Appendix A
Investment Company Act of 1940: Selected Topics

Management Guidelines

Corporate Entity: The Act of 1940 requires that an investment company be a domestic corporation or a domestic entity taxed as a corporation. This provision rules out personal holding companies trying to qualify for the "favorable" tax treatment of income within the act. Further, the company must be registered at all times during the entire taxable year as a management company or a unit investment trust as defined by the act.

Management Contracts: The investment management franchise cannot be sold to another entity once the company has been chartered. Removal of the investment management contract from the sponsor is possible, provided the motion receives a favorable vote from the shareholders. The investment managers are strictly prohibited from any self-dealing with the firm. In essence, these provisions commit management to a "long-term" fiduciary obligation to the shareholders and reduce the possibility of fraud by the management team.

Board of Directors: At least 40% of the board of directors must be non-officers or advisors to the company. Investment brokers or the company's regular brokers may not constitute a majority of the board. These provisions ensure that a majority of the board members are financially independent of the firm.

Investment Policy Guidelines

Income Sources: At least 90% of an investment company's gross income must be in the form of dividends, interest, and gains from securities. For any taxable year, a maximum of 30% of its profits can be derived from sales of securities held for less than three months, without deducting for losses and including any gains from the short-sale of securities. These provisions ensure that an investment company's non-investment activities do not significantly contribute to its revenues (although these activities could contribute significantly to its

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profitability). The latter provision discourages companies from speculating on short-term fluctuations in security prices.

Portfolio Composition: The Act of 1940 requires that at the end of each quarter during the taxable year the company must: (a) have at least 50% of its assets in cash, cash items (including receivables), government securities, securities of other regulated investment companies, and other securities; (b) limit its investment in any single security to 5% or less of its total assets; (c) not have an investment in any single company that represents more than 10% of the outstanding voting securities of the issuer; (d) limit its investment in the securities (other than government securities or the securities of other regulated investment companies) of any one issuer to 25% or less of the company's total assets; and (e) limit its investment in the securities of two or more controlled companies (20% of the target's voting power constitutes "control") engaged in the same or similar line of business to 25% of the company's total assets. These restrictions prevent an investment company from becoming a vehicle for controlling other firms while retaining its investment company status. In addition, the provisions ensure that the company is primarily investing in financial rather than real assets. The Real Estate Investment Trust Act of 1960 provides guidelines for investment companies that wish to invest in real estate and real estate-based obligations, thus allowing the creation of REITs.

Investment Policy Statement: Upon the initial organization of a fund, or the effective date of the Act of 1940 for existing funds, investment companies must provide a statement of their investment policies. That statement addresses in general terms the kinds of financial assets the company will invest in, the kinds of risks that will be undertaken, the use of leverage, etc. Once in place, an investment policy cannot be changed unless voted on by the firm's shareholders. Clearly the major purpose of a policy statement is to help potential investors more accurately assess the kinds of risks they would encounter by investing in the firm's shares.

Capital Structure Guidelines

Minimum Equity Capital: If the firm desires to make a public offering of its common shares, it must have at least $100,000 equity capital. Any public offering must be accompanied by a prospectus that discloses the information required by the Act of 1940.

Senior Security Limitations: An investment company's funded debt must be covered by at least three times total assets. Preferred stock issued by the company must be covered by at least two times total assets. A large margin of safety for senior security holders is thus created, should the investment company be forced into receivership or bankruptcy.

Tax Policies: Perhaps the most important section of the Investment Company Act of 1940 involves the treatment of taxable income. To retain

investment company status, the fund must distribute as taxable dividends no less than 90% of its net income, exclusive of capital gains. Under the 1950 amendments, dividends from one year may be paid in the following year but may not be declared later than the due day of the company's tax return or paid later than the first regular dividend date after declaration. If the company meets these provisions, its net income, exclusive of capital gains, is not taxed at the company level and thus, the company remains a passive "conduit" of investment income between the investors and the investments. Dividends received by the investor are treated as taxable income.

To remain untaxed at the company level, all (not 90%) capital gains must be distributed to shareholders in the same way as net interest and dividend income. Sub-chapter M of the Act of 1940 permits the company to retain recognized capital gains without losing investment company status. Electing to retain the capital gain, however, leads to a capital gain tax liability that is computed at the maximum rate. Although retention is rare, any tax paid by the company would be passed on to shareholders on a proportional basis as a tax credit. Clearly these provisions encourage, but do not require, that the company be a passive conduit of capital gains income to shareholders.

Appendix B
CEF Pricing Issues

Capital Gains and Dividends Factors

Unrealized Capital Appreciation: Many authors argue that investors acquire a built-in capital gains tax liability when they buy the shares of a CEF whose assets are characterized by unrealized capital appreciation. If the company were to realize these gains and distribute them to shareholders, the recipients would pay taxes on them. The higher the potential tax liability, the less an investor is willing to pay for the firm's shares; hence, as unrecognized capital gains rise, the discount of the share price rises relative to the company's NAV.

The following analysis adapted from Malkiel (1977) illustrates this tax-induced relationship. Let V equal the net asset value of the fund; B, the basis for taxing the fund's portfolio; t, the capital gains tax rate for the investor (assumed constant over time); n_z, the number of years over which gains are realized and distributed (assuming equal proportions annually); n the number of years until the shares are sold by the investor; r, the discount rate applied to future cash-flows; and D, the discount justified by the tax considerations.

We begin the example by assuming that the fund sells at a price equal to its net asset value (V). If the fund distributes unrealized appreciation (V–B) evenly over time, the present value of the tax payments (PV_{tax}) to be made by the investor is

$$PV_{tax} = t\sum_{i-1}^{n_2}\frac{(V-B)}{n_z(1+r)^i}$$

Assuming that the investor sells the fund shares after n years and the value of the fund's portfolio remains constant, the sales price will be B less any capital gains that are distributed between the present (t) and that date (n_i). The present value of the tax savings created by the capital loss that results from the fund's ex-distribution value at the time of sale being less than the investor's assumed purchase price (which was equal to B) will be

$$PV_{savings} = \frac{t(V-B)}{(1+r)^{n_x}}$$

To the extent that the sale of the shares occurs before the end of the capital gain distribution period (i.e., $n < n_t$), the investor will be faced with a "net" tax liability that should translate into a discount equal to

$$D = \frac{PV_{tax} - PV_{savings}}{V}$$

If the investor holds the shares until the entire capital gain is distributed ($n_x = n_z$), the shares can be sold and the gains will be offset by the ex-distribution decline in share value. In summary, the unrecognized capital gains tax liability argument suggests that closed-end fund discounts should increase as the unrecognized gain ($V–B$) rises, as the discount rate (r) falls, and as planned investor holding periods fall relative to distribution periods (n_x/n_z).

Capital Gain Realization and Distribution Policy: How a company realizes and distributes capital gains may affect the discounts on CEF share prices. Two separate forces concurrently affect the relative attractiveness of the CEF's shares. First, if the unrealized gains increase discounts as hypothesized above, then a policy of frequently recognizing and distributing capital gains would minimize the unrealized capital gains and reduce the discount. Second, some investors (especially those with high income needs and low tax brackets) may prefer a fund that regularly recognizes and distributes capital gains.

The second argument is similar to arguments that were once made with respect to the desirability of dividend income. This line of thinking led to the pre-Miller and Modigliani belief that dividend policy, devoid of signaling connotations, could influence the value of a firm's shares. Ignoring taxes, M&M and other financial theorists subsequently demonstrated that dividend policy is irrelevant in a perfect market. In the presence of brokerage costs (or other market frictions), however, cash distributions provide a higher cash-flow than the sale of shares. Thus, a policy of frequent capital gain realizations and distributions in a less-than-perfect market could lower CEF discounts.

Dividend Reception and Distribution Policy: If investors value cash distributions in a less-than-perfect market, the time lag between distribution of dividends and the investors' receipt of dividends could contribute to a discount on CEF shares. Some CEFs pay out dividends four (or more) times per year; whereas other CEFs make an annual dividend payment. Since money has a time value, infrequent distributions are less valuable to investors, all other things equal. But for an infrequent distribution policy to increase the discount, the return on the "retained" dividends must be lower than eitherthe investors' potential return or their opportunity costs.

Cash-Flow Factors

Commissions: The commissions paid by the fund and the commissions paid, or avoided, by the investor in a closed-end fund can conceivably influence the size of the fund's discount. The extent to which the commissions influence the

discount depends upon what party is paying or avoiding the commissions. To see the variations, consider the following arguments:

(1) Economies of Scale in Trading: Owing to large dollar trades, funds should enjoy economies of scale in the form of lower transaction costs per dollar of invested funds than the typical (i.e., smaller) investor pays. Thus, small investors could avoid commission costs by allowing the fund to assemble a portfolio of securities rather than by trying to replicate the portfolio themselves. Therefore, economics of scale in trading costs at the fund level should reduce the discount. Comparing the cost of transactions in the fund's portfolio to the cost of identical, but smaller, transactions made by an individual investor would demonstrate the effect. Since the savings are a function of commission schedules, then it is only necessary to demonstrate that commission schedules lead to a lower cost per dollar of invested capital.
(2) Multiple Commissions: If investors are to effectively purchase the assets that underlie the fund's shares, they essentially must pay commissions twice. The first commission occurs when the fund's shares are actually purchased; the second, when the fund invests in financial assets. Doubling commissions should result in the fund's shares selling at a discount to NAV.
(3) Commission Schedule Bias: Most brokerage houses construct commission schedules that are regressive with respect to share price. Phrased differently, investors normally pay a higher commission per dollar of invested funds when purchasing low-priced securities. To the extent this bias is present in commission schedules, the lower the CEF share price, the larger the discount.

Management Fees: Fees are paid to the managers of closed- and open-end funds in return for services rendered. These fees typically range from 0.5 to 1.5% annually of the fund's total assets. The fees are generally assessed quarterly, at one-fourth of the stated annual rate. Because these expenses are a cost for the investor, the larger the management fee, the larger the discount should be. Although the fees are generally small relative to total assets, they can be quite large as a percentage of the fund's income.

Portfolio Turnover: Turnover refers to the level of trading activity in the fund's portfolio. According to portfolio theory, portfolio managers should acquire and hold a diversified portfolio consistent with the risk level desired by the fund's shareholders. Any trading beyond that necessary to maintain proper diversification and risk exposure would be a waste of shareholders' funds on unnecessary commissions. Thus, funds with larger turnover should sell at larger discounts than funds that engage in minimal turnover.

A word of caution is needed at this point. The asset composition of some funds, especially bond funds that hold significant short-term investments, can lead to relatively "high" turnover ratios. These turnover ratios may not be imprudent, but may instead represent a roll-over of short-term investments into other short-term investments. Thus, any assessment of turnover ratios must take into account the composition of the fund's portfolio.

Portfolio Characteristic Factors

Large Block Positions: Research in finance has demonstrated that selling large blocks of stock (10,000 shares or more) can lead to statistically significant price reductions. Investment companies establish the net asset value of their shares by taking the market value of their assets less their liabilities and dividing the net figure by the number of shares outstanding. If the market price of a stock overstates the value that the fund could obtain by selling the shares, the NAV figure is biased high. This relationship suggests that the size of the fund's discount should be positively related to its holding of large blocks of stock (as a percentage of total assets).

Restricted Asset Positions: Legal restrictions on the marketability of financial assets can significantly affect their value. Firms often issue securities that cannot be sold to the public until the restrictions are removed. After a minimum duration under the restriction, the holder may apply to the SEC to have the securities' restrictions removed. Simply passing the restriction date does not remove the restriction. Prior to the removal of the restriction, it generally is accepted practice to value the securities based on the market value of unrestricted securities. However, the liquidation value of the restricted securities is essentially zero. Thus, the NAV of a fund that invests in restricted securities may be biased upward, suggesting that as the percentage of assets invested in restricted securities rises, the discount on the fund should increase. Likewise, as the time remaining until the restrictions are removed diminishes, the discount should fall.

Foreign Asset Positions: Some CEFs invest a substantial portion of their assets in foreign securities that are traded on U.S. or foreign exchanges. These holdings potentially influence the discount of the fund in two ways. First, a significant body of literature suggests that foreign securities offer investors substantially more risk than similar investments in domestic firms. The threat of exchange controls, expropriation, limitation of payments to foreigners, higher tax rates or withholding rates on dividend or interest income, all make an investment in these securities more hazardous for foreign investors. These risk factors should act to increase the discount as the percentage of assets invested in foreign securities rises. However, it is important to recognize that not all foreign locales are of equal risk; thus, any measure of the foreign assets held by the fund should reflect the cross-sectional variation in these risks.

Second, research also suggests that returns on foreign securities are not highly correlated with returns on domestic securities and that the level of returns on foreign securities are often somewhat higher than on U.S. securities even after translation gains and losses. Thus, foreign securities can play an important role in a well diversified portfolio constructed by an American investor. However, the average investor has a limited opportunity to participate directly in foreign capital markets. To the extent that foreign diversification is valuable, investors may be willing to pay premiums for funds that invest in these securities.

Diversification: Modern portfolio theory suggests that rational investors should hold a well diversified portfolio. To the extent that the portfolio of a CEF is not well diversified, an investor would have to augment these holdings to obtain a position on the efficient frontier. Since purchasing additional assets leads to added commission charges, the discount should grow as diversification falls.

Perception Factors

Lack of Public Understanding: A much discussed, but unsubstantiated, factor in discounts is that CEFs are not well understood by private investors; so the demand for their shares and thus their price are likely to suffer. Clearly CEFs do not receive the same advertising as their open-end load fund competitors. But why should a lack of information or understanding about CEFs translate into a systematic underpricing of their shares?

Lack of Sales Effort: Stockbrokers actively sell, market, recommend, or "push" financial assets. Stockbrokers can obtain a much better commission by selling an open-end load fund than by selling an equal dollar amount of a CEF. Faced with this incentive structure, brokers are likely to steer clients interested in funds away from CEFs toward the load funds.

In addition to the incentives provided brokers, many open-end load funds can be sold by registered sales representatives and insurance agents. To the extent that these sales agents are employed by the fund or a related parent firm, they have no incentive to recommend investments in unrelated CEFs. Since CEFs are not engaged in a continuous direct offering of new shares, they have no sales staffs. However, the tenets of modern financial theory suggest that a persuasive salesperson or lack thereof should not influence the market's assessment of the value of a financial asset.

Marketability of the Fund's Shares: The marketability of a fund's shares refers to the investor's ability to sell his shares at the prevailing market price. Marketability is often measured by the annual trading volume, sometimes standardized by the number of shares outstanding. The argument holds that thinly traded securities cannot always be sold at market without depressing the price. If true, lightly traded CEFs should sell at larger discounts than actively traded CEFs. Some financial economists hypothesize that the market on which the fund's shares trade (e.g., NYSE, ASE, or OTC) also influences the size of the discount. Because shares that trade on the large exchanges are likely to be more liquid than those trading on the OTC, the discount should be smaller.

Investment Performance: Discounts are hypothesized to be negatively related to the past investment performance of the fund. If true, past performance must provide an indication of future performance abilities, or investors must believe that there is strong relationship between past and future performance. If either is true, investors would be willing to pay a premium, or a smaller discount, for the shares of a fund that has performed exceedingly well in the recent past.

Investor Sentiment: If the level of the market is highly correlated with investor sentiment, then the market environment and the size of discounts on CEFs should be related inversely. In other words, if the market is “high” and investors are optimistic, discounts on CEFs should be relatively small. Conversely, if the market level is “low” and investors are pessimistic, the discounts on CEFs should be relatively large. Critical to this hypothesis is the linkage between market levels and investors’ expectations.

Market Inefficiency: The market inefficiency hypothesis rejects the premise that the current price of a financial asset fully reflects the public information set, maintaining instead that discounts on CEFs are a result of an inefficient market. Since investors can view the portfolio of the fund or its value on a regular basis, significant and systematic deviations between the fund’s share price and NAV are irrational or inefficient or both. Thus, if market inefficiencies lead to a systematic mispricing of securities, investors can profit from the mispricing only if it is corrected in some future period.

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