesis #6:

H_0: There is no relation between the offer period returns for nontransferable rights and the 'dilution potential', defined as the product of relative issue size and relative subscription discount.

H_a: There is a significantly negative relation between the offer period returns for nontransferable rights and the 'dilution potential', defined as the product of relative issue size and relative subscription discount.

3.3 Implications for Ownership Concentration

Kothare (1997) provides evidence that rights offerings increase ownership concentration and decrease trading liquidity, especially when contrasted with firm commitment offerings, which have the opposite effects on ownership concentration and trading liquidity. Are these findings applicable to equity offerings by closed-end funds?

This dissertation reports on, in Chapter 5, changes in trading volume for funds that did rights offerings, where trading volume is measured at a point in time 12 months before, then 12 months after, the issuance event (so as not to conflate the before and after trading characteristics with trading in the actual event period). Similar volume data was collected and tested for each of the funds that did firm commitment offerings. Significant decreases in trading volume for rights offering funds and increases for the firm commitment funds would be supportive of Kothare's argument about the differential effect of the two types of offerings on ownership concentration.

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A more direct measure of changes in ownership concentration is also conducted: changes in the total percentage of share held by institutions in each closed-end fund, 12 months pre- and post-issuance. Kothare uses blockholdings and insider ownership instead of institutional holdings, but, as described in Chapter 4, closed-end funds have negligible quantities of those two variables.

CHAPTER 4.   SAMPLE DEVELOPMENT AND STATISTICS

4.1   Sample Development

This study uses a sample of 97 seasoned equity issues, which comprises all but three of the issues that were done by all equity closed-end funds from 1986 through 1998. Three rights offerings were excluded because they entailed an initial announcement, followed by long periods approaching a year before the actual offerings got underway. Such long periods could not be reconciled with the estimation period used in the main event study. Of these 97 equity issues in the final sample, 85 were in the form of rights offerings, while 12 were firm commitment offerings.

Closed-end fund rights offerings were identified by examining the Subscription Rights section of the *Moody's Dividend Record*, for all years from 1986 to 1995. For offerings after 1995, a search of the Securities and Exchange Commission's EDGAR database was conducted. Firm commitment offerings were identified in the *Standard & Poors Corporation Records* and the Dow Jones News Retrieval service.

Offerings by nonequity closed-end funds, including bond funds, 'dual' funds (dual funds have two classes of shares: capital and income), and convertible funds were excluded from the sample.

Most of the terms of the rights offers (such as allocation ratios, subscription prices, record dates, and expiration dates) were available from both *Moody's* and Dow Jones News Retrieval. Announcement dates and times were located on the DJ News Retrieval. Wire announcements were found for all 60 of the rights offers through 1994. For the rights

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offers from 1995 through 1998, the announcement dates were taken from the funds'

registrations filings (the filings always included language such as "the fund announced the

offering after the close of trading on October 2, 1995"). No announcement could be found

for two of the 14 firm commitment offers, leaving a sample of 12 such offers. For rights

offers, in general, the initial wire announcement contains the offer's allocation ratio (the

inverse of the issue size), but no exact subscription price or record date. All events in the

rights sample were identified in the initial announcement as to whether transferable or

nontransferable rights would be used to conduct the offering.

Daily returns were obtained from CRSP. Weekly data on closed-end fund

discounts and premia was obtained from the *Wall Street Journal* (via the Dow Jones News

Retrieval), and, for some of the foreign-invested funds, from David Muller, editor of the

Foreign Markets Advisory.

Data on institutional share holdings and on fund trading volumes was collected

from both the Moody's Handbook of Common Stock and the Standard & Poors Stock

Guide.

4.2 Descriptive Statistics

Panel A of Table 1 shows the distribution of rights offers by year. Panel B of

Table 1 is a complete list of the firm commitment offers. Table 2 shows the mean and

median closing share prices and market capitalizations, as of event day announcement, for

the sample of rights offers, and, separately, for the sample of firm commitment offers.

Table 2 suggests that the firms in the sample can be characterized as "small cap", by most

reasonable definitions. Table 3 shows some summary statistics for the subscription price

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Table 1 - Time Distribution of Equity Offerings

Panel A: Frequency of rights offerings, by year

Year	
1989	1
1990	2
1991	3
1992	9
1993	24
1994	19
1995	14
1996	6
1997	3
1998	4
Total	85

Panel B: List of closed-end fund firm commitment offerings

Fund	Record Date
Argentina Fund	3/17/94
Austria Fund	2/23/90
Germany Fund	12/04/89
Japan OTC Equity Fund	6/02/94
Korea Fund	5/23/86
Korea Fund	8/10/89
Korea Fund	11/18/93
Morgan Stanley Emerging Markets Fund	3/09/94
Taiwan Fund	5/26/88
Taiwan Fund	3/07/90
Taiwan Fund	12/07/93
Taiwan Fund	5/03/96

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Table 2 - Market Capitalization Characteristics of Sample Firms on Announcement Day

Panel A: Rights offering sample	
Mean share price	17.49
Median share price	13.63
Mean market capitalization ($ millions)	302.50
Median market capitalization ($ millions)	165.49

Panel B: Firm commitment offering sample	
Mean share price	24.39
Median share price	22.88
Mean market capitalization ($ millions)	209.33
Median market capitalization ($ millions)	115.85

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Table 3-Rights issues: subscription price relative discounts

t-Test: Two-Sample Assuming Unequal Variances

	transferable rights offerings	nontransfer-able rights offerings
Mean	0.1746	0.1152
Variance	0.0139	0.0068
Observations	34	51
Hypothesized Mean Difference	0	
df	54	
t Stat	2.557	
P(T<=t) one-tail	0.007	
t Critical one-tail	1.674	
P(T<=t) two-tail	0.013	
t Critical two-tail	2.005	

Table 4-Relative size of rights issues

t-Test: Two-Sample Assuming Unequal Variances

	transferable rights offerings	nontransfer-able rights offerings
Mean	0.2945	0.2340
Variance	0.0040	0.0289
Observations	34	51
Hypothesized Mean Difference	0	
df	69	
t Stat	2.310	
P(T<=t) one-tail	0.012	
t Critical one-tail	1.667	
P(T<=t) two-tail	0.024	
t Critical two-tail	1.995	

discount on transferable and nontransferable rights offers (the mean value of 0.1746 for transferable offerings means that those offerings had a subscription price that discounted by an average of 17.46% from the market price). Table 4 shows similar statistics for issue size. The subscription discount is significantly larger for transferable issues than for nontransferable issues. Issue size is also significantly larger for transferable issues. There are 51 nontransferable rights issues in the sample, and 34 transferable issues.

Of the 85 rights offerings, 78 were fully subscribed. The mean subscription rate was 96%.

Rights offerings can be insured or uninsured (insured offerings are often called 'standby' offerings). In a standby offering, an underwriter contracts to step in, if necessary, to purchase and place all unsubscribed shares. After examining the wire announcements of all rights offers in the sample, and also a representative group of 19 offer prospectuses, it appears that there are no standby offers. All of the offers in the sample are uninsured. This stands to reason, in light of the prohibition against equity offers to the public at prices below NAV. If an offer would otherwise fail, and an underwriter steps in and places the shares in the open market, this would constitute a public sale of shares below NAV, running afoul of the Investment Company Act.

As discussed previously, the special regulatory setting of closed-end funds seems to account for the prevalence of rights offerings (as opposed to firm commitment offerings). Yet it may be that fund insiders also favor rights offerings because it allows them to increase their proportional holdings in the fund (by exercising their rights, buying additional rights, and exercising their oversubscription privileges), and therefore their

control. But the evidence indicates otherwise. Of the 31 sample funds existing as of December, 1990, only four funds had insider (defined as officers, trustees, and directors) holdings of 1% or more, and only 2 had holdings of 2% or more (Herzfeld, 1992).

Blockholdings do not appear to be present in the closed-end fund sample. Of the 31 funds in the rights offerings sample that were in existence as of December, 1990, only two out of 12 domestically-invested funds had 5% blockholders, and only five of 19 foreign-invested funds had 5% blockholders (Herzfeld, 1992). This is consistent with the domestic closed-end fund sample of Lee, Shleifer, and Thaler (1991), and the foreign fund sample of Bekaert and Urias (1996). Both studies characterize fund share ownership as diffuse and dominated by small individual investors, with a dearth of institutional holdings.

In summary, it appears that funds conducting seasoned equity offerings, like the mutual fund industry in general, have only negligible insider holdings. Looking at both insider holdings and outside block holdings, it appears that, while other aspects of ownership characteristics may be important for closed-end funds, insider and blockholdings are not.

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CHAPTER 5. EMPIRICAL ANALYSIS

5.1 Pre-issuance Price Runup

In the discussion in Chapter 3 on securities' issuance under adverse selection, it was hypothesized that closed-end fund seasoned equity issues on average are preceded by a period of robust US market returns. But relative to the US market, the issuing funds would display only a flat price trend. These predictions are conjectured as extensions of the empirical findings that utilities do not have pre-issue runups (Asquith and Mullins (1986), Eckbo and Masulis (1992)), and the common characteristic of utilities and closed-end funds: minimal information asymmetry. The investor sentiment model, on the other hand, can be viewed as saying that fund equity issues follow periods of superior fund performance. In particular, the pre-issuance period will be associated with a narrowing of discounts (or widening of premia).

Table 5 compares the total cumulative return of issuing funds and of the value-weighted CRSP index during the year leading up to announcement of a fund equity issuance. If fund j announces a rights or firm commitment offering on, say, June 30, 1993, then the cumulative return of the fund in the year ending June 29, 1993 is calculated, as is the return on the value-weighted CRSP index over the same period. Pairs of one year returns are collected like this for every closed-end fund equity issuance event.

For the combined sample of rights and firm commitment offerings, the one year unadjusted return for issuing funds is +28.6%, compared to +17.0% for the value-weighted CRSP. For the subsample of 85 rights offers, the means are +25.3% (funds) and

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Table 5-Unadjusted mean cumulative returns for the year preceding closed-end fund equity issue announcements.
(Mean returns and Difference-in-Means tests: two-sample t-tests assuming unequal variance)

All rights & firm commitment offerings (N=97)	Issuing funds sample	VWCRSP Index
Mean	0.2856	0.1696
Variance	0.1138	0.0098
Observations	97	97
Hypothesized Mean Difference	0	
df	112	
t Stat	3.248	
P(T<=t) one-tail	0.001	
t Critical one-tail	1.659	
P(T<=t) two-tail	0.002	
t Critical two-tail	1.981	

Rights offerings (N=85)	Rights offerings sample	VWCRSP Index
Mean	0.2530	0.1730
Variance	0.1081	0.0093
Observations	85	85
Hypothesized Mean Difference	0	
df	98	
t Stat	2.152	
P(T<=t) one-tail	0.017	
t Critical one-tail	1.661	
P(T<=t) two-tail	0.034	
t Critical two-tail	1.984	

Firm commitment offerings (N=12)	Firm commit. sample	VWCRSP Index
Mean	0.5160	0.1455
Variance	0.1017	0.0133
Observations	12	12
Hypothesized Mean Difference	0	
df	14	
t Stat	3.785	
P(T<=t) one-tail	0.001	
t Critical one-tail	1.761	
P(T<=t) two-tail	0.002	
t Critical two-tail	2.145	

+17.3% (CRSP). For the firm commitment subsample, the means are +51.69% (funds) and +14.6% (CRSP). Difference in means tests between issuing funds and market returns are highly significant for all three pairwise comparisons (full sample: 1% significance level, rights offering subsample: 5%, and firm commitment subsample: 1%). It appears that the hypothesis of flat relative performance (relative to the US market) can be rejected. Note that the average contemporaneous one year US market returns (as proxied by the value-weighted CRSP) that precede fund equity issues, at 17.0%, were fairly typical of annualized US stock market returns during the 1989-98 period, but larger than the long term compounded US market return of about 10-11%. Depending on the perspective, fund equity issues appear to have followed either periods of "average" returns on the US market, or "large" returns on the market. It is possible that fund managers timed equity issues to occur after fund runups, not after market runups. Evidence touching on this question is presented in Table 6. In contrast to pre-issue performance, results from the first 100 trading days after issue announcement provide little evidence that funds were able to do anything more than match the US market performance. Whether or not it was by design on the part of fund managers, the timing of equity issues appears to coincide with the cresting of fund performance relative to US market performance.

5.2   Event Study for Periods Around Issuance

For 85 closed-end fund rights offerings, estimates of average abnormal stock returns were made for each of the following 7 periods of interest: a 60-day preannouncement period; a 2-day announcement period; a period after announcement but

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Table 6-Unadjusted mean cumulative returns for the first 100 trading days after closed-end fund equity issue announcments.
(Mean returns and Difference-in-Means tests: two-sample t-tests assuming unequal variance)

All rights & firm commitment offerings (N=97)

	Issuing funds sample	VWCRSP Index
Mean	0.0009	0.0394
Variance	0.0502	0.0040
Observations	97	97
Hypothesized Mean Difference	0	
df	111	
t Stat	-1.633	
P(T<=t) one-tail	0.053	
t Critical one-tail	1.659	
P(T<=t) two-tail	0.105	
t Critical two-tail	1.982	

Rights offerings (N=85)

	Rights offerings sample	VWCRSP Index
Mean	-0.0060	0.0404
Variance	0.0305	0.0039
Observations	85	85
Hypothesized Mean Difference	0	
df	105	
t Stat	-2.311	
P(T<=t) one-tail	0.011	
t Critical one-tail	1.659	
P(T<=t) two-tail	0.023	
t Critical two-tail	1.983	

Firm commitment offerings (N=12)

	Firm commit. sample	VWCRSP Index
Mean	0.0498	0.0326
Variance	0.2021	0.0053
Observations	12	12
Hypothesized Mean Difference	0	
df	12	
t Stat	0.131	
P(T<=t) one-tail	0.449	
t Critical one-tail	1.782	
P(T<=t) two-tail	0.898	
t Critical two-tail	2.179	

before the offer begins; the starting day of the offering period; the offering period, less starting and expiration days; the expiration day of the offer; and a 5-day post-expiration period. The event study methodology is patterned after Eckbo and Masulis (1992). But while that study used an estimation period weighted toward post event returns, this dissertation employs an estimation period from 300 days before announcement to 100 days after announcement.

Table 7 shows the abnormal returns estimates for the full sample of 85 rights offers (in Panel A), and for three subsamples: nontransferable rights offerings (Panel B), transferable rights offerings (Panel C), and a subsample that excludes those offerings for which there was a previous rights or firm commitment offering by the same closed-end fund (Panel D). The sample was split into transferable and nontransferable subsamples to examine possible effects of nontransferability, a feature of rights offerings that has never been examined before. In particular, there may be more adverse selection implications associated with nontransferable offerings, since these offers are more coercive of shareholders. On the other hand, nontransferability guarantees that, to the extent the offer is subscribed, it is subscribed by existing shareholders, possibly ameliorating transfer of wealth problems with outside parties. Also, as discussed above, it is assumed that nontransferable issues involve higher transactions costs for nonparticipating shareholders (who may be forced to subscribe and then to dump unwanted shares). This could lead to greater temporary price pressure. Finally, 'repeat' events were excluded (Panel D) to try to isolate those offerings having the most potential for imparting new information to the market.

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Table 7-Percent average abnormal stock returns for 7 event periods around issue announcements.

Regression model is Eq(1), int ext. Statistical significance indicated by, *, significant at the 5% level, and **, at the 1% level.

	Event Period						
	60-day pre-announcement period	2-day announcement period	Pre-offer period	Offer start day	Offer period, less start, end days	Offer expiration day	5-day post-expiration period
Panel A: All rights offerings (N = 85)							
% average abnormal return	1.41	-0.14	-1.19	-0.29	-4.18	0.33	0.97
z-value	0.67	-0.49	-1.46	-1.08	-5.78**	1.56	2.52*
% of sample negative	32.9	50.6	57.6	61.2	85.9	49.4	34.1
Average days in period	60	2	33.5	1	18.5	1	4.9
Panel B: Nontransferable rights offerings (N = 51)							
% average abnormal return	0.94	0.40	-2.13	-0.21	-4.24	0.25	0.77
z-value	0.22	1.23	-1.93	-0.66	-4.40**	1.45	1.69
% of sample negative	51.0	39.2	66.7	58.8	86.3	56.9	33.3
Average days in period	60	2	35.1	1	20.1	1	4.9
Panel C: Transferable rights offerings (N = 34)							
% average abnormal return	2.11	-0.95	0.23	-0.42	-4.09	0.45	1.26
z-value	0.79	-2.29*	0.15	-1.21	-3.74**	1.33	1.91
% of sample negative	41.2	67.6	44.1	64.7	85.3	38.2	35.3
Average days in period	60	2	31.1	1	16.2	1	4.9
Panel D: Rights offerings, less offerings having a previous rights or firm commitment offering by the same fund (N = 50)							
% average abnormal return	2.56	0.09	0.34	-0.09	-4.27	0.40	1.60
z-value	0.99	0.11	0.14	-0.28	-4.37**	1.59	2.96
% of sample negative	50.0	44.0	44.0	54.0	84.0	44.0	26.0
Average days in period	60	2	35.1	1	18.0	1	4.9

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The regression model is

$$r_{jt} = \alpha_j + \beta_{USj} r_{USt} + \beta_j r_{ft} + \sum_{i}^{7} \gamma_{ji} d_{jit} + \varepsilon_{jt} \qquad (1)$$

where r_{jt}, r_{USt}, and r_{ft} are, respectively, daily returns on closed-end fund j, the value-weighted CRSP index, and, for foreign-invested funds only, the dollar-denominated Morgan Stanley Capital International index for the corresponding country or region. Each of seven dummy variables, d_{jit}, is set to one during the appropriate time periods, as described above.

Table 8 shows the results from a separate sample of 12 firm commitment offerings by closed-end funds. Firm commitment offerings do not have offering periods stretching over several calendar weeks, as do rights offers. The only event period of interest is a two-day announcement period. The regression model used for the firm commitments therefore has only a single dummy variable, that being for the announcement period.

Let t be the number of days in event period n for fund j. Then fund j's total abnormal return over event period n is given by $t_{jn} g_j$. This abnormal return is averaged across funds to get the average abnormal returns shown in the first row of each panel. Most event periods are of fixed length across funds, except for the pre-offer period and the offer period. The average length of each event period across funds is given in Table 7. All periods and days are trading days, not calendar days.

Estimation is by OLS. The test statistic for each dummy variable (i.e., for each event period) is

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Table 8-Percent average abnormal stock returns at announcement of firm commitment offerings

Regression model is Equation (1) in text.
Statistical significance indicated by, * , significant at
the 5% level, and **, at the 1% level.

(N = 12)	2-day announcement period
% average abnormal return	-0.41
z-value	-0.51
% of sample negative	75.0

$$z_n = \frac{1}{\sqrt{N}} \square_1^N (\hat{\gamma}_{jn} / \hat{\sigma}_{\gamma jn}) \qquad\qquad (2)$$

with the quantity in the denominator of the summed term being the OLS estimated standard error of the estimate of g_{jn}.

5.3   Announcement Period Returns

Panel A of Table 7 indicates that there is no significant market reaction to announcement of closed-end fund rights offerings. Table 8 indicates the same result for closed-end firm commitment offerings, in contrast to the many studies of industrial firms that have found significant negative market responses to firm commitment offerings. The results here are not inconsistent with an adverse selection model of securities issuance. If, as argued in Chapter 3, there is little information asymmetry attached to closed-end funds, then equity issuance will not cause the market to reappraise the fund's value.

In the full sample of rights offer events, there are several offers by funds that had previously (in the past two years, in most cases) issued equity via either a rights or a firm commitment offering. The market may partially anticipate these 'repeat' events, thus muting the two-day announcement returns. The sample of rights offerings in Panel D of Table 7 has been culled of all 'repeat' events. The results are essentially unchanged. Across all seven event periods, including the announcement period, the results are very similar between the full sample and the subsample of first-occurrence seasoned equity issues.

Panels B and C of Table 7 break the rights sample into offerings having, respectively, nontransferable and transferable rights. The average abnormal

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respectively, nontransferable and transferable rights. The average abnormal announcement return is significantly negative (-0.95%, z-value of -2.29) for transferable offers, but not for nontransferable offers (+0.40%, z=1.23). Also, 67.6% of the transferable returns for the announcement period are negative, compared to only 39.2% in the nontransferable sample. These results are puzzling, as there is no obvious reason why only the transferable sample would have significantly negative abnormal returns. Intuition might suggest the *non*transferable sample would have the more negative responses. Nontransferable rights leave the shareholder without an important option (the option to sell one's rights), and will for many investors entail higher transactions costs. It may be the nontransferable sample result that is most in need of an explanation. The average response from the transferable sample, -0.95%, is of the same magnitude reported to what Eckbo and Masulis reported for a sample of uninsured rights offerings by industrial firms (their result, -1.39%, was marginally insignificant: z-value of -1.56). Nontransferable issues (Panel B) have never been studied before.

5.4 Offering Period Returns

The event study results in Table 7 indicate that offering period returns are significantly negative. Although the event periods corresponding to the first and last days of the offer period show no abnormal returns, the interim period has an average abnormal return of -4.18% for the full sample, and between -4 and -4 _% for the three subsamples (Panels B, C, and D). For the full sample, 85.9% of the events were negative. This is consistent with a price pressure effect. In Chapter 3, it was argued that the market for transferable rights, when there is one, tends to decrease the pressure on the underlying

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provides no support for the contention that nontransferable offerings experience more price pressure than transferable ones. However, the hypothesis stipulated that the comparison must control for issue size. Larger issues entail more shares being placed, implying more portfolio rebalancing and higher transactions costs. Table 9 shows a difference in means test between the transferable and nontransferable samples, using raw, unadjusted returns from the entire offering period, including the start and expiration days. Table 9 does not reflect any controls for issue size. Neglecting issue size, there is no significant difference in offering period returns between transferable and nontransferable offers. Table 10 displays the results from the OLS regression

$$r_{jOP} = \alpha + \beta SIZE_j + \gamma TRANS_j + \varepsilon_j \tag{3}$$

that uses unadjusted offering period cumulative returns, r_{jOP}, as the dependent variable, with a dummy variable, $TRANS_j$, set to one if rights offering j has transferable rights. The other independent variable is the relative issue size, $SIZE_j$ (calculated as the inverse of the allocation ratio). The main effect being investigated in the regression is the difference between transferable and nontransferable rights. The coefficient on the dummy variable has the correct sign and a magnitude that would be economically feasible- offering period returns for transferable offerings are 1.55% greater than for nontransferable offerings.

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Table 9-Unadjusted cumulative returns during offering periods, for transferable vs. nontransferable subsamples

Difference in Means t-test,
Two-Sample t-test Assuming Unequal Variances

	transferable rights offerings	nontransfer- able rights offerings
Mean	-0.0291	-0.0387
Variance	0.0063	0.0030
Observations	34	51
Hypothesized Mean Difference	0	
df	54	
t Stat	0.615	
P(T<=t) one-tail	0.270	
t Critical one-tail	1.674	
P(T<=t) two-tail	0.541	
t Critical two-tail	2.005	

Table 10-OLS estimates in a cross-sectional regression of raw offering period cumulative returns against relative issue size and a dummy for rights transferability

Sample: 34 transferable and 51 nontransferable rights offers.

Regression model : $R_jOP = a + b^*SIZE_j + g^*TRANS_j + e_j$

Statistical significance indicated by, * , significant at the 5% level, and **, at the 1% level.

Independent variable	Coefficient estimate	t-statistic	(p-value)
Relative issue size	-0.0975	-1.90	(0.061)
Transferability of rights	0.0155	1.06	(0.293)

R2	0.047
F-value	2.03

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However, the coefficient is not significant. The model also fails the overall test of significance, at the 5% level of significance. Thus, the hypothesis that offering period returns are more negative for nontransferable offers, controlling for issue size, receives little support from this test.

If temporary price pressure (caused by transactions costs) occurs in rights offerings, it should be evident as abnormal negative returns during the offering period, followed by abnormal positive returns after the offer expires. This hypothesis is distinguished from permanent price pressure (associated with a downward-sloping demand curve for firm shares) because the latter form of price pressure implies an absence of price bounceback after the offer expires. If a null hypothesis of no positive abnormal returns in a post-expiration period can be rejected, such a result would favor temporary price pressure over permanent pressure. This is Hypothesis #4 of this study.

Post-expiration abnormal returns are shown in the last column of Table 7. For the full sample and for the no-repeated-events the subsample (Panel D) only, there are significant positive returns in the first five days after expiration. The magnitude of this price reversal, though, is less than the negative returns in the offer period (for example, offering period abnormal returns of negative 4.18% and post-offer abnormal returns of +0.97%, for the full sample). If the 5-day period captures all of the post-offer price rebound, then it would appear that there is both a temporary and a permanent component to the price pressure (since the price never fully recovers). To see whether a longer post-offer period captures a larger price bounce, the entire model, Equation 1, was re-estimated using a 20-day post-expiration period, instead of 5 days. While the signs and significance

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of the other event period dummies remain unchanged (results not shown), the post-expiration abnormal returns become insignificantly different than zero for the full sample and all three subsamples. In brief, there is little or no evidence of a price recovery. Thus, based on the juxtaposition of offering period and post-offer returns, the hypothesis of permanent (Demand Curve) price pressure cannot be rejected.

As argued in Chapter 3, if there is temporary price pressure during an offering, then that pressure will be more severe for nontransferable offers. This is because nontransferable offers impose higher transactions costs on nonparticipating shareholders. Of course, transactions costs can be avoided by ignoring the rights offer and doing nothing, but the shareholder will then suffer dilution costs. Price pressure will be closely related to transactions costs, and potential dilution costs constitute an upper bound on how much transactions costs one is willing to absorb. For nontransferable offers, and to a lesser extent for transferable offers, price pressure will be proportional to dilution costs. Dilution costs, in turn, are proportional to issue size times subscription price discount. Downward price pressure is measured as negative returns during the offering period. The model is

$$r_{jOP} = \alpha + \beta(SIZE_j)(SUBDISC_j) + \varepsilon_j \tag{4}$$

where r_{jOP} is the unadjusted cumulative offering period return on fund j, $SIZE_j$ is the relative size of the issue (given by the inverse of the offer's allocation ratio), and $SUBDISC_j$ is the percentage discount on the subscription price. The regression is run separately for the transferable and nontransferable samples. The null hypothesis of no

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relation between offer period returns and dilution cost is expected to be rejected only for the nontransferable sample.

Results of the regressions are shown in Table 11. As expected, there is a significantly negative relation between offer period returns and dilution costs (t-value = -3.60). The coefficient on the dilution variable is difficult to interpret, as it represents the product of two other variables. But its magnitude appears to be reasonable in economic terms. For example, the dilution factor for an offering with a 4:1 allocation ratio and a 10% subscription discount would be $(.25)(.10) = .025$ (2.5%). If the discount were then increased from 10% to 20%, the offering period returns would decrease by an increment of $b(.25)(.20 - .10) = -1.8\%$.

The tests for price pressure described thus far have involved the offer period and the immediate post-offer period. The focus on these two time periods in connection with price pressure is in accordance with some of the existing rights offerings literature (Marsh (1979), Eckbo and Masulis (1992)). It may also be worthwhile to examine the entire period from just before the announcement date to after expiration. This longer time period will not capture temporary price pressure effects (a price decline and recovery), as those effects should occur entirely within a subperiod of the longer period. However, it may more effectively capture any permanent price pressure phenomenon. At least some investors who are rebalancing their portfolios to adjust to the new supply of shares may make purchase, sale, or valuation decisions before the actual offer period. From a rational expectations perspective, investors' response to the new supply of shares may begin as early as the announcement of the issue (this view is presented by Hess and Frost (1982)).

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Table 11-OLS estimates in cross-sectional regressions of raw offer period cumulative returns against the product of relative issue size and relative subscription price discount. Separate regressions are done for the nontransferable rights subsample and the transferable rights subsample.

Regression model : $R_{jOP} = a + b^*(SIZE_j \cdot SUBDISC_j) + e_j$

Statistical significance indicated by, *, significant at the 5% level, and **, at the 1% level.

Nontransferable rights offers (N=51)	Coefficient estimate	t-statistic	(p-value)
Independent variable	-0.7042	-3.60**	(< .01)

(Issue size * subscription discount)

	0.210	
	12.99	
R2		
F-value		

Transferable rights offers (N=34)			
Independent variable	Coefficient estimate	t-statistic	(p-value)
(Issue size * subscription discount)	-0.5901	-1.54	(0.134)

R2	0.069	
F-value	2.36	

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Of course, there is the risk of conflating information effects from the announcement with Demand Curve effects. But, as argued, information effects for closed-end funds should be very modest, in theory. And this study's empirical results supported that theoretical argument: Table 7 showed an insignificant -.14% announcement period abnormal return for the full sample of rights offers.

Focusing on a larger time window that may yield insights into permanent price pressure effects, the average cumulative return on discount/premium is calculated for a period starting with the last published NAV before issue announcement and ending three weeks after the offer's expiration (three weeks after the offer date, in the case of firm commitment offerings). Using discount/premium returns instead of share returns provides a measure of the change in demand for fund shares *controlling for changes in NAV*. It is the supply of fund shares that is being increased, not the supply of shares in the companies that are represented in the fund's investment portfolio. Closed-end funds are a class of assets for which the demand may be highly elastic, if it can be argued that there are many close substitutes for holding fund shares. Accordingly, there should be no price response (discount movement) associated with new issues of equity by these funds.

In this regard, discount/premium evidence is presented in Table 12. That table shows an average discount/premium movement of -4.39% (t-value of -3.95 for the null hypothesis of a zero movement). If this figure is interpreted as a price response to a change in share supply, it is large compared to most of the permanent price effects that have been reported in either the securities issuance literature or the S&P500-additions literature. It is, however, consistent with the offering period abnormal returns of -4.18% reported in Table

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Table 12-Univariate statistics: cumulative returns on discount/premium portfolios for 85 rights offerings and 12 firm commitment issuing funds, for the period starting with the last published NAV before issue announcement and ending with the first published NAV at least 3 weeks after expiration

Mean	-0.0439
Standard Error	0.0111
Median	-0.0400
Standard Deviation	0.1090
Count	97
% negative returns	73.2

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7 (which, together with the weak post-offer returns also reported in Table 7, again suggests a permanent price pressure effect).

5.5 Changes in Ownership Concentration and Trading Volume

Kothare (1997) posits that rights offerings increase ownership concentration, thereby decreasing trading liquidity, while firm commitment offerings have the opposite effect. This study's results along those lines are reported in Table 13. Both the rights sample and the firm commitment sample exhibit significant increases in trading volume 12 months after the issuance event compared to same-fund volume 12 months prior to issuance (significance is obtained using a paired observations t-test as well as a binomial z-test). However, the increase in trading volume for the firm commitment sample is significantly more than the increase for the rights sample. This could be interpreted as partial corroboration of Kothare's results.

Table 14 reports changes in institutional share ownership for the rights and firm commitment samples. Neither sample shows a significant change in this type of ownership, which were at already at low levels, pre-event, for both samples. This result is not a reflection one way or another on the results of Kothare, who found increases (decreases) in ownership concentration for firms doing rights (firm commitment) offerings. The result in Table 14 is simply consistent with this study's findings (reported in Chapter 4) that there are also scant insider and blockholder positions in closed-end funds.

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Table 13-Changes in trading volume of issuing firms' stocks before and after issuance: 85 rights issues versus 12 firm commitment issues.

Log-change = log(total monthly trading volume for the month falling 12 months after issuance / total monthly trading volume for the month falling 12 months before issuance).

Statistical significance indicated by, * , significant at the 5% level, and **, at the 1% level.

	Changes in trading volume
Rights Offerings (N=85)	
Mean log-change	0.154
t-statistic	2.135*
p-value	0.036
Percent firms with increases	63.53
Binomial z	2.49
Firm commitment offerings (N=12)	
Mean log-change	0.726
t-statistic	3.232**
p-value	0.008
Percent firms with increases	83.33
Binomial z	2.31

Difference-in-means test (test whether the mean log-changes in trading volumes between rights and firm commitment issues are significantly different).

t-statistic	-2.12

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Table 14-Changes in institutional share ownership of issuing firms' stocks before and after issuance: 85 rights issues versus 12 firm commitment issues.

Changes in the percentage of shares held by institutions (of the type required to file Form 13's with the SEC), from 12 months before issuance to 12 months after issuance.

Statistical significance indicated by, *, significant at the 5% level, and **, at the 1% level.

	Institutional ownership
Rights Offerings (N=85)	
Pre-issue ownership	11.48
Post-issue ownership	11.04
Change in ownership	-0.44
t-statistic	-0.41
p-value	0.68
Firm commitment offerings (N=12)	
Pre-issue ownership	14.47
Post-issue ownership	13.61
Change in ownership	-0.86
t-statistic	-0.36
p-value	0.72

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5.6 Evidence on Funds' Choice Between Rights and Firm Commitment Offerings

Recall that, because of the special regulatory constraints under which closed-end funds operate, these funds do not have a choice between rights and firm commitment offerings. In order to do a firm commitment offer, the fund's shares must be trading at or above net asset value at the time of the offering. How many funds qualify under this constraint? And of those who do qualify to do a firm commitment offering, how many choose to do so, in preference to a rights offering?

Table 15 shows the mean discount/premia at time of offer announcement for the rights issuing sample and separately for the firm commitment sample. As expected, 100% of the firms announcing for firm commitment offerings were trading at premia to NAV at the time. However, there were also 42 of 85 funds from the rights offering group that were trading at premia to NAV. Yet these 42 funds chose to do rights offerings. Of course some funds trading just slightly above NAV would not have considered themselves to be necessarily free to choose a firm commitment. This is due to the possibility that share price fluctuations could cause the small premium to turn to a small discount between the time of announcement and the time the actual offer could be carried out. This consideration might cause management to desire some cushion. Suppose this cushion is five percentage points of premium. Examination of the data show that with this threshold, 26 of 85 funds (compared to 42 of 85 when applying a 0% threshold) could have considered themselves eligible to choose between the two alternative floatation methods. This still means that in some 2/3 of the cases where there was a viable choice (i.e., 26 funds chose rights, versus 12 choosing underwritten offers), the funds chose the rights

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Table 15-Premiums and discounts to NAV immediately preceding announcements, for a sample of 85 rights offerings and 12 firm commitment offerings.

Rights offerings: premia/discounts at issue announcement		Firm commitment offerings: premia/discounts at issue announcement	
Mean	0.0005	Mean	0.3725
Median	-0.0022	Median	0.2267
Standard Error	0.01202	Standard Error	0.0895
Standard Deviation	0.11272	Standard Deviation	0.3101
Minimum	-0.3024	Minimum	0.1272
Maximum	0.5553	Maximum	0.9816
Count	85	Count	12
% Positive	49.4%	% Positive	100%

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offer method of floatation. In addition to foregoing the possible indirect benefits of firm commitment offers that are suggested by finance research (Kothare (1997), Slovin, Sushka, and Lai (1999), Singh (1997)), these funds also sacrificed the much faster time-to-market, and certainty of proceeds that only underwritten offers provide.

CHAPTER 6.   CONCLUSION

Although there is a small body of literature on the IPO process for closed-end funds, there has been no examination of seasoned equity issuance by these funds. Closed-end funds are a potentially interesting subject in corporate finance because of their pronounced differences with operating firms: 1) funds make no operating decisions, they only hold the securities of other companies, 2) the financing decisions of funds are heavily constrained by statute and regulation, possibly leading these funds to make financing choices that are not commonly observed elsewhere and are therefore little studied, and 3) there is evidence that the ownership structure and clientele of closed-end funds differs from that of operating firms.

In contrast to industrial firms, but similar to utilities, the shares of closed-end funds show little reaction to announcements of either rights offerings or firm commitment offerings. This result fits existing models of securities issuance under conditions of adverse selection. The market appears to be efficient insofar as, while industrial firms may hold private information, mutual funds apparently do not. However, contrary to adverse selection models, and previous evidence on utility companies, funds display strong price runups prior to issue. These runups coincide with market runups but also reflect strong relative performance, as evidenced in part by significant positive movements in fund discounts in the year prior to issue. Fund managers also seem to have 'timing' ability in that the superior performance does not appear to extend beyond the announcement date. One interpretation of these phenomena is that fund managers exploit an readily observable indicator of firm valuation that is not available to the managers of operating firms: the

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fund's discount or premium to net asset value. That is, fund managers tap the capital markets after the fund's discount/premium has moved in a positive direction such that the market can be said to be valuing the firm at more generous than usual levels.

Nontransferable rights have received no attention in the securities issuance literature. The fact that many closed-end equity issues feature nontransferable rights affords an opportunity to look for evidence of temporary (transactions costs-based) and permanent (demand curve) price pressure and to distinguish between the two. Nontransferable rights should involve higher transactions costs than transferable rights, hence more price pressure during the offering period. Thus, there is a joint hypothesis that transactions costs-based price pressure exists during the offering period, and that these transactions costs are higher when nontransferable rights are involved. This hypothesis is not supported by comparisons of offering period returns for the two types of rights, using either an event study regression model, or unadjusted returns during the offer period, or unadjusted returns controlled for issue size. Together with the finding that announcement returns are no more negative for nontransferable than for transferable rights (in fact, nontransferable announcement returns are significantly more positive, a finding for which no explanation is offered), it appears that nontransferability may have no special harmful effects on shareholders. For nontransferable but not for transferable rights, offering period returns are more negative when potential dilution costs are larger. This is the only evidence that nontransferable rights may involve higher transactions costs.

In rights offerings, the existence of temporary price pressure is indicated if negative returns during the offering period are followed by a price recovery after the offer

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expires. This study finds either a partial price recovery (+0.97% for the 5 days after expiration, compared to negative offering period returns of -4.18%), or no recovery at all (using 20 days after expiration). This suggests the possible existence of a downward sloping demand curve for the fund's shares, especially to the extent that the negative returns are greater than probable transactions costs (Shleifer, 1986). The average -4.39% return on fund discounts (Table 14) that is found for a more encompassing period from just before announcement to a point three weeks after expiration provides more supporting evidence for the permanent price pressure hypothesis. If the idea of permanent price pressure and a downward-sloping demand curve effect is accepted, there is a corollary conclusion about the degree of substitutability for the shares of closed-end funds. That is, there may be a very limited clientele for these funds, and limited substitutability even between seemingly similar closed-end funds.

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DOCTORAL EXAMINATION AND DISSERTATION REPORT

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Major Field: Business Administration (Finance)

Title of Dissertation: Seasoned Equity Issuance by Closed-End Funds
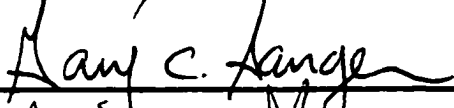
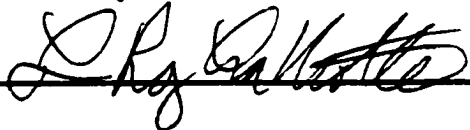Approved:

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Major Professor and Chairman

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EXAMINING COMMITTEE:

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Date of Examination:

December 1, 1999