



**VALUATION AND LIQUIDITY ISSUES
FOR MUTUAL FUNDS**

February 1997

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VALUATION AND LIQUIDITY ISSUES FOR MUTUAL FUNDS

This paper is designed to inform and assist Institute members generally with respect to mutual fund valuation and liquidity issues. It is not intended, nor should it be relied upon, as a substitute for appropriate professional advice with respect to the applicability of laws and regulations in particular circumstances. Nor is it intended to express any legal opinion or conclusion concerning any specific action, policy or procedure.

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EXHIBIT 1

VALUATION AND LIQUIDITY ISSUES FOR MUTUAL FUNDS

I. INTRODUCTION.

One of the principal benefits of mutual funds is the ease with which they can be bought and sold. Most mutual funds provide this benefit by continuously offering and selling their shares to the public. All mutual funds must stand ready to redeem shares upon demand by the shareholder. In order that purchase and redemption transactions may be effected at appropriate prices on an ongoing basis, funds are required to value their portfolios and price their shares daily. Proper valuation of fund portfolio securities is critical to ensure that the fund share prices derived from those valuations will be fair to purchasing, redeeming and existing shareholders.¹

Portfolio valuation also can be one of the most challenging aspects of mutual fund management. Since most funds determine net asset value ("NAV") as of the close of trading on the major securities exchanges, they must seek to value all of their portfolio securities within the relatively brief period between the close of exchange trading and the deadline for reporting fund NAVs to the Nasdaq Stock Market, Inc.'s Mutual Fund Quotation Service ("Nasdaq Service") for forwarding to the wire services and inclusion in the next day's newspaper listings. Funds have some additional time to make adjustments before their books are closed for purposes of executing daily purchase and redemption orders. Nevertheless, the task of determining the daily prices for

¹ For example, if fund shares are sold and redeemed based on a net asset value that is understated in comparison to the amount at which the underlying portfolio instruments could be sold, purchasing shareholders will receive a windfall, redeeming shareholders will receive less than they are due and the interests of existing shareholders may be diluted. *See Investment Trusts and Investment Companies: Hearings on S. 3580 Before a Subcomm. of the Senate Comm. on Banking and Currency, 76th Cong., 3rd Sess. 136-138, 289 (1940).*

each of the hundreds, if not thousands, of investments held by a modern mutual fund complex requires carefully coordinated systems, rapid decision making and effective controls.

The valuation process has become increasingly complicated due to the growing diversity of mutual fund portfolios. Today, funds invest in a wide variety of securities, including not only stocks and bonds traded on exchanges or in over-the-counter markets, but also such instruments as privately placed loan participations, emerging market securities and complex derivatives. Many fund managers no longer can expect to obtain closing price information for all of their investments from the national securities exchanges and the Nasdaq Stock Market. Rather, prices for the securities they purchase must be obtained from an array of sources, often from around the world, and those sources must use a variety of techniques to derive the price quotations that they provide.

Funds also must consider the extent to which their portfolio securities are liquid. Under current Securities and Exchange Commission policies, funds must limit aggregate holdings of "illiquid assets" to no more than 15% of their net assets (10% for money market funds). The fact that a security is illiquid may affect its valuation, and many of the same considerations may be relevant to determinations of both value and liquidity. Accordingly, there is a need for communication and coordination between the personnel involved in making determinations as to the liquidity of securities and those responsible for valuation. In some instances, this is achieved by integrating the two processes or by providing for common supervision.

The Institute has prepared this paper to provide practical information to its members about the processes of valuing portfolio securities and assessing their liquidity. Section II of the paper addresses valuation issues for mutual funds. It briefly reviews the regulatory guidance under the Investment Company Act of 1940 ("1940 Act"), examines some of the controls that fund complexes have developed to manage the valuation process and discusses issues related to the

correction of pricing errors. Section III of the paper covers liquidity issues for mutual funds. It analyzes the SEC's definition of "illiquid assets," describes the process of determining liquidity and discusses compliance with the regulatory limit on holdings of illiquid assets.

The processes outlined in this paper reflect some of the best industry practices; however, they are merely illustrative. Individual fund complexes have established other, equally appropriate processes that conform to their own particular circumstances and needs. Due in part to the flexibility afforded funds under existing regulatory guidance, the system as a whole has worked very well.

II. VALUATION ISSUES.

A. The Regulatory Framework.

1. The Statutory Valuation Dichotomy.

The fundamental rules governing valuation of fund portfolio securities are set forth in Section 2(a)(41) of the 1940 Act, which defines the "value" of fund assets² in terms of a simple dichotomy:

- securities "for which market quotations are readily available" are to be valued at "market value;"
- all other securities are to be valued at "fair value as determined in good faith by the board of directors."

SEC regulations essentially reiterate these statutory standards. Rule 2a-4, which sets forth the method by which a fund's NAV is to be calculated, repeats the requirements of Section 2(a)(41). Rule 2a-7 allows money market funds to calculate their NAVs on the basis of amortized

² Mutual funds generally are required to calculate the NAV of their shares "no less frequently than once daily" and to sell and redeem shares at a price based on the NAV that is next computed after receipt of a purchase or sell order. (The latter requirement is known as the "forward pricing" rule.) See Section 22(c) of the 1940 Act and Rule 22c-1. Section 2(a)(41) of the 1940 Act and Rule 2a-4 give meaning to the term "value" for these purposes.

cost, rather than "current market factors," but also requires fund boards of directors periodically to review computations showing any differences between NAV calculated using the amortized cost method and NAV calculated using "available market quotations (or an appropriate substitute which reflects current market conditions)."³

2. SEC Interpretive Guidance.

In 1969, the SEC became concerned with the appropriateness of fund valuation practices, and it issued an accounting series release that offered guidance on proper valuation methodologies. ASR 113⁴ principally addressed valuation practices with respect to restricted securities. It stated that formulas and similar methods used to value these securities constituted "fair value" determinations under Section 2(a)(41) of the Act. ASR 113 also offered guidance on certain other aspects of the valuation process. Approximately one year later, the SEC issued ASR 118,⁵ which expanded upon ASR 113 and provided more general guidance. The SEC subsequently incorporated the guidance contained in ASRs 113 and 118 with little further elaboration into Guide 28 to Form N-1A. Thus, today, the guidance issued more than 25 years ago constitutes the primary SEC authority on permissible valuation practices.

The guidance included in ASRs 113 and 118 is based upon the dichotomy between "market value" and "fair value" set forth in the Act. The ASRs discuss the methods by which funds should value securities under both approaches.

³ See discussion of money market funds in Section II.B.3.b., below. In Accounting Series Release No. 219, Inv. Co. Act Rel. No. 9786, 1977 SEC Docket 715 (May 31, 1977) [hereinafter ASR 219], the Commission indicated that all funds could utilize the amortized cost method to value debt securities having remaining terms to maturity of 60 days or less (unless the use of amortized cost would not be appropriate due to credit or other impairments).

⁴ Accounting Series Release No. 113, Inv. Co. Act Rel. No. 5847, [1937-1982 Accounting Series Release Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶72,135 (October 21, 1969) [hereinafter ASR 113].

⁵ Accounting Series Release No. 118, Inv. Co. Act Rel. No. 6295, [1937-1982 Accounting Series Release Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶72,140 (December 23, 1970) [hereinafter ASR 118].

a. **Market Value.**

Under ASR 118, funds are instructed “generally” to use the last quoted sales price as of the time of valuation.⁶ For securities that are listed on more than one exchange, ASR 118 indicates that funds should use the last sales price from the exchange on which the security is principally traded and that last sales information from other exchanges should be used only when there are no trades reported on the primary exchange on a given date.⁷

When there is no quoted sales information for a given date, ASR 118 contemplates the use of bid and asked prices quoted by broker-dealers. ASR 118 states that “ordinarily,” quotations should be obtained from more than one broker-dealer, “particularly if quotations are available only from broker-dealers not known to be established market-makers for that security.”⁸ As discussed below, however, “ordinarily” obtaining multiple quotes for all dealer-quoted securities would create serious practical difficulties and is not standard industry practice.

Funds are allowed the discretion to use any of several methods utilizing either bid prices alone or the mean of bid and asked prices. Use of asked prices alone normally is not acceptable.

ASR 118 states:

⁶ ASR 118 recognizes that sometimes “value can be determined fairly in more than one way.” *Id.* at 62,294. The approach taken by the Commission is to establish standards of reasonableness within which funds may differ from each other so long as they apply their own methodology in a consistent manner. Thus, while ASR 118 establishes some firm rules, it accepts the possibility that, at least for some securities or under certain circumstances, different funds may choose different pricing sources or methodologies and, therefore, may establish different prices for the same security on the same day.

ASR 118 does require that “any variation” from the guidelines established in the ASR be disclosed in the fund’s financial statements or the notes thereto “even though the variation is in accordance with the company’s stated valuation policy.” The ASR also states that any deviation by a fund from its own policy should be disclosed. *Id.* at 62,295.

⁷ In some instances, however, funds may consider last sales information from other exchanges not to be representative of the market and choose instead to use bid and asked quotes or to use earlier sales prices from the principal exchange. See note 25, *infra*. Use of earlier sales prices may constitute a fair valuation methodology.

In addition, where securities trade in multiple markets, there can be more than one “principal” exchange and fund management may need to make judgments as to which is the most appropriate exchange from which to derive pricing information. Such judgments might be based on, for example, comparatively high trading volume, the reliability of the source and the proximity of the exchange’s closing time to the time of pricing. The relevant considerations may be set forth in fund valuation procedures and should be consistently applied.

⁸ ASR 118, *supra* note 5, at 62,295.

A company may adopt a policy of using a mean of the bid prices, or of the bid and asked prices, or of the prices of a representative selection of broker-dealers quoting on a particular security; or it may use a valuation within the range of bid and asked prices considered best to represent value in the circumstances. Any of these policies is acceptable if consistently applied.⁹

ASR 118 cites several instances in which “further consideration” should be given as to whether market quotations should be deemed not “readily available” and thus inappropriate for determining market value. These include instances in which there is only a “thin market” for a security or, in the case of OTC securities, where the validity of the broker-dealer quotations “appears questionable.”¹⁰ However, ASR 118 does not require a fund to use fair value methods in these circumstances. Thus, for example, a fund could use available market data for thinly traded securities if it considered the data to be reliable. This distinction can have important implications because, as discussed below, boards of directors are assigned a greater level of responsibility with respect to fair valued securities.

b. Fair Value.

When there are no “readily available market quotations” for a security, funds must employ “fair value” methodologies to price the security. ASR 118 states that, “[a]s a general principle,” fair value “would appear to be” the amount which the owner “might reasonably expect to receive . . . upon a current sale.”¹¹

ASR 118 suggests a number of methodologies that can be used, and a number of factors that can be considered, in making fair value determinations. It indicates that methodologies could be based upon: (1) a multiple of earnings; (2) a discount from market of a similar freely

⁹ *Id.* Conversely, funds holding short positions in OTC securities can value them using the asked or the mean between bid and asked quotations, but using the bid alone would be inappropriate. *See* Form N-1A, Guide 28, Fed. Sec. L. Rep. (CCH) ¶ 51,208 (May 29, 1996).

¹⁰ *Id.* at 62,295.

¹¹ *Id.* at 62,296.

traded security; (3) with respect to debt instruments, the yield to maturity; or (4) a combination of the foregoing. The factors that ASR 118 indicates are among those that should be considered in determining fair value methods include: (a) fundamental analytical data; (b) the nature and duration of restrictions on disposition; (c) an evaluation of the forces that influence the market in which the securities are purchased and sold; and (d) specific factors, including (among others) the type of security, financial statements, cost, size of holding, analysts' reports, transactional information or offers, and public trading in similar securities of the issuer or comparable companies.¹²

Notwithstanding the dichotomy established by the regulatory framework, it is not always clear which valuation methods would be considered "fair value" methods, as opposed to "market value" methods, under the Act. For example, prices obtained from pricing services or dealers may themselves be based upon methods that could be considered "fair value." As discussed below, however, prices obtained from third party sources do not involve the same potential for conflicts of interest as prices that are generated internally.

3. SEC Enforcement Proceedings.

Some additional guidance may be derived from the relatively infrequent enforcement proceedings that the SEC has instituted alleging violations of the regulatory requirements governing fund valuation. In general, such proceedings have involved allegations regarding (1) improper overrides of "readily available" market quotations and/or inadequate procedures and controls to ensure that market prices are utilized; (2) failure to properly assign a "fair value" to securities for which market quotations are not "readily available;" (3) improper use of the amortized cost valuation method; and (4) gross accounting or operations errors in the calculation

¹² *Id.*

of net asset value or timing of such calculation. Taken together, these proceedings underscore the critical importance of effective valuation procedures and controls. Certain specific proceedings are noted where relevant below.

B. The Valuation Process.

Valuation determinations invariably involve a significant amount of judgment. This is true despite the implications in Section 2(a)(41) and the related regulatory guidance that the determination of market value is largely an objective process, while fair valuations involve primarily subjective judgments that must be made, or at least closely supervised, by fund boards. A degree of subjectivity is inherent in all valuation decisions, ranging from the selection of pricing sources to decisions as to when, and on what basis, to override pricing data obtained from those sources.

Fund management seeks to manage the valuation process and ensure that fund NAVs are determined on a basis that is fair to purchasing, redeeming and all other shareholders by establishing valuation processes that employ multiple layers of controls and supervision. The valuation process should be reduced to writing in the form of procedures that are approved by the fund's board and that establish the key elements of the valuation process: delegation and oversight; generation, review and adjustment of pricing information; and correction of errors. The valuation process generally requires the joint efforts of the fund's board, officers of the fund and/or supervisory personnel within the fund's sponsor, investment adviser or administrator (collectively referred to as "fund management"), the fund's portfolio manager, and the primary pricing group within fund management or the fund's custodian or similar service provider. In addition, the fund's outside auditors examine the internal controls associated with the pricing process in the context of the fund's annual audit.

In addition to the controls that fund groups successfully have developed and implemented to manage the valuation process, in the course of performing routine fund examinations, the SEC staff often reviews funds' valuation procedures and practices.¹³

The importance of adequate supervision and controls was highlighted by a recent enforcement proceeding in which the SEC censured an investment adviser for failing to adequately supervise the pricing practices of one of its portfolio managers.¹⁴ The SEC's order indicated that the adviser:

had no written procedures to implement the Fund's policy to use bid side market prices for valuing securities. . . . The firm's practices concerning the daily pricing of the portfolio were insufficient in that they, among other things, gave [the portfolio manager] too much control over the pricing process with little or no oversight by anyone in a supervisory capacity. In addition, there was no procedure in place to alert [the adviser] when bid side market prices for securities were not available. [The adviser] did not independently verify the daily prices provided to [the adviser's] accounting department with the pricing source or any secondary sources.¹⁵

Similarly, in an enforcement proceeding involving a bank serving as fund accountant for a money market fund, the Commission alleged that the bank lacked adequate internal controls where a bank employee improperly treated a significant drop in a security's price as a transmission error and manually overrode it. The Commission's order indicated that, among other things, there was no oversight or review of pricing deviations by senior management, and

¹³ During the period from November 15, 1995 to February 29, 1996, the SEC's Office of Compliance Inspections and Examinations conducted a series of special examinations of funds scheduled for examination during that period, focusing on portfolio pricing and liquidity practices. The purpose of these examinations reportedly was to gather information on industry practices as a basis for determining whether there is a need for further SEC rulemaking or other action in these areas. See *SEC pricing queries could help boards*, Fund Directions, February 1996, at 1, 3.

¹⁴ *Van Kampen American Capital Asset Management, Inc.*, Investment Advisers Act Rel. No. 1525, 60 SEC Docket 1045 (September 29, 1995).

¹⁵ *Id.* at 1047, 1048. As discussed below, it is not feasible to obtain multiple quotes for all securities on a daily basis. Thus, fund valuation procedures typically provide for other controls such as periodic cross-checking of prices obtained from pricing services or dealers with prices from other sources. See Section II.B.2.a.(2), below.

no controls or “flags” were in place to alert senior management that a significant price deviation had occurred or that a manual override had been effected.¹⁶

1. Delegation and Oversight by the Fund's Board.

While fund boards of directors play a continuing role as the highest level of supervision and oversight over fund operations as a whole, they are not well suited for making day-to-day valuation determinations. Consistent with their normal oversight responsibilities, however, the board can ensure that appropriate operational procedures and supervisory structures are in place with respect to both market value and fair value determinations.

The SEC’s accounting series releases seem to contemplate a more active role for fund boards in pricing fund portfolios, especially with respect to those securities that are subject to fair value determinations. For example, ASR 118 states that fund boards must “determine the method of arriving at the fair value of each such security . . . [and] consistent with this responsibility continuously review the appropriateness of the method used in valuing each issue of security (sic) in the company’s portfolio.”¹⁷

It is neither practical nor consistent with traditional board operations, however, for fund boards to have more than a very limited direct involvement with the day-to-day pricing of a fund's portfolio. The SEC’s Division of Investment Management, in its 1992 study on investment company regulation, noted that directors are “unnecessarily burdened . . . when [they are] required to make determinations that call for a high level of involvement in day-to-day activities,” and that they should not be required to “micro-manage” operational matters.¹⁸ The SEC also has

¹⁶ *In the Matter of the Bank of California, N.A.*, Investment Company Act Rel. No. 19545, 54 SEC Docket 989 (June 28, 1993).

¹⁷ ASR 118, *supra* note 5, at 62,295. The policy basis for this approach is that, when there is no readily available market price for a security, the *board* must determine its fair value because the *adviser* should not be allowed to value the portfolio on which its fee and the fund’s performance depend. In practice, however, funds often obtain “fair values” for securities they hold from third party pricing sources (pursuant to procedures approved by the board).

¹⁸ SEC Division of Investment Management, *Protecting Investors: A Half-Century of Investment Company Regulation*, at 266 (May 1992) [hereinafter *Investment Company Study*]. It should be noted that these comments in the *Investment*

recognized that it is not the role of boards to propose or "determine" operating procedures. Rather, the board's appropriate and normal role is to review and approve proposals on such matters that are developed by those individuals or entities charged with responsibility for managing the day-to-day business of the fund. Thus, for example, in its recent proposal to revise Rule 10f-3, the Commission proposed to change the current requirement that boards "adopt" procedures for purchasing securities under the rule to a requirement that boards "approve" such procedures. The Commission observed that "this change would more accurately reflect the role of the board of directors of approving policies and procedures developed by fund management."¹⁹

Several factors make it especially impractical for fund boards, except in unusual circumstances, to have more than a limited involvement in the day-to-day pricing process. These include the extremely short time frames involved, the complexity of some fund investments, the large number of fund investments that may require fair valuations and the manner in which boards function. Board members, particularly independent board members, cannot be expected to have the expertise required to evaluate the appropriateness of, much less to devise, specific pricing methodologies for particular securities. Moreover, boards generally meet only on a quarterly or other periodic basis. While they can be called to special meetings from time to time to address urgent issues, board members cannot, as suggested by the ASRs, "continuously review" the appropriateness of fund pricing methodologies.

Company Study did not refer specifically to pricing, which may involve additional considerations. Nevertheless, the cited language evidences the staff's recognition that there are practical limits on what fund boards can be expected to do.

¹⁹ Inv. Co. Act Rel. No. 21838, 61 SEC Docket 1429 at 1439, n. 52 (March 21, 1996). Similarly, in its 1983 release calling for board review of the creditworthiness of counterparties to fund repurchase agreements, the SEC stated that, since repurchase transactions may be entered into as frequently as every day "it would normally not be feasible for fund directors themselves to evaluate the creditworthiness of each [counterparty]. Rather, the Division [of Investment Management] anticipates that fund directors will discharge their responsibilities for supervising repo purchases primarily by way of setting guidelines and standards for review for the fund's investment adviser, and monitoring the adviser's actions in engaging in repos for the fund." Inv. Co. Act Rel. No. 13005, 17 CFR Part 271 (February 2, 1983).

As a practical matter, therefore, boards generally delegate primary responsibility for both the development and the implementation of pricing procedures to those who have the substantive expertise, time and resources to discharge those functions effectively. ASR 118 seems to contemplate this delegation; it notes that the directors “may appoint persons to assist them in the determination of value and to make the actual calculations.”²⁰ Thus, board appointees can do more than merely perform calculations; they can assist boards in developing the methodologies by which fair valuations are to be calculated and they can implement those methodologies on a day-to-day basis. In nearly all cases, this delegation will be to fund management, which in turn will utilize its own supervisory personnel and either its own accounting group or one of the fund’s other service providers, such as its custodian, to develop and implement a system for generating, reviewing and adjusting pricing data.

The delegation approach described above not only is necessitated by practical considerations but also makes sense from a policy standpoint. Funds typically obtain most of their pricing data from third party sources, such as pricing services and dealers. Some of the data may involve the use of “fair valuation” methodologies.²¹ Where prices are provided by a third party (and subject to appropriate controls), however, they do not present the potential conflicts of interest that the regulatory framework seeks to address by distinguishing between “objective” market values established by independent sources and “subjective” fair values that the board, and not the adviser, must determine. Thus, with respect to fair values provided by third parties, boards generally discharge their responsibilities by reviewing and approving valuation procedures developed by fund management that, among other things, specify acceptable pricing

²⁰ ASR 118, *supra* note 5, at 62,296.

²¹ For example, as discussed in Section II.B.2.a.(1) and (2), below, both pricing services and dealers sometimes use matrix pricing or other analytical techniques to establish the prices they provide to funds.

sources and pricing methodologies for each significant category of asset held by a fund. Boards cannot and do not independently consider or approve each specific formula or other methodology that such third parties may use, although fund procedures may call for supervisory personnel within fund management to do so.²²

Where prices for fair valued securities will be generated *internally*, however, a heightened level of board scrutiny may be appropriate in light of the potential for conflicts of interest. Accordingly, fund valuation procedures generally call for board review and approval of any pricing methodology (such as a formula or matrix system) developed by fund management. Such review and approval, as well as periodic consideration of the continuing appropriateness of any such methodology, can be documented in the minutes of board meetings at which these matters are considered.

In addition to reviewing fund procedures and methodologies for internally generated prices, it is desirable for the full board to review and approve the overall valuation procedures established for the fund and, from time to time, to consider any modifications to those procedures that may be appropriate. The board's ongoing supervisory function may be carried out either by the board as a whole or, especially for larger complexes, by a special board committee that concentrates on valuation issues.

The board, or its special valuation committee, also may review periodic reports from fund management that discuss the functioning of the valuation process and that identify any issues or pricing problems that may have arisen. Where material pricing errors have occurred, the board may be asked to review or approve any corrective action that has been taken. Such corrective actions may include pricing or financial adjustments and procedural steps designed to prevent

²² See Section II.B.2.d., below.

recurrence of the problem.²³ In addition, the fund's auditors may present reports to the board concerning the results of audit testing of prices, and should report any known material deficiencies in the pricing process.

2. Generation, Review and Adjustment of Pricing Information.

The oversight provided by the fund's board is only one part of the supervisory and review procedures that funds may have in place to manage the valuation process. As noted above, controls generally are incorporated at each level of the valuation process, starting with the operational group responsible for collecting primary valuation information ("primary pricing group") and continuing up through the supervisory structure. After a general discussion of the generation of pricing information, this section will describe the respective roles that the primary pricing group, investment personnel, supervisory personnel within fund management and independent auditors play in the valuation process.

The valuation process involves the daily collection of pricing data with respect to all of a fund's portfolio securities, followed by the use of that information to compute the fund's NAV per share. Valuation procedures can specify the particular entity or group that will be responsible for these functions. In some instances, data collection and NAV computations are performed by fund accounting or by a similar department within fund management. In others, these services are performed by the fund's custodian or another service provider.

Fund valuation procedures also may specify the parameters for the data collection and computation process. For example, the procedures may: (1) establish criteria for determining when securities are considered to have "readily available" market quotations and when fair

²³ See Section II.C., below, regarding the correction of pricing errors.

valuation is required;²⁴ (2) identify acceptable sources of pricing information and acceptable pricing methodologies for each type of asset held by the fund;²⁵ (3) specify the types of reports, automated flagging systems and other controls to be applied to the initial pricing information in order to ensure its reliability; (4) identify the fund management personnel to whom pricing issues or problems are to be reported; and (5) specify the circumstances under which supervisory approval and/or board action is, or may be, required.

a. Sources of Pricing Information; Pricing Methodologies.

For most funds, the vast bulk of initial pricing information is supplied by third party pricing services or securities dealers. In some instances, however, pricing of particular securities, or specified types of securities, will be effected through the use of analytical models or other systems developed by the investment adviser. Fund management selects particular pricing sources pursuant to the valuation procedures on the basis of its judgment as to the reliability of the source (and the ability to review and evaluate that reliability), as well as pragmatic considerations such as cost and timeliness.

There obviously are practical limits on the ability of fund management to assess the reliability of information that will be provided by potential pricing services. To a significant extent, fund management must rely on its knowledge of the general procedures followed by the pricing service and upon the service's reputation. As discussed in Section II.B.2.b. below,

²⁴ Certain two-tier foreign securities (i.e., foreign securities having one exchange-traded class for domestic investors and a separate, unlisted class for foreign investors), for example, may present issues in this regard.

²⁵ For exchange-traded securities, the procedures may specify an alternative source to be used when closing sales information is not available on the principal exchange. For example, fund procedures may indicate whether sales information from a regional or other exchange on which the security normally is traded only sporadically or in smaller volumes should be used on days when closing sales prices on the primary exchange are not available, or whether dealer quotes or other methodologies should be used in those situations. In addition, the procedures may describe the circumstances in which prices may be generated internally. See Section II.B.2.a.(3), below.

however, fund management often seeks to verify that there are controls within the primary pricing group to check on the reliability of the data that it collects.

(1) Information Provided by Pricing Services.

Pricing services generally offer the convenience and efficiency of obtaining a large quantity of information from a single source. Funds often utilize pricing services both to collect and transmit market prices to the funds and to provide prices for those securities for which market quotations are not available. Many pricing services specialize in particular types of securities, and all pricing services differ somewhat in the manner in which they derive the prices that they provide.

Pricing services use a wide variety of methodologies. For listed equity or fixed income securities, as well as for listed options and futures, pricing services are likely to obtain prices directly from the relevant exchanges or Nasdaq. Pricing services also maintain extensive databases of current (or most recent) quotations from dealers who make markets in unlisted equity securities and in fixed income securities (the great majority of which are not exchange-traded).

Even the largest pricing services, however, cannot maintain continuously updated data on the many thousands of fixed income securities that may be held in fund portfolios. Accordingly, pricing services must rely on matrix pricing and valuation models to derive values for many of the securities for which they provide pricing information.

Matrix pricing systems classify a large sample of debt securities according to key investment characteristics, such as type of issuer, interest rates, maturities and ratings, and they generate prices for those securities daily based on actual trades, dealer quotations and other information considered relevant by the pricing service. Prices for securities that are not in the

sample are derived from the prices obtained for sample securities that share the same or similar investment characteristics.

The validity of the prices derived through matrix pricing depends upon the comparability of the securities being priced to the sample or "anchor" securities used as a base. That comparison, in turn, is partly a function of a subjective judgment as to which securities in the matrix are most similar to the security being priced and partly a function of the extent to which any of the matrix securities can be considered a substitute for the priced security. In some cases, such as municipal securities of the same types of issuers in the same region with the same ratings, yield, maturity and other characteristics, the correlation between the matrix securities and the securities being priced may be very high. But for others the correlation may be lower. Thus, for example, while some CMOs may have the same generic pool characteristics, actual prepayment experience will differ from pool to pool; moreover, details of the CMO structure may differ among similar CMOs. Differences such as these can limit the comparability of particular securities and limit the accuracy of matrix pricing.

Guide 28 to Form N-1A addresses the use of pricing services and matrix pricing. While it permits the use of either, the staff cautions that "registrants should be aware that it is their responsibility to ascertain that these methods (sic) are relying on the proper criteria in their valuation process."²⁶ This appears to require funds to take steps to verify that the pricing services they use apply the same criteria that the funds would be required to apply if valuing the securities directly.

Guide 28 neither identifies the "proper criteria" for matrix pricing nor specifies the steps that fund boards or fund management must take to satisfy themselves that these criteria are being

²⁶ Guide 28, *supra* note 9, at n. 32.

followed.²⁷ The SEC staff has indicated, however, that fund boards must satisfy themselves that the securities used in the matrix are truly comparable to the security being valued. Thus, the staff has described matrix pricing as a methodology by which funds value debt securities by reference to other securities "which are considered by the board of directors to be comparable" in rating, interest rate, due date and other factors.²⁸ It also has cautioned that "matrix pricing should not ignore a reliable market quotation for an actively traded security."²⁹

Some pricing services also provide "hand pricing" for certain portfolio securities using a variety of analytical methods. These methodologies may be highly subjective, relying upon the judgment of the pricing service's evaluation team to assess a range of market data to derive a price. These data may include general market information from dealers, information about specific issuers, quotes on specific securities, and published market news, such as earnings reports, new issuances, industry sector developments and trading spreads.

(2) Direct Dealer Quotations.

For some securities, prices may not be available from pricing services. In other cases, fund management may conclude that obtaining prices from pricing services is not as reliable or as efficient as obtaining quotations directly from dealers that are active market makers in the particular securities. Especially for thinly traded securities, advisers commonly will require, as a

²⁷ In addition, Guide 28 does not indicate whether matrix pricing by a third party constitutes a fair value methodology, which must be "determined in good faith by the board of directors" or is a methodology based on market quotations, for which the board may not bear the same level of responsibility. In other contexts, however, the SEC has equated the use of "quotations by dealers or issuers for securities of similar type, quality and maturity" with fair value determinations. ASR 219, *supra* note 3, at 718. See also Inv. Co. Act Rel. No. 8757, 6 SEC Docket 703 (April 15, 1975). ("A number of money market funds determine the fair value of their securities by "marking to market," that is, obtaining a "quote" on a particular instrument or one of comparable quality from the issuer or dealer. Due to the nature of the secondary market for many money market instruments, these quotes are merely estimates of the instruments' market value with reference to current money market rates and are not bids or actual last sale prices of securities similar in all respects to the portfolio security.")

²⁸ Letter from Carolyn B. Lewis, Assistant Director, Division of Investment Management, to Investment Company Registrants, 1990 SEC No-Act. LEXIS 1415, at *5. (January 11, 1990) [hereinafter 1990 Generic Comment Letter].

²⁹ *Id.*

condition of doing business, that the selling dealer agree to provide ongoing pricing information for the security. This information frequently is provided as a customer accommodation, not as a separate line of business. Consequently, the reliability of the data provided may depend on the extent to which the dealer retains an inventory in the particular security, or in securities that are very similar, so that the dealer maintains an ongoing awareness of changes in market factors affecting the security. Moreover, in times of severe market uncertainty, dealer quotes may reflect a dealer's reluctance to encourage a transaction and thus constitute a less reliable measure of market value.

Like pricing services, dealers may use matrix pricing or analytical techniques to derive valuations for securities that they are not actively trading. Even dealers that regularly make a market in a security are likely to use matrices and other analytical techniques to establish the prices at which they will bid on or offer the securities. In the absence of current trades in the security, the prices derived through those analytical techniques are likely to be used as the current day's quoted price. In the case of thinly traded securities, the prices quoted by dealers also may be different depending upon whether a quote is sought based on an immediate transaction in the securities (irrespective of whether there are known purchasers or sellers in the market), or is based on the dealer's assessment of a transaction price between willing buyers and sellers under current market conditions but given a reasonable period of time to work an order.

Fund management should consider documenting its understanding with dealers regarding the basis upon which the dealers will determine their quotes. Such documentation can confirm that a dealer agrees with fund management's understanding and provide comfort that the dealer's quotes will be made on a basis that is consistent with the standards established in the fund's valuation procedures and set forth in its prospectus. Dealers should understand that the fund will be using their quotations to value portfolio securities. Some funds inform quoting

dealers that they expect to be able to sell a portion of their portfolio position to the dealer at the prices quoted, and from time to time, they execute sales to verify the validity of the quote. Many dealers resist this approach, however, particularly with respect to thinly traded securities, so it is not always practicable for all funds.

Where more than one dealer makes a market in a particular security, fund management may need to make a judgment as to which dealer's quote is likely to be the best indicator of the market or, if practicable, whether to use an average of several quotes. Less active dealers may need to be excluded from the quoting group, while quotes from dealers who are particularly active with respect to a security sometimes should be accorded greater weight.³⁰

(3) Valuations Generated by the Fund.

While most pricing information typically is obtained from third party sources, valuation procedures generally provide for situations in which prices may be generated internally. In some instances, current valuation information may not be available from any third party source; in other cases, fund management may conclude that the valuations that are available from third party sources are not reliable.³¹

Quotations from third party sources may be unavailable for a variety of reasons, including:

³⁰ While ASR 118 indicates that prices for exchange-listed securities should come from the securities' principal trading markets, it does not suggest that valuations based on dealer quotes must come from the principal market maker. Nevertheless, quotes from the principal market maker may be a better indicator of current value than the average of quotes from the principal market maker and several less active dealers.

³¹ As noted above, ASR 118 recognizes that some market quotations that are available to a fund may not be reliable. It suggests that thin markets or other evidence that the quotations are of questionable validity may indicate that the quotations should be considered not to be "readily available" and should be replaced by fair value methodologies. ASR 118, *supra* note 5, at 62,295. The implication of the ASR is that the fund may choose to utilize the quotation if it appears "valid" (in which case the valuation would be a "market" value), or use an internally generated valuation, derived in a manner approved by the board (in which case the valuation would be considered a "fair" value). As noted in Section II.B.2., above, fund valuation procedures may establish criteria for determining whether market quotations are "readily available." Any such criteria should be consistently applied.

- a pricing service or quoting dealer may no longer provide prices, or data otherwise may be missing with respect to a particular security priced by that dealer or service;
- the price obtained from the normal pricing source with respect to a particular security may plainly be in error (due, for example, to a typographical error or an apparent failure to account for a market development known to the fund), and there may be insufficient time to obtain a correction from the pricing source; or
- for restricted securities or other securities that are not actively traded, there may be no market quotations.

In addition, third party valuations might be considered unreliable in certain circumstances, including:

- fund management may determine that the prices that are or could be provided by available third party sources regularly display an unacceptable deviation from actual transactions in the same or similar securities;
- particularly for complex securities, fund management may conclude that its own matrix or analytical system provides valuations that correlate to market transactions better than available third party sources; or
- particularly in disrupted markets, fund management may conclude that available dealer quotes are influenced by the dealer's unwillingness to purchase securities for its own inventory or that, for other reasons, spreads between bid and asked prices are so large as to render them questionable.

For these reasons, fund valuation procedures generally specify both the circumstances in which internally generated prices may be utilized³² and the board-approved methodologies to be used for this purpose (or the process the board has approved for determining those methodologies).³³ Valuation procedures also may require documentation of the reason for use of a particular fair value methodology and of its approval by supervisory personnel, as well as regular review of the continuing appropriateness of the methodology. Whenever feasible, fund

³² We understand that the SEC staff takes the position that fund valuation procedures should describe with some specificity the circumstances under which fund management may determine that third party quotations are unreliable, in order to limit the discretion of fund management.

³³ See Section II.B.1., above, regarding the role of the board of directors with respect to internally generated prices.

management should consider involving supervisory personnel who have expertise in the particular securities in the review and approval process. This is likely to be particularly important for complex securities that are valued on the basis of analytical models. In addition, fair value methodologies for foreign securities may involve processes and considerations different from those for domestic securities, such as consideration of research and analysis prepared by foreign brokers and foreign settlement or trading practices which can affect foreign securities' values.

b. The Primary Pricing Group.

The fund's primary pricing group usually serves as the initial control over the reliability of valuation information received from pricing services and dealers. As a practical matter, however, it is clear that primary pricing groups cannot, for example, determine the identity, let alone establish the comparability, of every security in a matrix that may be used as a proxy for the securities that the fund holds. Similarly, primary pricing groups generally would have difficulty learning the basis for dealer quotations (and the SEC has not indicated that there is any obligation to investigate the basis of "market quotes"). Moreover, while primary pricing groups can investigate the factors utilized in third party pricing techniques, they cannot monitor their day-to-day application. The primary pricing group typically is expected to review daily pricing information that it receives and to challenge valuations that appear questionable by inquiry to the pricing service or dealer. Fund valuation procedures may specify both the types of review that the fund expects the primary pricing group to perform and the parties to whom reports of potential problems are to be provided.

(1) Verification of Data.

Among the most basic procedural safeguards employed by primary pricing groups is the verification of portfolio data. Pricing groups generally establish reasonable steps to confirm that their pricing sources have recorded the proper CUSIP numbers and other identifying information

with respect to each portfolio security that they are responsible for pricing and that the pricing data is accurately transmitted and recorded.

Pricing groups also typically verify that the correct pricing source is being used. Since ASR 118 contemplates the use of last sales prices from the exchange on which a security is principally traded, primary pricing groups commonly specify the exchange from which their pricing service is to derive last sales information for specific securities.³⁴ This may be particularly important for securities that are traded both on foreign and on U.S. exchanges.³⁵

(2) Regular Cross-Checking of Valuations and Quotes.

(a) Cross-Checking Pricing Service Valuations.

Many primary pricing groups make periodic cross-checks of prices received from pricing services against quotes from other pricing services or from dealers making a market in the relevant securities. These cross-checks generally are performed after the fact, as a means of confirming the proper operation of the valuation process, not as a means of obtaining back-up for specific, current valuations. Pricing service prices also may be cross-checked against actual sales in particular securities, when they occur, and against prices for comparable securities. Fund management may require the primary pricing group to report the results of such cross-checking at regular intervals to supervisory personnel. Valuation procedures may specify the method and frequency of such testing.

(b) Cross-Checking Dealer Quotes.

Regular cross-checks also can be an important control device for prices that are provided through dealer quotes. ASR 118 states that bid and asked quotes "ordinarily" should be obtained

³⁴ See note 25, *supra*.

³⁵ See note 7, *supra*.

from more than one dealer.³⁶ For securities listed on Nasdaq or other securities for which there are several market makers, this practice can be both practicable and prudent when the fund is seeking to execute an actual transaction because the number of transactions contemplated on any given day is limited and dealer quotes may vary at any given time. Also, market makers normally will respond to an inquiry from someone interested in doing a trade. The situation is quite different, however, when the purpose of the inquiry is pricing. In that context, the quoting dealer is accommodating the fund (or its pricing service) and the number and extent of such accommodations may be limited.

For many securities, it is only practicable to obtain daily quotes from a single dealer. For example, providing a reliable quote for a complex security can involve a prohibitive amount of work. While several dealers may be willing to provide quotes on actively traded securities that they follow as a matter of course, they ordinarily will be less willing to do so for securities that present pricing difficulties or that they do not hold in inventory. Moreover, fund complexes may need to obtain dealer quotations on thousands of securities every day. To obtain and evaluate two or three different quotes on each of these securities, and do so within the very short time frame that is available after the close of trading, would significantly increase costs and in many cases would be impossible.

While obtaining multiple quotes on a daily basis may not be practical, regular cross-checking of dealer quotes by the fund's primary pricing group (or, if so specified in the fund's

³⁶ The practice of obtaining quotes from several dealers developed, and generally is still followed, in the context of satisfying the requirements of Rule 17a-7. The SEC staff has indicated that obtaining quotes from at least three independent sources constitutes a "reasonable inquiry" for purposes of Rule 17a-7 (see *United Municipal Bond Fund; United Municipal High Income Fund, Inc.*, 1992 SEC No-Act. LEXIS 956 (pub. avail. July 30, 1992)) and for sales of securities by unit investment trusts (see *Dean Witter Reynolds, Inc.*, Inv. Co. Act Rel. Nos. 15311, 1986 SEC LEXIS 775 (September 16, 1986) and 15356, 1986 SEC LEXIS 580 (October 10, 1986), and *PaineWebber Inc.*, Inv. Co. Act Rel. Nos. 15399, 1986 SEC LEXIS 2278 (November 5, 1986) and 15451, 1986 SEC LEXIS 252 (December 3, 1986)). However, Rule 17a-7 transactions usually involve actively traded securities. (Rule 17a-7 transactions are discussed further in Section II.B.3.c., below.)

valuation procedures, by others in the supervisory structure) can provide substantial protection to the fund and, under ordinary circumstances, should be sufficient to satisfy regulatory requirements.³⁷ As with cross-checking of pricing service valuations, fund valuation procedures can require quotes from the regular pricing dealer to be checked against quotes from other dealers on a monthly or other specified basis. The appropriate frequency of such checks varies depending on the nature of the securities and the markets in which they trade. Quotations also may be checked against actual sales transactions in similar securities, when possible. Alternatively, when portfolio securities are sold, the sales price may be compared to the previous dealer quotations to determine whether there are material variations that do not appear to be attributable to market changes.

(3) Identification of Potential Problems through Automated or Other Flagging Systems.

The primary pricing group also may monitor valuations against specified criteria in order to identify potential pricing errors or problems. Automated flagging systems frequently are used to check security prices against indices or other data to identify abnormal price movements or other relevant information. Pricing personnel review reports generated by these systems and then research and independently analyze the issues raised by the flags. Typical flags include:

- **No Price Reports**: alert the primary pricing group to any security for which a market quotation is not available or which cannot be obtained from regular sources.
- **Tolerance Reports**: compare a security's current price to its previous price and identify securities whose prices fall out of tolerance by a particular percentage

³⁷ As discussed in Section II.B.3.c., below, the SEC has indicated that a fund investment adviser's system for regularly cross-checking the prices provided by a pricing service is an adequate substitute for obtaining prices from several dealers or pricing services for purposes of establishing the price for a transaction between affiliates pursuant to Rule 17a-7. The requirements of Rule 17a-7 are more specific than those imposed with respect to ordinary portfolio pricing. For example, while the current market price for OTC securities under Rule 17a-7 must be based on the average of bid and asked quotes, ASR 118 allows funds to use either the bid price or the mean between the bid and asked prices. It follows, therefore, that regular cross-checking also should be an acceptable substitute for obtaining multiple quotes for purposes of Section 2(a)(41), Rule 2a-4 and the ASRs.

range (e.g., 1% movement for fixed income, 5% movement for equity); tolerance reports also may identify securities whose price movements differ significantly from those of specified indices (e.g., stocks that increase by 2% when a specified equity index decreases by 3%).

- Unchanged or "Stale" Price Reports: identify securities where the price has not changed over the course of a specified period (e.g., 10 days).³⁸
- Trade Price vs. Valuation Price Reports: highlight securities that are sold at a price that differs from the most recent valuation by more than a specified percentage (such reports flag the potential for problems with respect to other, similar securities held by fund).
- Corporate Action Reports: identify dividends or stock splits for portfolio securities, generally prepared in conjunction with the fund's custodian.

c. Investment Personnel.

A fund's portfolio manager and analysts or traders (collectively, "investment professionals" or "investment personnel") may be the best sources of expertise with respect to the particular securities held by the fund, or with respect to the markets in which those securities trade. As such, investment professionals are especially important to the process of identifying pricing issues and proposing specific solutions to problems. Any resolution of a pricing issue, however, should be reached within the framework of the valuation procedures and should be subject to supervisory control.

Thus, for example, if monitoring by the primary pricing group reveals a significant discrepancy between the price movement on a particular security and the price changes for other similar securities, an investment professional is likely to be in the best position to know if there are special circumstances that account for the difference. Similarly, if no price is provided by the normal pricing source for a particular security, and if there are no established secondary sources,

³⁸ Pricing personnel should be aware that the reports generated by this type of flagging system cannot be relied upon to identify stale prices for foreign securities if currency fluctuations are automatically factored into the prices of such securities each day. Fund groups thus may wish to take into account the effect of currency fluctuations when designing such a system.

an investment professional is likely to be in the best position to identify a pricing source in time for the Nasdaq Service deadline. Even if no problems are identified by the primary pricing group, an investment professional can review portfolio security prices, even after the daily NAV has been reported to the Nasdaq Service but before the opening of the next day's trading activity, to determine whether there may be aberrations that were not detected earlier.

Accordingly, investment personnel serve as an important secondary source of control over the prices supplied by pricing services and dealers, as well as over the functioning of the primary pricing group. At the same time, however, fund portfolio managers understandably have a professional and personal interest in the performance of the securities that they have acquired for the fund's portfolio. Thus, even absent any element of bad faith, portfolio managers may have a natural aversion to accepting negative information about those portfolio securities.

Funds thus generally limit the direct involvement of portfolio managers in individual pricing decisions. For example, fund valuation procedures may specify the limitations on corrective action that portfolio managers or other investment personnel can take without supervisory approval.³⁹ The procedures also may prescribe the timing and nature of the reports that the portfolio manager or another investment professional is required to make to supervisory personnel, concerning both pricing issues and responses. Items that are flagged for the portfolio manager or other investment personnel also should be reported to supervisory personnel, and a process put in place to resolve any problems.

³⁹ See also Sections II.B.1. and II.B.2.a.(3), above, regarding the need for board approval of the methodologies utilized for internally generated prices. Any pricing decisions that go beyond parameters contemplated by methodologies previously approved by the board (including corrective actions that involve overriding third party or internal matrix derived prices or dealer quotations) would require further board action.

d. Supervisory Personnel Within Fund Management.

The pricing activities of investment personnel, as well as the functioning of the primary pricing group, typically are subject to oversight by supervisory personnel within fund management. In some cases, designated fund management supervisory personnel with the appropriate expertise may be organized as a valuation committee with special responsibility for maintaining the integrity of the valuation process, subject to oversight by the board. Such a committee (or the appropriate supervisory personnel, even if not formally designated as a committee) can meet regularly and can be called together quickly to address urgent issues.

The functions of fund management valuation committees vary from fund to fund. In some cases, especially for complexes having funds with specialized portfolios, supervisory personnel may not have the expertise necessary to identify all of the factors relevant to pricing a particular fund's securities or extensive knowledge of the markets in which those securities are traded. Consequently, it may be useful for a valuation committee to consult with investment personnel or the chief investment officer in the appropriate area in order to obtain the benefit of their specialized knowledge.

Among the possible functions of fund management valuation committees (or of supervisory personnel within fund management, even if not organized as a valuation committee) are:

- Approving and regularly reviewing the methodologies used by pricing services, including the extent of and basis for their reliance on matrix pricing and similar systems.
- Approving and regularly reviewing all determinations to use fair valuations.⁴⁰ Reviews can involve monitoring to determine if and when reliable market quotes become readily available.

⁴⁰ See Section II.B.2.a.(3), above.

- Approving (subject to board ratification) and regularly reviewing all fair value methodologies utilized by the fund. In the case of methodologies that rely on analytical pricing models, this may involve a detailed review of the basis and reliability of the model and of the extent to which it takes into account all relevant market factors.
- Developing for board approval proposed procedures to govern overrides of prices supplied by dealers or pricing services.
- Reviewing periodic reports from portfolio managers regarding the prices of portfolio securities and regarding any changes in market conditions or other factors that the portfolio manager believes may affect the validity of any security's price.
- Reviewing periodic reports regarding cross-checking of prices generated by dealer quotes, matrix pricing or analytical models against prices derived from other sources. Such checks also can include comparisons of actual sales prices to the fund's valuations of the security at specified intervals prior to the sale.
- Providing periodic updates to the board on pricing matters.

As part of its supervisory program, fund management often requires that all material decisions made in connection with portfolio valuation be documented and that the relevant documentation and supporting materials be retained for reasonable periods of time.

e. Independent Auditors.

A mutual fund's independent auditors also play a significant role in the fund's valuation process by verifying the accuracy of the fund's NAV and the prices of its portfolio securities as part of the fund's annual audit.⁴¹ Under generally accepted auditing standards, the independent auditors must assess the fund's internal controls over the valuation process and review the fund's records regarding price determinations.⁴² ASR 118 requires the auditors to verify independently

⁴¹ Moreover, certain fund officials have special responsibilities with respect to the fund's financial reports (including the valuation of fund shares) and thus with respect to the integrity of the valuation process. For example, in connection with the fund's annual audit, the fund's chief financial officer normally is required to make representations to the independent auditors as to the conformity of the valuation methods used by the fund with those set forth in the prospectus.

⁴² American Institute of Certified Public Accountants, *Report on the Internal Control Structure in Audits of Investment Companies*, Statement of Position 89-7 (effective Jan. 1989) [hereinafter SOP 89-7]; American Institute of Certified Public

the prices for all of the fund's portfolio securities as of the balance sheet date.⁴³ Verification is accomplished by obtaining prices from independent sources (such as a dealer or pricing service). The SEC staff has suggested that even in the case of "only one market maker or broker-dealer providing a market quotation, the independent accountant should employ alternative procedures that provide an accurate and reasonable valuation."⁴⁴

In connection with its evaluation of the fund's internal controls, the independent auditor generally reviews the fund's valuation methodology for consistency with the valuation disclosures contained in the fund's prospectus and statement of additional information. In addition, the auditor may examine the adequacy of the fund's operational controls over the pricing process. The independent auditors may also perform some checks on the pricing services or other outside vendors that the fund uses to value portfolio securities. For example, the auditors may consider whether the outside service itself maintains adequate control procedures (such as periodic cross-checks on prices) to prevent material pricing errors.⁴⁵ Auditors also may obtain independent quotations from dealers or other sources to gauge the accuracy of quotes given to the fund by a pricing service. If the pricing service uses an independent auditor, the fund's auditor may review that auditor's report on the pricing service's own system of internal controls.⁴⁶ Matrix pricing systems used by pricing services to provide prices to the fund also may be reviewed.

If the fund uses an internal matrix pricing system to generate prices, its independent auditor may review the matrix used, and, on a test basis, compare the price obtained on the sale of

Accountants, *Investment Company Audit Guide*, ¶ 2.131, 2.136 [hereinafter *Investment Company Audit Guide*]. See also Form N-SAR, Sub Item 77B: Accountant's report on internal control, Fed. Sec. L. Rep. (CCH) ¶51,601 at 40,412.

⁴³ ASR 118 at 62,296.

⁴⁴ Letter to Chief Financial Officers from Lawrence A. Friend, Chief Accountant, SEC Division of Investment Management, 1994 SEC No-Act. LEXIS 873 at *2 (November 1, 1994). This staff position is the subject of some controversy and has been resisted by the accounting profession.

⁴⁵ *Investment Company Audit Guide*, *supra* note 42, at ¶ 2.153.

⁴⁶ *Id.* at ¶ 2.154.

a security with the values derived by the matrix for that security several days before the sale. The auditor also may use a second matrix or obtain independent dealer quotes for similar securities, for comparison.⁴⁷

3. Special Pricing Procedures.

Based on regulatory requirements or other considerations, fund valuation procedures may specify pricing criteria or tests to be applied with respect to particular types of securities, funds or transactions. Issues related to the pricing of foreign securities, money market funds and Rule 17a-7 transactions are discussed below.

a. Foreign Securities.

Foreign securities often are principally traded on markets that close at different hours than U.S. markets. Fund valuation procedures typically provide that such securities normally will be valued at their most recent closing prices on the principal exchange, even if the close of that exchange is earlier than the time of the fund's NAV calculation. If an event that is likely to affect materially the value of a portfolio security occurs after the relevant foreign market has closed (but before the calculation of fund NAV), however, it may be necessary to determine the fair value of the security in light of that event.⁴⁸

Thus, fund valuation procedures often further provide for consideration of whether closing prices need to be adjusted to reflect developments that occur after the principal market(s) on which fund portfolio securities trade closes but before the time of NAV calculation. The procedures may establish a process for determining when circumstances warrant making such an adjustment and provide specific, board-approved criteria for establishing the fair value of the

⁴⁷ *Id.* at ¶¶ 2.155 and 2.156.

⁴⁸ See *Putnam Growth Fund and Putnam International Equities Fund, Inc.*, 1981 SEC No-Act. LEXIS 3088 (pub. avail. February 23, 1981). Post-closing developments also may be relevant in the context of domestic securities, particularly if the markets close early on a particular day.

security.⁴⁹ The procedures should be designed to facilitate consistent application of the relevant criteria, and may require documentation of the course of action taken (even where a determination is made not to adjust the closing price). In the absence of specific, board-approved criteria for making the adjustment, any adjusted price should be approved by the board.

b. Money Market Funds.

Use of the amortized cost method for valuing money market funds' portfolio securities does not eliminate the need for those funds to determine the market value of their portfolio securities.⁵⁰ Rather, Rule 2a-7(c)(6) requires that boards of money market funds using the amortized cost method establish special, written procedures under which "the extent of the deviation, if any, of the current net asset value per share calculated using available market quotations (or an appropriate substitute which reflects current market conditions) from the money market fund's amortized cost price per share" is calculated and reported to the board. To calculate this deviation, money market funds "shadow price" the fund's portfolio.

Fund procedures normally provide for shadow pricing calculations to be performed by the fund's primary pricing group and to be derived in the same manner as valuations for the same or comparable securities held by other funds within the complex. These calculations are not performed daily, but rather at the intervals called for under the pricing procedures.⁵¹ The procedures may provide for shadow pricing calculations to be performed more frequently if there are unusually large changes in market interest rates or if so requested by the board. Fund

⁴⁹ Fair value in such circumstances may be based on the opening price on the foreign exchange at which trading in the security next begins. See *Pricing of Redeemable Securities for Distribution, Redemption and Repurchase*, Inv. Co. Act Rel. No. 14244, [1984-85 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 83,711 (Nov. 21, 1984).

⁵⁰ Money market funds also may seek to maintain a stable NAV by using the penny rounding method, under which current net asset value, determined in the normal manner under Rule 2a-4, is rounded to the nearest penny for purposes of share distribution, redemption and repurchase.

⁵¹ Rule 2a-7(c)(6) requires that the procedures specify that shadow pricing be calculated at "such intervals as the board . . . determines appropriate and reasonable in light of current market conditions."

procedures often provide for the calculations to be performed as often as daily during any period during which market NAV deviates from \$1.00 per share by more than a specified threshold amount.

Rule 2a-7(c)(6) requires that fund procedures provide for periodic board review of the amount of any deviation that is revealed through shadow pricing. Fund procedures generally provide that, as long as the deviation does not exceed a specified threshold, the results of shadow pricing should be reported to the board at its regular meetings. If the deviation from the amortized cost price per share exceeds $\frac{1}{2}$ of 1% -- *i.e.*, if market NAV is less than 99.5¢ or more than \$1.005 per share and, thus, "breaks a dollar" -- Rule 2a-7(c)(6)(B) requires that the board "promptly consider" corrective action.⁵² To alert the board to the possibility that such a deviation may occur, fund procedures typically require that the board be notified immediately if the deviation reaches \$.0025 or more.

c. Rule 17a-7 Transactions.

Rule 17a-7 provides an exemption from the prohibitions against affiliated transactions under Section 17(a) of the 1940 Act for certain purchases and sales of portfolio securities between affiliated funds. The rule requires, among other things, that the transactions be executed at a "current market price" determined in the manner specified in the rule. The rule also requires that fund boards adopt procedures for effecting transactions that are "reasonably designed" to provide for compliance with all of the requirements of the rule.

The requirements for determining a current market price under Rule 17a-7 generally are more specific than the requirements for pricing securities under Section 2(a)(41). For example, in the case of OTC securities not quoted on Level 1 of Nasdaq, the price used must be the average of

⁵² In addition, Rule 2a-7(c)(6)(C) requires that the board "cause the fund to take such action as it deems appropriate to eliminate or reduce to the extent reasonably practicable" any deviation that it believes "may result in material dilution or other unfair results to investors or existing shareholders."

the highest current independent bid and lowest current independent offer determined on the basis of "reasonable inquiry."

The SEC staff at one time indicated that, to satisfy the "reasonable inquiry" requirement, a fund was required to use the average of multiple prices obtained from pricing services or dealers, but it later agreed that a fund adviser's practice of regularly cross-checking the prices generated by a pricing service was an appropriate substitute for obtaining multiple prices or quotes for that purpose. Specifically, the staff initially took the position that funds within a single complex that used an independent "matrix pricing service" to price municipal bonds could use pricing service prices, rather than independent quotes, as the basis for Rule 17a-7 transactions, but only if, among other things,

the municipal bonds are valued by averaging prices obtained from at least three independent matrix pricing services, or by averaging three independent bid prices, or by averaging three prices obtained from some combination of independent pricing services and independent bid prices. . . .⁵³

Subsequently, however, the staff modified its position in response to the funds' concerns that such an average price, as compared to the pricing service price normally used by both the buying and the selling funds, would result in artificial gains or losses but "would not represent a better or more accurate market-based valuation."⁵⁴

In modifying its position to allow the funds to use the price at which each values the bond for purposes of Rule 2a-4, the staff relied heavily on the testing used by the funds' adviser to verify the accuracy of the pricing service price. The staff noted that:

The Funds' [A]dviser . . . regularly tests the overall accuracy of [the pricing service's] pricing system. Each week, the Adviser obtains prices from another pricing service for those securities that represent 1% or more of the

⁵³ *United Municipal Bond Fund; United Municipal High Income Fund, Inc.*, *supra* note 36, at *4.

⁵⁴ *United Municipal Bond Fund*, 1995 SEC No-Act. LEXIS 265, at *11 (pub. avail. January 27, 1995).

net assets of each of its funds that use [that] pricing service. The Adviser compares the total of the alternate prices to the total of [the pricing service's] prices. Further, each Fund's board annually reviews and approves the use of [the pricing service] and the Adviser's testing methodology. In addition, the Fund's independent auditor . . . , as part of its annual review of the Funds' internal control structure, tests the reliability of [the pricing service's] pricing system. Specifically, [the independent auditor] compares the aggregate of [the pricing service's] with the aggregate of the alternate prices from its own pricing module.⁵⁵

C. Correction Of Pricing Errors.

Valuation procedures also may address the nature of the corrective action to be taken if pricing errors occur. In all cases, of course, erroneous prices should be corrected on a going forward basis. Depending on the extent and nature of a pricing error, however, retroactive corrections – which may include paying financial compensation to the fund, to existing or former fund shareholders or to all of them, and reprocessing shareholder accounts to adjust the number of shares that they hold – also may be necessary. In general, pricing errors must be corrected retroactively if they are “material,” as discussed further below.

In the event of a material pricing error, whether any particular party (including, for example, the investment adviser, the custodian or pricing agent, or a third party pricing source) will reimburse a fund or affected shareholders will be determined based on the facts and circumstances of the specific situation, the extent of that party's culpability and the applicable standard of care.⁵⁶ For these purposes, some funds distinguish between the correction of an error

⁵⁵ *Id.* at *2.

⁵⁶ The applicable standard of care may be established by contract. For example, the investment advisory contract may provide that the adviser is liable to the fund in the case of errors resulting from gross negligence on the part of the adviser. (In *Securities and Exchange Commission v. Steadman*, 967 F. 2d 636 (D.C. Cir. 1992) [hereinafter *Steadman*], the court indicated that a showing of negligence, at a minimum, is required for there to be liability for pricing errors.) In some cases, an investment adviser or other service provider may voluntarily pay financial compensation to correct a pricing error without regard to the applicable standard of care, even though this is not required. Third party pricing sources typically disclaim responsibility for any errors.

and a change in accounting estimate.⁵⁷ For instance, a fund group may not consider a misstatement of a fund's NAV to be a pricing error subject to corrective action (in effect, restatement) if the misstatement was caused by the unavailability of information at the time of pricing. A corporate action on a foreign security that was not reported to the fund from any of its normal dividend sources on the ex-date of the security may be an example of this type of situation. Conversely, if the fund failed to accurately reflect information that should have been known, then the fund may have an NAV error requiring retroactive corrective action.⁵⁸

Fund valuation procedures generally provide for the reporting of any material pricing errors to the board, and may call for board review or approval of any corrective action taken.

1. Materiality; Pre-conditions to Corrective Action.

No retroactive corrective action may be necessary if the amount of the pricing error is immaterial. Although there is no uniform, definitive test for determining whether a pricing error is material, it is generally accepted that a pricing error is material if a reasonable shareholder would consider it important. As discussed below, members of the SEC staff recently have articulated a set of materiality standards for fund pricing errors that some funds have adopted. These standards have not been formally or informally adopted by the Commission or its staff, however, and other funds have adopted different standards deemed reasonable by their boards.

The SEC's traditional position on the materiality of fund pricing errors has been that a pricing error should be considered material if the error in itself affects fund per share NAV by 1%

⁵⁷ See Accounting Principles Board Opinion No. 20, which differentiates between changes in accounting estimates and the correction of material errors. Under APB 20, a change in accounting estimates occurs as the result of new events, changing conditions, more experience or additional information; errors result from mistakes in mathematics, the application of an accounting principle or misjudgments in the use of facts. APB 20 requires that changes in accounting estimates be made in the current period and prospectively, while accounting errors should be recorded retroactively.

⁵⁸ See Letter to Chief Financial Officers from Lawrence A. Friend, Chief Accountant, SEC Division of Investment Management, 1996 SEC No-Act. LEXIS 272 at *2 (November 1, 1996) (setting forth the SEC staff's views on accounting for foreign corporate actions).

or more.⁵⁹ The SEC articulated its materiality standard in a somewhat more refined form in its discussion of the use of the amortized cost method of valuation in ASR 219, stating that “[g]enerally, the Commission would consider the use of a particular valuation method to have a material impact if the use of that method, as opposed to another method, might cause a change of at least one cent in a net asset value per share of \$10.00.”⁶⁰ In that release, the SEC went on to explain in a footnote that “[a]lthough one cent differences in net asset values per share of \$10.00 might appear to be insignificant, the effects of such differences can be material to the decisions of investors when translated into differences in rates of return.”⁶¹

The SEC also has suggested that the 1¢ per share standard derives from the fact that fund share prices normally are quoted in integrals of 1¢. Thus, the court in *Securities and Exchange Commission v. Steadman* characterized the SEC’s position as follows: “A penny per share is *per se* material . . . because mutual funds are priced and reported in the newspapers to a penny per share.”⁶² The *Steadman* court rejected the SEC’s position, however, ruling that a pricing error of 1¢ is not *per se* material.⁶³

A uniform 1¢ standard of materiality also creates disparities among funds with different NAVs per share and implies an unrealistic degree of precision in pricing. For example, if two funds have the same amount of total assets, but one has a larger number of shares, that fund will have a lower NAV and, therefore, a higher threshold for pricing errors under the 1¢ standard than would the other fund.

⁵⁹ See Rule 2a-4(b), which provides that certain expense and income items that normally must be included in fund NAV calculations need not be included if the effect of doing so would “not amount to as much as 1 cent per share.” This materiality standard refers to pricing errors that equal at least a full 1¢ per share, rather those that would be rounded to 1¢ or that, when added to the prior NAV, would result in a change of 1¢ or more.

⁶⁰ ASR 219, *supra* note 3, at 717.

⁶¹ *Id.* at n. 5.

⁶² *Steadman*, *supra* note 56, at 643.

⁶³ *Id.*

In light of the *Steadman* decision and other considerations such as the disparities that result from use of a 1¢ materiality standard, certain SEC staff members recently have articulated more complex standards for determining when, and what type of, financial adjustments should be made for pricing errors. In statements made to accounting and mutual fund industry groups in 1995, staff members indicated that pricing errors of less than 1¢ per share would be considered immaterial and thus would not require retroactive corrective action. These staff members further indicated that errors of 1¢ or more would require financial adjustments in favor of the fund and that errors in an amount equal to ½ of 1% or more of the fund's NAV also would require payments to affected individual shareholders and reprocessing of shareholder accounts. While not discussed in these most recent statements, the staff generally has acquiesced to a *de minimis* threshold of up to \$10.00 per shareholder account before compensation must be paid to individual investors.

As noted above, the foregoing standards have not been formally or informally adopted by the staff or the Commission⁶⁴ and, accordingly, materiality standards for pricing error corrections may vary depending upon what a particular fund's board deems reasonable. Fund management may wish to consider seeking board approval of the materiality standards that will apply to the correction of errors in the calculation of funds' per share NAVs and including those standards in the funds' valuation procedures.

2. Methods of Correcting Undervaluations.

When material pricing errors have caused a fund's per share NAV to be too low, investors who purchased fund shares during the period when the NAV was understated will have received too many fund shares for the amount of their investment, while redeeming shareholders will have

⁶⁴ Reportedly, however, it is unlikely that the staff would recommend enforcement action against a fund or an investment adviser that acts in accordance with the standards set forth above, if they are "reasonably applied." *SEC questions its own pricing error rule*, Fund Action, January 22, 1996, at 6, 8.

received too little for the shares that they redeemed. Different types of corrective action are appropriate to address each of these effects.

It is possible for the fund to correct the error with respect to affected purchasers who are still shareholders of the fund by reducing the number of shares they hold in their accounts. In such a reprocessing, the total number of outstanding shares is reduced by the amount necessary to increase per share NAV to the correct amount.

Most errors are caught before confirmations or account statements are issued to shareholders, and when this occurs reprocessing is a viable method for correcting undervaluations. When statements already have been issued, however, many fund groups view such reprocessing as an unattractive option due to both shareholder relations and cost considerations. Moreover, reprocessing is not possible for purchasers who have since redeemed all of their shares.

An alternative to reprocessing individual accounts is a lump sum payment to the fund equal to the additional amount that share purchasers would have paid during the relevant period had the share price been computed correctly, net of the dollar amount that should have been, but was not, paid to redeeming shareholders. As noted above, the staff's informal guidelines call for such payments to be made for errors of 1¢ or more.

Correction of the effect of undervaluations on redeeming shareholders can be made only by making payments to those shareholders in amounts equal to the shortfalls in the redemption proceeds paid to them. As noted above, the SEC staff generally has acquiesced to a \$10 per account threshold under which these payments need not be made.

3. Methods of Correcting Overvaluations.

When pricing errors have caused the fund's per share NAV to be too high, the effects of the errors are reversed. Shareholders who redeemed their shares during the period of over-

valuation will have received too much money from the fund, while investors purchasing shares during that period will have received too few shares for the amount of their investment.

Funds compensate shareholders who purchased shares during the relevant period by reprocessing their shareholder accounts to increase the number of shares that they hold to the proper amount.⁶⁵ Since an increase in the number of shares in a shareholder's account has no adverse effect on shareholder relations, the only practical consideration associated with this type of reprocessing is its cost. Conversely, however, few if any funds would seek to recover the extra dollars paid to redeeming shareholders, even though such recoveries theoretically are possible. Instead, overvaluations with respect to share redemptions usually are corrected by paying the fund an amount equal to the difference between the dollar amount actually paid to the redeeming shareholders and the lower amount that would have been paid had NAV been correctly calculated.

A table illustrating the above-described approach to NAV corrective action (for both undervaluations and overvaluations), based on the staff's informal guidelines, is attached to this paper as Exhibit 1.

III. LIQUIDITY ISSUES.

A. The Regulatory Framework.

1. Definition of "Illiquid" Assets.

Neither the 1940 Act nor the rules promulgated thereunder require funds to maintain any minimum level of liquidity, nor do they specify criteria for determining whether portfolio assets

⁶⁵ Some investors who purchased shares during a period of overvaluation may have sold all of their shares and, therefore, no longer have shareholder accounts to which additional shares can be credited. However, the value of the additional shares that they should have received may have been offset by their having received redemption proceeds that also were too high. To the extent that such former shareholders have not been made whole by that offset, it may be necessary to make a compensating payment directly to them.

are liquid. SEC policies require, however, that no more than 15% of a mutual fund's net assets be illiquid (10% for money market funds).⁶⁶ The SEC has identified three areas of concern that it believes give rise to a need for mutual funds to limit the extent of their holdings of illiquid assets:

- meeting redemption requests -- mutual funds must maintain sufficient portfolio liquidity to be able to meet the requirement of Section 22(e) of the 1940 Act that they honor share redemption requests within seven days after tender of the shares for redemption.⁶⁷
- maintaining management flexibility -- holdings of illiquid securities can reduce "flexibility in the choice of portfolio securities which, on the basis of their relative investment merits, could best be sold where necessary to meet redemptions;"⁶⁸ and
- valuation issues -- illiquid securities may be more difficult to value, and "significant holdings" of illiquid securities magnify portfolio valuation problems.⁶⁹

For purposes of applying the 15% limit (and the 10% money market fund limit), the SEC defines "illiquid" assets as those that "may not be sold or disposed of in the ordinary course of business within seven days at approximately the value at which the mutual fund has valued the investment."⁷⁰ Expressing the definition of an illiquid security in terms of a fund's ability to dispose of the security "at approximately the value at which the mutual fund has valued the investment" has tended to confuse the relationship between valuation and liquidity issues. The fact that a security is illiquid may affect its value, as well as the appropriate method of valuation.⁷¹ The value of a security should *not* affect its liquidity, however, and the liquidity determination

⁶⁶ See Guide 4 to Form N-1A, Fed. Sec. L. Rep. (CCH) ¶ 51,208. Before March 20, 1992, all mutual funds were subject to a 10% limit on the amount of illiquid assets they could hold. See Sec. Act Rel. No. 6927, Inv. Co. Act Rel. No. 18612, 50 SEC Docket 1659 (March 12, 1992).

⁶⁷ See, generally: ASR 113; Inv. Co. Act Rel. No. 13380, 28 SEC Docket 375 at 383, 384 (July 18, 1983) [hereinafter Rule 2a-7 Adopting Release]; Inv. Co. Act Rel. No. 14983, 35 SEC Docket 324 at 329, 330 (March 12, 1986) [revising Rule 2a-7] [hereinafter Release 14983]; and Investment Company Study, *supra* note 18, at 464.

⁶⁸ ASR 113 at 62,287.

⁶⁹ *Id.*

⁷⁰ Guide 4, *supra* note 66.

⁷¹ See ASR 118 at 62,295. Accordingly, it is important that information regarding the liquidity of a security be communicated to the persons responsible for valuing the security.

should be independent of valuation considerations. Thus, for example, notwithstanding the direct correlation between liquidity and value implied by the SEC's illiquid asset definition, it would be inappropriate to "haircut" the value of an illiquid security and treat the security as liquid.

The illiquid asset definition establishes a seven-day period within which a fund must be able to "sell or dispose of" a security in the ordinary course of business. Funds are not required, however, to receive the proceeds of such sale or disposition within the same seven-day period. Put another way, the standard requires that a contract price be struck but not that settlement must have occurred. This distinction is important. Otherwise, securities with settlement periods of longer than seven days, such as GNMA's and many other mortgage-backed securities, as well as securities traded in various foreign markets, would be deemed illiquid.⁷² The SEC also has made clear that a fund's liquidity should be determined based upon its ability to sell individual securities, as distinct from its entire portfolio position in a given security.⁷³ Nevertheless, this point continues to be a source of confusion in regard to liquidity and valuation requirements.⁷⁴

⁷² In its 1986 release amending Rule 2a-7, the SEC had stated that illiquid securities generally are those that "cannot be disposed of promptly and in the ordinary course of business without taking a reduced price" but added that a security would be considered illiquid if a fund could not "receive" the proceeds of its disposition within seven days. Release 14983, *supra* note 67, at 329. The reference to "receiv[ing] the proceeds" of a disposition was not included, however, when the SEC restated its definition of an illiquid security, in its 1990 release adopting Rule 144A, as one that cannot be "disposed of within seven days in the ordinary course of business at approximately the amount at which the company has valued the instrument." Sec. Act Rel. No. 6862, Inv. Co. Act Rel. No. 17452, 46 SEC Docket 26, at 36 (April 23, 1990) [hereinafter 144A Release]. Although not definitive, this language suggests that receipt of the proceeds of a disposition is not required. The same definition is incorporated in current Guide 4.

⁷³ Inv. Co. Act Rel. No. 19399, 53 SEC Docket 2179, at 2181 and 2193, n. 77 (April 7, 1993). This is consistent with the reference in the SEC's liquidity standard to dispositions "in the ordinary course of business."

⁷⁴ In some circumstances, low trading volumes may indicate possible issues as to the reliability of market quotes, and fund valuation processes generally include procedures for assessing the reliability of market quotes that are obtained. See Section II.B.2., above. It would appear, however, that the relationship between the size of a fund's holdings of a security and the security's average trading volume rarely should be determinative of either liquidity or valuation. Many funds hold positions in both large and small capitalization securities (as well as in municipal bonds and other liquid, fixed income securities for which trades may occur only rarely) that greatly exceed those securities' average trading volumes. If these positions were considered illiquid, fund management would be significantly impeded. Similarly, if market quotations for these securities had to be rejected in favor of a lower "fair value" reflecting the fact that a sale of the fund's entire position would drive down the market price, fund shareholders would be penalized for the prospect of future market action that is not likely to occur. Thus, except in unusual circumstances, both liquidity and value determinations should be based on the price for a normal trading lot for the security in question.

The SEC staff indicated in a 1995 interpretive letter that it did not consider the implementation of a T+3 standard for settlement of most securities transactions executed by broker-dealers to reduce the seven-day period applicable to liquidity determinations.⁷⁵ The staff reasoned that the T+3 rule applies to brokers and dealers, not directly to funds, and therefore "does not change the standard for determining liquidity, which is based on the requirements of Section 22(e)." The staff also noted, however, that because many mutual funds are sold through brokers, funds often will have to meet redemption requests within three days and, therefore, should "assess the mix of their portfolio holdings" in that context. Among the factors that funds should consider are "the percentage of portfolio assets that would settle in three days or less, the level of cash reserves and the availability of lines of credit or interfund lending facilities."⁷⁶

Notwithstanding these clarifications, the liquidity standard articulated by the SEC has an element of artificiality. While the seven-day period in the illiquid asset definition tracks the Section 22(e) redemption period, it does not correspond with funds' practical needs in meeting redemptions. As the SEC has recognized, funds often have a practical need to satisfy redemption requests in a shorter time period, but they need not consider securities illiquid if they cannot be disposed of within that shorter period. Moreover, funds have available other sources of cash (such as dividend and interest payments on portfolio securities, cash inflows from new sales of fund shares, lines of credit and intra-complex borrowing arrangements) to meet most redemption needs. Further, even the most liquid fund could not normally expect to sell 85% of its portfolio

⁷⁵ See Letter to Paul Schott Stevens, General Counsel, Investment Company Institute, from Jack W. Murphy, Associate Director and Chief Counsel, SEC Division of Investment Management, 1995 SEC No-Act. LEXIS 612 (May 26, 1995).

⁷⁶ *Id.* Similarly, in its adopting release for Rule 2a-7, the SEC recognized that "most money market funds promise investors that they will receive [redemption] proceeds much sooner" than seven days, but it did not insist that money market funds treat securities as illiquid if they could not be disposed of within the promised redemption period. Rule 2a-7 Adopting Release, *supra* note 67, at 384.

assets within seven days and achieve even an approximation of the values used in determining NAV.

The SEC's seven-day liquidity standard perhaps is best understood as an effort to establish an objective test, one that offers a bright if imperfect line derived from the redemption period set in Section 22(e). Similarly, the 15% ceiling on illiquid investments can be viewed as a conservative safeguard, designed to protect against the most severe conditions and as a response to two of the SEC's three stated concerns (the possible reduction of management flexibility and the magnification of valuation issues). Arguably, however, a more flexible standard that would permit funds to assess their liquidity needs on the basis of several relevant factors should be considered. These factors could include, for example, the mix of fund portfolio holdings, anticipated redemption demand, anticipated share sales, the level of cash reserves and the availability of lines of credit or intra-complex lending facilities. For the time being, however, funds should be aware that, despite the anomalies discussed above, the 15% test continues to apply.

B. The Process of Determining Liquidity.

Like the valuation process, the process of determining the liquidity of a portfolio security often is a subjective one, reflecting judgments as to the practical ability of a fund to sell a security in less active and in some cases specialized markets. Thus, a comparable system of delegation and controls is needed in connection with liquidity determinations. To this end, funds typically establish guidelines for identifying illiquid securities at the time of purchase and procedures for reporting developments that might require securities to be reclassified as liquid or illiquid, as appropriate. Funds normally do not periodically review the liquidity of individual portfolio

securities after they are acquired, but rather will review the liquidity of particular securities whenever circumstances warrant it.⁷⁷

While liquidity determinations are related to valuation determinations,⁷⁸ it is not uncommon for the two processes to be carried out by different personnel and pursuant to separate procedures. When different personnel are involved, it is important for relevant decisions made by each group to be communicated to, and taken into account by, the other. Alternatively, funds may find it efficient to combine the two processes. Thus, the fund's valuation and liquidity procedures may be integrated into a single document, and the same supervisory structure used in connection with valuation also may be utilized to monitor the validity and continuing appropriateness of liquidity determinations.

1. Delegation and Oversight by the Fund's Board.

In the context of liquidity determinations (specifically with respect to Rule 144A securities), the SEC has stated that boards have "the ultimate responsibility" for any determination that such securities are in fact, liquid.⁷⁹ The Commission also has made clear, however, that boards may delegate day-to-day responsibility for such determinations to the fund's investment adviser, provided that the board "retains sufficient oversight."⁸⁰ This is consistent with the normal functions of a board of directors and the role that fund boards play with respect to valuation issues, as discussed above. By reviewing and approving the fund's

⁷⁷ The SEC has indicated that it "expects funds to monitor portfolio liquidity on an ongoing basis." Inv. Co. Rel. No. 18612, 50 SEC Docket 1659, at 1660 (March 12, 1992). This monitoring, however, is to "determine whether, in light of current circumstances, an adequate level of liquidity is being maintained," not to regularly re-assess the liquidity status of individual securities. *Id.*

⁷⁸ For example, the removal of a restriction on previously illiquid securities may affect the basis for valuation, while difficulties in obtaining reliable market quotes for thinly traded securities may suggest that previously liquid securities have become illiquid.

⁷⁹ 144A Release, *supra* note 72, at n. 61. For a discussion of the types of securities that the SEC deems to be presumptively illiquid, and of the factors to be considered in making liquidity determinations with respect to certain of those securities, see Section III.B.4., below.

⁸⁰ *Id.*

guidelines and/or procedures with respect to liquidity determinations, the board fulfills this oversight responsibility.

2. Initial Determinations and Monitoring.

Investment professionals may play an even larger role in the context of liquidity determinations than in the valuation process. In contrast to valuation, initial assessments of the liquidity of portfolio securities often are made by investment personnel. As indicated above, these initial judgments normally are made at the time of purchase. Investment personnel also may be in the best position to learn of and report the occurrence of an event that could cause a liquid security to become illiquid or vice versa.

Absent special circumstances, funds generally consider securities to be liquid unless they are of a type that is presumed to be illiquid under SEC⁸¹ or internal fund guidelines. Although funds normally do not review the liquidity of individual portfolio securities on a continuing basis after they are acquired, they may have procedures in place to identify and report developments that could cause a change in a security's liquid or illiquid status. Such developments might include, for example:

- Corporate events, such as bankruptcy, default or delisting;
- Registration of previously restricted securities;
- Changes in the number of market makers for thinly traded securities;
- Changes in the depth of markets provided by market makers;
- Especially in emerging markets, changes in markets or trading practices (for example, changes in rules on free trading of securities by foreigners, changes in settlement practices and changes in overall trading volumes in particular markets);
- Market dislocations, such as occurred in the CMO markets in 1994, that may cause securities to become illiquid for limited periods.

⁸¹ See Section III.B.4., below.

3. Supervision and Controls.

Supervisory and control systems require the joint efforts of persons making initial liquidity determinations, supervisory personnel within fund management and the board of directors. In some cases, funds that have a valuation committee also use that committee to oversee the liquidity determination process. Such committees (or other supervisory personnel, even if not formally designated as a committee) may meet regularly and can be called together on short notice if necessary to address immediate issues.

Liquidity classifications generally are made in accordance with written guidelines approved by the board. Fund procedures may require portfolio managers (or traders) to report the acquisition of any securities that they believe to be illiquid, or that fall within any of the categories viewed by the SEC as presumptively illiquid,⁸² to the valuation committee or other supervisory personnel. In addition, fund procedures may provide that findings that presumptively illiquid securities are liquid, or that liquid securities have become illiquid, should be reported to supervisory personnel, in addition to being documented and retained in fund records. In some cases, the valuation committee ratifies liquidity determinations. In addition, fund procedures may require that liquidity determinations be reported to the board on a regular basis.

4. Assessing the Liquidity of Specific Types of Securities.

As noted above, the SEC and its staff from time to time have indicated that certain types of securities should be presumed to be illiquid. These include restricted securities, repurchase agreements having terms in excess of seven days and, as discussed below, certain municipal lease

⁸² See Section III.B.4., below.

obligations and interest-only and principal-only mortgage-backed securities.⁸³ In the context of adopting Rule 144A, however, the Commission stated that whether Rule 144A securities are, in fact, liquid, is “a question of fact for the board of directors [of the fund] to determine based upon the trading markets for the specific security.”⁸⁴ As previously noted, the Commission also indicated that boards may delegate day-to-day responsibility for such determinations to the fund’s investment adviser, provided that the board “retains sufficient oversight.”⁸⁵ The SEC staff subsequently has provided guidance as to circumstances under which certain other presumptively illiquid securities may be considered liquid, as discussed further below.

a. Rule 144A Securities; General Factors Applicable to Liquidity Determinations.

In its 144A Release, the Commission outlined a non-exclusive list of factors that it believes “would be reasonable for a board of directors to take into account” in determining whether Rule 144A securities will be considered liquid.⁸⁶ The staff also has indicated that these same factors would be relevant to liquidity determinations made for municipal lease obligations.⁸⁷ The general nature of these factors makes them appropriate for use, along with any other factors that may be unique to the particular securities, in all determinations made under the fund’s liquidity procedures. These factors are:

- the frequency of trades and quotes for the security;
- the number of dealers willing to purchase or sell the security and the number of other potential purchasers;

⁸³ The SEC has also suggested that junk bonds, direct loans and loan participations, certain warrants and options and venture capital or small business investments “might” be illiquid, depending upon the particular facts. Inv. Co. Act Rel. No. 18869, 20 SEC Docket 2115, at 2120, 2121 (July 28, 1992) [proposing periodic repurchase and interval funds].

⁸⁴ 144A Release, *supra* note 72, at 36.

⁸⁵ *Id.* at n. 61.

⁸⁶ *Id.* at 37.

⁸⁷ See Section III.B.4.b.(2), below.

- dealer undertakings to make a market in the security; and
- the nature of the security and the nature of the marketplace trades (*i.e.*, the time needed to dispose of the security, the method of soliciting offers, and the mechanics of transfer).⁸⁸

b. Liquidity Determinations With Respect to Other Specific Types of Securities.

(1) Foreign Securities.

At the same time that the Commission specified that Rule 144A securities might be found to be liquid, it also pointed out that foreign securities, which might be restricted for purposes of U.S. law, "would not necessarily be illiquid for purposes of the ten percent test,"⁸⁹ despite their restricted nature, if the foreign security can be freely traded in a foreign securities market and all the facts and circumstances support a finding of liquidity.⁹⁰

The Commission did not prescribe any specific factors that should be considered by fund boards in determining whether foreign securities are liquid, referring only to consideration of "all the facts and circumstances." Factors likely to affect the liquidity of some foreign securities, particularly those of issuers in emerging market countries, include: the length of settlement periods; difficult or uncertain registration procedures; back-office backlogs; special taxation considerations; currency convertibility and repatriation limitations; and issuer imposed limitations on transferability.

(2) Municipal Lease Obligations.

At one time, the staff took the position that municipal lease obligations should be considered illiquid because of "the inefficiency and thinness of the market in which they traded."⁹¹

⁸⁸ 144A Release, *supra* note 72, at 37.

⁸⁹ See note 66, *supra*.

⁹⁰ *Id.* at n. 60.

⁹¹ 1990 Generic Comment Letter, *supra* note 28, at *2.

At the request of the Investment Company Institute, however, the staff reconsidered that position and issued a clarifying letter recognizing that "in certain circumstances, it may be appropriate to view municipal lease obligations as liquid securities."⁹² In that letter, the staff stated that a fund may treat municipal lease obligations as liquid under guidelines established by the fund's board.

The letter indicated that, in addition to the general factors that had been identified in the 144A Release as described above, determinations as to the liquidity of municipal lease obligations should include the "unique" factor of whether the municipal lease obligation is likely to remain marketable throughout the time that it is held by the fund. The letter suggested that this, in turn, would depend on factors related to the credit quality of the municipality and the importance to the municipality of the property covered by the municipal lease.

The letter also stated that the staff believes it would be "imprudent" to treat an unrated municipal lease obligation as liquid unless the fund performed a credit quality analysis of the obligation similar to those performed by the rating agencies and concluded on that basis that the security was liquid. The rating agency criteria outlined in the letter, and apparently to be applied by a fund to an unrated municipal lease obligation, include the following:

- whether the lease can be canceled;
- whether the assets represented by the lease can be sold;
- the strength of the lessee's general credit;
- the likelihood that the municipality will discontinue appropriating funding for the leased property because the property is no longer deemed essential to the operations of the municipality; and
- the legal recourse in the event of a failure to appropriate.

⁹² Letter to Catherine L. Heron from Carolyn B. Lewis (June 21, 1991), cited in letter from Carolyn B. Lewis, Assistant Director, Division of Investment Management, to Investment Company Registrants, 1992 No-Act. LEXIS 1222 at *10 (January 17, 1992) ("1992 Generic Comment Letter"). In fact, many municipal lease obligations, including in particular certificates of participation, are indistinguishable from bond indebtedness in terms of their liquidity and trading volume.

(3) Interest-Only and Principal-Only Mortgage-Backed Securities.

In its 1992 Generic Comment Letter, the staff indicated that it was modifying its previous position that interest-only ("IO") and principal-only ("PO") classes of mortgage-backed securities should be considered illiquid, and would permit a fund to consider certain IO and PO classes to be liquid if determined to be so pursuant to guidelines established by the fund's board.⁹³

The staff stated that the only types of IOs and POs eligible to be treated as liquid securities are IOs and POs that are issued by the United States government or its agencies or instrumentalities and that are backed by fixed rate mortgages. The staff has not elaborated on the basis on which it distinguished between these types of IOs and POs and others. For example, the staff has not explained why IOs and POs backed by adjustable rate mortgages necessarily would be less liquid than those backed by fixed rate mortgages. Similarly, the staff has not specified any criteria that should be incorporated into the liquidity guidelines approved by the board. However, the general criteria set forth in the 144A Release and applied by the staff to municipal lease obligations appear also to be relevant in the context of IOs and POs.

(4) Section 4(2) Commercial Paper.

The staff also has specified the criteria upon which it believes funds can determine that certain types of commercial paper are liquid. In a no-action letter addressing this issue, the staff noted that while most commercial paper constitutes an exempt security under Section 3(a)(3) of the Securities Act and, accordingly, is not "restricted," commercial paper that is issued under Section 4(2) of the Securities Act is "restricted" and, therefore, presumed to be illiquid.⁹⁴ It further noted that some Section 4(2) paper is not eligible for resale under Rule 144A, and therefore is not

⁹³ 1992 Generic Comment Letter at *10-11.

⁹⁴ *Merrill Lynch Money Markets Inc.*, 1994 SEC No-Act. LEXIS 236 (January 14, 1994).

covered by the Commission's findings in the 144A Release. Nevertheless, the staff indicated that Section 4(2) paper that is not eligible for resale under Rule 144A may be considered liquid if it meets the following conditions:

- the 4(2) paper must not be traded flat or in default as to principal or interest;
- the 4(2) paper must be rated in one of the two highest rating categories by at least two nationally recognized statistical rating organizations ("NRSROs") or if only one NRSRO rates the security, by that NRSRO; if the security is unrated, the board must determine that the security is of equivalent quality; and
- the board or the fund's investment adviser must consider the trading market for the specific security, taking into account "all relevant factors."⁹⁵

The "relevant factors" that are to be considered presumably include the general factors identified in the 144A Release. Hence, fund procedures for assessing the liquidity of Section 4(2) paper that is not eligible under Rule 144A generally encompass both the Rule 144A considerations and the special conditions set forth above.

C. Compliance with the Illiquid Asset Limit.

The regulatory ceiling on illiquid securities simply prohibits a fund from acquiring *additional* illiquid securities if doing so would result in the fund's exceeding the 15% or 10% limitation (as applicable). The SEC has suggested, however, that funds should take appropriate measures to reduce their existing holdings of illiquid securities if they exceed the regulatory limit because liquid securities have become illiquid, or there have been changes in the relative values of liquid and illiquid securities. Thus, the Commission stated in ASR 113 that if illiquid holdings increased beyond the then-10% limit, "it would be desirable for the [fund] to consider appropriate steps to protect maximum flexibility."⁹⁶

⁹⁵ *Id.* at 6, n. 15.

⁹⁶ ASR 113, *supra* note 4, at 62,287.

The Commission also has made clear, however, that funds need not engage in "fire-sale" or other dispositions of excess illiquid securities that could be harmful to the fund. Thus, the SEC has stated, with respect to money market funds:

In the event that changes in the portfolio or other external events cause the investments in illiquid instruments to exceed ten percent of the fund's net assets, the fund must take steps to bring the aggregate amount of illiquid instruments back within the prescribed limitations as soon as reasonably practicable. However, this requirement generally would not force the fund to liquidate any portfolio instrument where the fund would suffer a loss on the sale of that instrument.⁹⁷

IV. CONCLUSION.

Procedures for determining the value and assessing the liquidity of portfolio securities, and effective controls over those procedures, are essential to the smooth operation of mutual funds. Notwithstanding the success that industry members have experienced in developing and implementing such procedures and controls, issues related to valuation and liquidity are likely to continue to be the subject of significant regulatory and public focus. Fund groups should continue to devote careful attention and adequate resources to appropriately handling these matters.

⁹⁷ Rule 2a-7 Adopting Release, *supra* note 67, at n. 38.

NAV ERROR CORRECTION

