Value Line®

PRODUCT GUIDE

The Value Line Fund Advisor Plus

The Most Trusted Name In Investment Research®

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CHAPTER

1

Overview of The Value Line Fund Advisor Plus

The Value Line Fund Advisor Plus, which is available in both print and digital formats, is committed to providing investors with all of the information they need to develop and maintain a well-constructed portfolio of load, no-load, and low-load mutual funds. This guide serves as a starting point, providing broad information on basic financial planning, including assessment of goals, understanding risk, and choosing and evaluating suitable funds. An investor-profile questionnaire, provided to subscribers as a stand-alone reference, guides investors to one of nine model portfolios depending on their goal and risk tolerance. Published monthly, each 48-page issue of the *Fund Advisor Plus* is composed of two sections, one containing feature articles and one containing statistical data. They are described in more detail below.

Feature Articles

Each issue of the *Fund Advisor Plus* includes six pages of timely articles comprised of three mutual fund pages including statistical data, management style, and their rankings, along with the respective highlights of the mutual funds that may be important to investors.

Asset-Allocation Model

Included in each issue is The Value Line Asset-Allocation Model. For the model, Value Line selects sample fund choices for each of the 10 major fund categories: Large Cap Growth & Value, Small Cap Growth & Value, Foreign Stock, Emerging Market Stock, Domestic Bond and Foreign Bond. Further, we group these funds by level of risk, assigning three funds to each of the risk designations, i.e., High Risk, Moderate Risk, or Low Risk.

Each month we highlight one of the groups, detailing each fund's investment strategy, and how it may fit into investors' portfolios.

Fund Performance Index

Each issue of *The Value Line Fund Advisor Plus* includes a Fund Performance Index, which provides a wealth of statistics and relevant information for about 800 leading No-Load, low-load, and load funds. A full range of performance and risk statistics helps investors monitor their portfolios and identify new ideas. The index also rates the performance of portfolio managers and management teams versus their peers during their tenure at the funds, as well as listing the fund's current investment profile and relevant investment information. An illustration of the Performance Index can be found on pages 12 and 13, and explanations of the information contained in the index follow.

1 Load or No-Load funds. There is a 'Y' in this column if the fund is a load fund. Load funds that charge a commission on the initial purchase of shares are designated as front-end load. When the shares are sold, the funds are considered a back-end load or redemption fee. For no-load funds, this field is blank.

LARGEST 10 NO LOAD FUNDS BY NET ASSETS

Fund Name	Ticker	Net Assets ($ Millons)
Vanguard 500 Index Adm	VFIAX	$324,067.188
Fidelity 500 Index	FXAIX	$252,105.281
Vanguard Total Stock Mkt Index Adm	VTSAX	$248,342.719
Vanguard Total Stock Mkt Index Iplus	VSMPX	$199,333.344
Vanguard Total Intl Stock Index Inv	VGTSX	$159,975.813
Vanguard Total Stock Mkt Index Inst	VITSX	$159,337.031
Vanguard Total Stock Mkt Index Inv	VTSMX	$139,789.406
Vanguard Institutional Index Iplus	VIIIX	$128,901.133
Vanguard Total Bd Mkt Index Adm	VBTLX	$119,783.148
Vanguard Total Bd Mk II Index Inv	VTBIX	$117,784.125

As of 9/30/20

INVESTMENT OBJECTIVES

2 Value Line groups each fund into one of 31 Investment Objective categories based on its investment practices and stated goals. In addition, where applicable, the Objective groups are further broken down into narrower Peer subsets.

Each fund's Investment Objective is denoted by a two-letter code, as are Peer subsets. For example, a short-term government bond fund will be listed as GS/ST (government securities/short maturity). These subsets allow for more relevant Peer comparisons. The 31 Investment Objectives are grouped into six very broad categories. The Performance Index lists funds alphabetically within each of these six groups. The categorization scheme, including Peer subsets, is defined as follows:

GENERAL EQUITY — Five objective groups	
Aggressive Growth (AG)	Invests predominantly in higher-risk common stocks or has a stated policy of maximum growth without regard to income or time horizons.
Growth (GR)	Pursues long-term growth via common stocks, usually with income as a secondary objective.
Growth / Income (GI)	Places equal emphasis on capital growth and current income or growth of income, mainly through investments in common stocks.
Income (IN)	Seeks income primarily through investments in common stocks. Growth may or may not be a secondary objective.
Small Company (SC)	Stated policy is to invest primarily in common stocks of companies with market capitalizations of less than $1 billion.

SPECIALTY EQUITY — Eight objective groups	
Energy / Natural Resources (EN)	Stated policy is to invest at least 80% of assets in common stocks of energy and/or natural-resources companies.
Financial Services (FS)	Stated policy is to invest at least 80% of assets in common stocks of financial-services and related companies.
Gold / Metals (PM)	Stated policy is to invest at least 80% of assets in gold and/or precious-metals stocks or bullion.
Health (HL)	Stated policy is to invest at least 80% of assets in companies primarily engaged in healthcare and related businesses.
Other (OT)	Stated policy is to invest at least 50% of assets in stocks of companies in a specific sector for which no other category is defined.
Real Estate (RE)	Stated policy is to invest at least 30% of assets in real estate or related companies, including real estate investment trusts (REITs).
Technology (TC)	Stated policy is to invest at least 50% of assets in stocks of companies that develop or are expected to benefit from advanced technologies.
Utilities (UT)	Stated policy is to invest at least 50% of assets in utilities securities, including telephone or cable-television companies.

INTERNATIONAL EQUITY — Four objective groups	
European Stock (EU)	Invests at least 50% of net assets in equity securities of European companies.
Foreign Stock (FO)	Invests at least 50% of assets in common stocks of non-U.S. companies.
Foreign Stock/Emerging Markets (FO/EM)	Invests predominantly in equity securities of emerging-market companies; that is, firms located in growing areas such as Latin America and the Pacific Rim (excluding Japan).
Foreign Stock/Latin America (FO/LA)	Invests predominantly in equity securities of companies located in the emerging markets of Latin and South America.
Global Stock (GL)	Invests in common stocks of both U.S. and foreign companies.
Pacific Stock (PB)	Invests at least 50% of assets in equity securities of Pacific Basin (including Japanese) companies.
Pacific Stock/Japan Only (PB/JO)	Invests predominantly in equity securities of Japanese companies.
Pacific Stock/Excluding Japan (PB/NJ)	Invests predominantly in equity securities of Pacific Basin companies, excluding those located in Japan.

PARTIAL EQUITY — Four objective groups	
Asset Allocation (AA)	Uses optimization or asset-allocation model to determine most-favorable allocation among asset classes, usually in pursuit of total return. Often exhibits characteristics similar to those of Balanced funds (see below).
Balanced (BA)	Committed to maintaining a balance between stocks and bonds. Must have a stated policy to invest at least 25% of assets in bonds at all times. Stated objectives must be growth, income, and preservation of capital.
Convertible (CV)	Invests mainly in actual or synthetic convertible securities. Objectives may range from growth to income.
Flexible (FL)	May invest in stocks, bonds, or cash to any degree, usually in pursuit of income or total return.

TAXABLE FIXED INCOME — Six objective groups	
Corporate High Yield (CH)	Invests specifically in lower-rated corporate bonds in pursuit of high current income. Some have secondary objective of growth.
Corporate General (CG)	Invests in corporate fixed-income securities in pursuit of current income.
Diversified Bond (DB)	Invests in a mix of corporate and government fixed-income securities in pursuit of current income.
Government (GS)	Invests at least 80% of assets in U.S. Government and Agency securities.
Government Mortgage (GM)	Invests at least 80% of assets in mortgage-backed securities such as GNMA, FNMA and FHLMC issues.
Government Mortgage/ Adjustable Rate (GM/AJ)	Invests predominantly in adjustable-rate mortgage securities such as GNMA, FNMA and FHLMC issues.
Government Mortgage/GNMA (GM/GN)	Invests predominantly in mortgage-backed securities issued by the Government National Mortgage Association (GNMA).
International Bond (IB)	Invests in foreign and U.S. bonds or exclusively in foreign fixed-income securities in pursuit of current income.
International Bond/Foreign (IB/FO)	Invests in fixed-income securities of non-U.S. issuers in pursuit of current income.
International Bond/Global (IB/GL)	Invests in fixed-income securities of both foreign and U.S. issuers in pursuit of current income.
International Bond/Short Term (IB/ST)	Invests predominantly in foreign and U.S. bonds, or exclusively in foreign fixed-income securities, with maturities of less than one year, in pursuit of current income and principal preservation.

TAX-FREE FIXED INCOME — Four objective groups	
Municipal Bond (MB)	Invests at least 75% of assets in municipal securities in pursuit of income that is exempt from federal income taxes.
Municipal Single State (MS)	Invests at least 75% of assets in municipal securities in pursuit of income that is exempt from federal and specific state income taxes. Note: Each Municipal Single State fund is also designated a state code determined by the state in which it invests (for example, an Ohio municipal-bond fund will be designated as MS/OH).
Municipal California (MC)	Invests at least 75% of assets in municipal securities in pursuit of income that is exempt from both federal and California state income taxes.
Municipal New York (NY)	Invests at least 75% of assets in municipal securities in pursuit of income that is exempt from both federal and New York state income taxes.

Note: In addition to the Investment Objective and Peer categories listed above, all Taxable Fixed Income and Tax-Free Fixed Income funds without specified Peer subsets will be designated as Short Maturity (–/ST), Intermediate Maturity (–/IT), or Long Maturity (–/LT).

PEER GROUPS

As mentioned above, many funds have both an Objective Group and, to make more accurate comparisons, a Peer Group. Below is a list of the Peer Groups within the different Objective Groups, followed by definitions of each one.

3 **NAV,** or **Net Asset Value** is the share price of a mutual fund. It is calculated by dividing the total net assets of the fund by the total number of shares outstanding. Value Line lists NAV as of the latest available month-end prior to the issue date; that is, if the issue date is February, then the NAV is as of January 31st.

RANKS

4 The fund's **Overall** and **Risk ranks** are listed. A change in either rank is indicated with an up or down arrow (□ or □) next to the new ranks. These arrows enable subscribers to quickly spot funds that have risen or fallen in rank. An upward change in the Risk rank means risk has declined.

Ranks are useful because they digest important performance and risk statistics into a single measure, facilitating comparisons across a broad universe of funds.

Ranks that are based on either too broad or too specific a grouping can be deceptive; over the long run, for example, an aggressive growth fund will typically outperform a municipal bond fund in bull markets. If these two are ranked against each other, the ranks will not reflect that they have entirely different portfolios and investment objectives. On the other hand, if a small group of funds, such as gold funds, were ranked independently, a high rank would not reflect the historically weak performance or high volatility inherent in this group relative to the broader market.

Many other qualities of mutual funds come into play from the point of view of the individual investor: income requirements, time horizons, taxes, etc. These and other factors fall outside the realm of the ranks, and an investor must consider them as well, in order to make an informed decision.

Value Line uses a dual Ranking System whereby each fund receives an Overall Rank, measuring various performance criteria taking risk into account, and a Risk Rank, to show the total level of risk the fund has assumed. Funds are ranked from 1 to 5, with 1 being the Highest Overall Rank (the best risk-adjusted performance) and the best Risk Rank (the least risky).

Overall ranks are calculated separately for each of three broad categories: equity and partial-equity funds, taxable fixed-income funds, and municipal bond (tax-free) funds. Value Line calculates Overall ranks on the basis of three critical factors: one- and five- year persistence of relative growth in fund returns and three-year risk-adjusted performance. Growth Persistence, shown individually in the Ranks box on the page, is a proprietary Value Line measure that rewards funds for the consistency with which they outperform their broader universe of equity, taxable fixed-income, or municipal-bond funds. Funds are rewarded only for the consistency with which they outperform, not for the magnitude of the outperformance (see page 9 for a more detailed explanation of Growth Persistence). The three-year risk-adjusted performance is calculated by dividing a fund's three-year total return by its Standard Deviation. These three measures are combined into a total score, and the funds are then ranked from 1 (Highest) to 5 (Lowest).

Risk Ranks are calculated for each of two broad categories: equity and partial-equity funds, and taxable and tax-exempt fixed-income funds. The ranks are based on standard deviation, a measure of a fund's volatility. Value Line uses a three-year period for this calculation, which provides enough data for reliable measurement without overweighting data that is too old to be relevant. Standard deviation measures the variation of a fund's returns, exclusive of any other factors. It is therefore a more reliable indicator of a fund's risk than other statistics, such as beta, which measures the sensitivity of a fund against an independent index such as the S&P 500. Standard deviation accounts for both positive and negative returns equally and thus gives an indication of the potential swings in a fund's performance. It enables investors to compare a fund to its peer objective as opposed to the market in general. Standard deviation measures the variability of a fund's total returns. In other words, the standard deviation takes into account how the fund is performing consistently over a period of time, while also considering the fund's losses. For instance, if a fund posted a total return of 12% over a 12-month period then the fund will be considered less risky, since it is posting a gain of 1% each month. On the other hand, for a fund that posts a gain of 10% one month and a loss of 5% the following month, it would be considered risky due to the variation. Because it makes no distinction between upside and downside volatility, Standard Deviation will tend to

Objective Group	Peer Group	Peer Code
Aggressive Growth	Growth-Style	GW
	Large-Cap Blend	LB
	Large-Cap Growth	LG
	Large-Cap Value	LV
	Mid-Cap Blend	MB
	Mid-Cap Growth	MG
	Mid-Cap Value	MV
	Small-Cap Blend	SB
	Small-Cap Growth	SG
	Small-Cap Value	SV
	Value-Style	VL
Asset Allocation	Global	GL
Balanced	Global	GL
Foreign Equity	Emerging Markets	EM
	Latin America	LA
Growth	Growth-Style	GW
	Large-Cap Blend	LB
	Large-Cap Growth	LG
	Large-Cap Value	LV
	Mid-Cap Blend	MB
	Mid-Cap Growth	MG
	Mid-Cap Value	MV
	Small-Cap Blend	SB
	Small-Cap Growth	SG
	Small-Cap Value	SV
	Value-Style	VL

Objective Group	Peer Group	Peer Code
Growth/Income	Large-Cap Blend	LB
	Large-Cap Growth	LG
	Large-Cap Value	LV
	Mid-Cap Blend	MB
	Mid-Cap Growth	MG
	Mid-Cap Value	MV
	Small-Cap Blend	SB
	Small-Cap Value	SV
	Value-Style	VL
Income	Large-Cap Blend	LB
	Large-Cap Value	LV
	Value-Style	VL
Pacific Equity	Japan	JP
	Non-Japan	NJ
Small Company	Growth-Style	GW
	Small-Cap Blend	SB
	Small-Cap Growth	SG
	Small-Cap Value	SV
	Value-Style	VL
Utilities	Global	GL

Peer Group Definitions	
Emerging Markets	Invests at least 80% of assets in common stocks of companies located in countries with developing economies (as opposed to those with more-stable or mature economies, such as Japan or most European countries).
Global	Invests in securities (stocks, bonds, or both depending upon the fund's objective) issued in both the U.S. and in foreign companies.
Growth-Style	Invests primarily in "growth" stocks, or those whose prices are expected to rise because of anticipated growth in the companies' revenues and earnings, with no great bias toward either large or small companies.
Japan	Invests at least 50% of assets in common stocks of Japanese companies.
Large-Cap Blend	Invests primarily in large companies (generally those with market capitalizations exceeding $10 billion), with no notable bias toward either growth or value stocks.
Large-Cap Growth	Invests primarily in large companies (generally those with market capitalizations exceeding $10 billion), with a focus on growth stocks.
Large-Cap Value	Invests primarily in large companies (generally those with market capitalizations exceeding $10 billion), with a focus on value stocks.
Latin America	Invests at least 50% of assets in common stocks of Latin American companies.
Mid-Cap Blend	Invests primarily in mid-cap companies (generally those with market capitalizations between $2 billion and $10 billion), with no notable bias towards either growth or value.
Mid-Cap Growth	Invests primarily in mid-cap companies (generally those with market capitalizations between $2 billion and $10 billion), with a focus on growth stocks.
Mid-Cap Value	Invests primarily in mid-cap companies (generally those with market capitalizations between $2 billion and $10 billion), with a focus on value stocks.
Non-Japan	Invests at least 50% of assets in the equity of Pacific Basin (excluding Japanese) companies.
Small-Cap Blend	Invests primarily in small companies (generally those with market capitalizations not exceeding $2 billion), with no notable bias towards either growth or value stocks.
Small-Cap Growth	Invests primarily in small companies (generally those with market capitalizations not exceeding $2 billion), with a focus on growth stocks.
Small-Cap Value	Invests primarily in small companies (generally those with market capitalizations not exceeding $2 billion), with a focus on value stocks.
Value-Style	Invests primarily in "value" stocks, or those whose prices are regarded as undervalued relative to current earnings, revenues, or assets, with no bias toward either large or small companies.

give a more conservative indication of the risk a fund has incurred historically. Moreover, one should note that other factors that measure risk can only do so when the fund actually posts a loss and therefore are unable to measure the potential for risk

Overall and Risk Ranks are distributed across the Value Line mutual fund universe as follows:

Rank		% of Funds
1	Highest / Safest	10
2	Above Average / Lower Risk	20
3	Average / Average Risk	40
4	Below Average / Higher Risk	20
5	Lowest / Highest Risk	10

The broad categories used for the Risk and Overall Ranks allow for easy comparison of a large number of funds. While some may find it useful to see funds ranked within narrow categories, such a system makes it impossible to meaningfully compare funds across these categories. For example, if small-company funds are ranked in isolation, there is no way to compare the rank of a fund in this group to that of a large-cap fund with a similar objective. Under the Value Line Ranking System, investors can use ranks to compare entire classes of funds to one another. For those who wish to compare funds solely to others in the same objective group, average rankings are provided for each group in the Ranks box on the printer-friendly version of any online fund page. (In addition, averages for objective groups are provided for all performance and risk statistics.) At the other end of the spectrum, all funds could be ranked together on a single scale. Such a system, however, would blur the distinctions between funds; it is meaningless to rank a municipal-bond fund against an aggressive-growth fund, since they have completely different portfolios and investment objectives. By grading funds across three separate groups, Value Line's Ranking System provides meaningful comparisons between both individual funds and types of funds, without blurring the distinctions between ranks.

5 **Five-Year Growth Persistence** is a measure of how consistently a fund has outperformed its equity or fixed-income peers. Value Line's calculation of Growth Persistence rewards a fund only for its consistency of outperformance; the measure does not take into account the degree of outperformance. The calculation produces a raw number; this number is then ranked against those of the fund's peers in order to derive a comparative ranking that is useful in measuring a fund's historical record of relative performance. The Growth Persistence figures are also a component of Value Line's Overall Ranks.

6 **The Fund's Performance History** is listed Year-to-Date (YTD) and for the trailing three-month, six-month, one-, three-, five-, and 10-year periods. For periods of up to one year, figures are expressed as the total return for that period; for periods of over one year, figures are expressed as average annualized rates of return. A dash indicates that the fund does not have sufficient Performance History for that time period.

7 **Market Cycle Performance** is listed for the previous two market cycles. These figures offer an indication of a fund's up- and downside potential.

8 A fund's **Yield** is the total of its income received from investments and paid to its shareholders, expressed as a percentage of the reported price of the security. Value Line calculates yield by dividing the total dividends paid per share during the trailing 12 months by the sum of the fund's offer price (price charged to the investor that reflects any applicable sales charge) and any capital gains (per share) paid during that 12-month period.

The Value Line yield figure is designed to give a realistic measure of the income an investor might expect to receive from a mutual fund. For that reason, sales charges and capital-gains payments (the numerator) are accounted for in the yield calculation. The following example shows why these factors are important in determining yield: Suppose a fund has a bid price (NAV) of $10 per share. Over the trailing 12 months, the fund paid dividends totaling 50 cents per share and capital gains of $2.50 per share. The fund's actual yield, then, is not 5% (50 cents divided by $10), but rather less than that, because an investor will pay an offer price of $10.00 and the $2.50 in capital gains represents a portion of shareholders' capital. Value Line's calculation uses these additional measures in order to derive the actual percentage of a shareholder's investment he or she receives in the form of income. The trailing 12-month yield for this fund would therefore be:

$$\frac{\$0.50}{(\$10.00 + \$2.50)}$$

or 4.0%. This is quite a different figure from the 5% that is derived simply by dividing the dividends by the current NAV, and more realistically reflects the income an investor can expect to receive on his or her actual investment.

STYLE ATTRIBUTION

9 Equity categories include a Style Attribution Analysis: Large Growth (LG), Large Value (LV), Small Growth (SG), Small Value (SV), Foreign Stock (FO), Emerging Markets Stock (EM), Precious Metals (PM), International Bond (IB), High Yield Bond (HY), and Intermediate Bond (BD). The Style Attributions shown in the fund listings are not based on the actual reported holdings, but rather are calculated based on a comparison of the fund's returns to those of 10 style indexes.

It represents, in effect, the percentage of which a fund's behavior can be explained by each index. Style Attribution is a tool to help investors track how their funds are being managed from a style perspective, and to identify style shifts. These figures can help maintain a desired diversification across styles, and are useful in aligning a portfolio with the asset-allocation models presented in this newsletter. For that reason, changes in style of greater than 10 percentage points are flagged with an up or down arrow. The numbers shown are derived from a multiple regression that compares fund returns to those of the 10 asset-class indexes.

These numbers rarely sum to 100%, because generally some portion of a fund's return cannot be satisfactorily explained by just the 10 asset classes. In addition, where there is a lack of available information, these correlations will not be calculated. The formula uses the most-recent 100 daily returns. Using daily returns, rather than monthly, provides a far more current picture of a fund's allocation and is more useful in alerting investors to style drift that may require them to rebalance their portfolio. Because the period is shorter, however, the numbers are less stable and can be subject to anomalous results from time to time. Investors need to recognize the inherent usefulness, and likewise the limitations, of these figures.

Fixed-Income Statistics

For the fixed-income groups, four important statistics are listed: Average Maturity, Average Duration, Average Credit Quality, and Average Coupon.

Average Maturity: A fund's average maturity is the dollar-weighted average of the maturities of its fixed-income holdings. Maturity represents the date on which a bond's principal is due to be repaid. In general, longer-maturity bonds are more sensitive to interest-rate changes because they have longer durations.

Average Duration: A bond's duration is a comprehensive measure of its price sensitivity to interest-rate fluctuations. Duration takes into account the two opposing factors of a bond: its price sensitivity as a result of the time until its maturity, and the value of reinvesting its interim coupon payments at varying market interest rates. For example, falling interest rates will increase a bond's price but lessen the value of reinvested coupon payments, because reinvestments must now be made at lower interest rates. On the other hand, rising interest rates will lower a bond's price but increase the value of reinvested coupon payments, because they can be invested at higher current interest rates.

The point in the bond's life when these two opposing factors exactly offset each other is the bond's duration. Consequently, the fund's maturity, as well as its coupon rate, directly affect its actual price sensitivity. A zero-coupon bond, for instance, has a duration that is equal to its maturity, since it pays no interim income, while a bond with a coupon rate that is higher than the prevailing market rate will have a duration that is considerably less than its maturity.

In essence, duration provides a more complete measure of interest-rate sensitivity than maturity because it accounts for the time value of a bond's interim coupon payments as well as its final principal repayment. The longer a bond's duration, the more its price will fluctuate when interest rates move. As a rule of thumb, the duration indicates the number of percentage points a price of a bond can be expected to gain or lose for each one-percent change in interest rates.

Average Credit Quality: The percentage of the fund's assets invested in each of six credit-quality levels is shown, along with the average quality of the fund's fixed-income holdings. The ratings listed correspond to those used by the Standard & Poor's rating service.

Although fixed-income investments tend to be more stable than equity investments, there are risks involved that investors must be aware of. One is credit risk, which can be assessed by examining a fund's credit-quality breakdown and average credit quality. This measures the likelihood that a bond's issuers will be able to meet the coupon and principal payments. A rating of AAA, the highest quality, is reserved for the financially strongest corporate issuers. Issues rated BBB or higher are generally regarded as investment-grade securities, indicating that the bond holder can expect with a fair degree of certainty that the bond's payments will be made. Issues rated below BBB are known as high-yield or "junk" bonds, because their issuers are not as financially secure and there is a greater chance that payment obligations will not be met. In return for higher credit risk, lower-rated bonds offer a higher coupon yield (the dividends paid out as interest expressed as a percentage of a bond's par value).

Average Coupon: A fund's average coupon is the dollar-weighted average of the coupon rates of its underlying fixed-income securities. Like maturity, a bond's coupon rate is a partial measure of its interest-rate sensitivity; higher coupon bonds are less sensitive to price because their higher payments remain relatively attractive in the face of rising interest rates.

10 Each fund's portfolio **Composition** is shown; that is, the percentage of the fund's net assets invested in cash, bonds (Bds), convertible securities (Cvts), stocks (Stks), and other asset classes.

11 **The Maximum Sales Load** is the highest charge levied on shareholder transactions used to pay a commission to the selling broker. Loads are typically charged either in the form of initial or front-end sales charges or redemption fees. **Front-end loads** are typically graded based on the amount of money invested: the greater the amount the lower the percentage charge on the purchase. For many low-load funds covered in this newsletter, however, the charges are flat, and thus apply to any investment amount. The most common **redemption fee** is a contingent deferred sales charge, also known as a back-end load. A back-end load is an alternative to a load fund's typical front-end sales charge and is one method used by mutual funds to encourage longer-term financial commitment. An investor pays no sales charge when initially purchasing shares, but rather pays a charge if they are redeemed within a certain period. These redemption charges are highest during the first year, and typically decline by one percentage point per year thereafter, so that investors holding shares long enough pay no fee at all. A small number of funds charge a simple flat redemption fee, usually 1% or less, designed to discourage market timers. Often these lower, flat fees are only in effect for one year or less following the initial purchase. Most load funds employ only one of these two load structures (they rarely use both).

12 **Expense Ratio:** The total expenses incurred by the fund, including management fees, distribution (12b-1) fees, and administrative fees, expressed as a percentage of average net assets.

13 **Minimum Initial Investment** amounts are the smallest dollar amounts that the fund will accept for new shareholder accounts. Most require a minimum initial amount to open an account, and a smaller minimum for subsequent share purchases. Some funds will waive the minimum initial investment if an account is opened using an automatic investment plan or as an IRA. Consult a fund's prospectus for detailed information on its policies regarding shareholder investments.

14 The index lists each portfolio's current **Fund Manager** as well as the year the manager or managers began their tenure. The length of time a manager has been with a fund increases or decreases the relevance of the fund's historical performance.

15 A change in management can have a significant impact on a fund's style and performance. Thus, it is very relevant and useful to measure an individual manager's or management team's effectiveness in rewarding shareholders for the risks incurred by the fund during his or her–or their– tenure. Value Line's **Manager Ratings** measure the risk-adjusted performance of a fund's management relative to the fund's objective group (groups are listed and defined earlier in this guide). This performance rating is based on the manager's "value added" while with the fund; that is, the difference between a manager's actual average annual return while at the fund and the "expected" return as determined by the level of risk assumed relative to the fund's peers.

In calculating Manager Ratings, risk is measured by the Standard Deviation of monthly returns since the manager took over the fund, expressed as a ratio to the standard deviation of the fund's objective group for the same period (after adjusting for the near risk-free rate of return on a U.S. Treasury bill).

Once the fund's relative risk is measured, it is used to calculate the annualized return that would be "expected" when assuming such a risk level within the objective group. This "expected" return is subtracted from the fund's actual average annual return, and the resulting figure, listed in this index, can be considered the manager's "value added" while with the fund. If a manager has been in place for less than two years, no value added is calculated. Also, the measurement period extends back only so far as there are at least five funds in the objective group.

16 **The Telephone Number** shows where interested investors and shareholders can call in order to get further information. In addition, shareholders can make a number of transactions, such as making subsequent investments and redemptions, as well as receive transaction confirmations 24/7, through the mutual fund family website.

FUND PERFORMANCE INDEX

THE VALUE LINE FUND ADVISOR *PLUS*

GENERAL EQUITY

Fund Name	Load (1)	Inv. Obj./Peer (2)	NAV 9/30/20 (3)	Value Line Rankings (4): Overall	Risk	5 Yr. Growth Persistence (5)	Total Return 9/30/20 (6): YTD	3 Mos	6 Mos	12 Mos	Annualized: 3 Yrs	5 Yrs	10 Yrs	Market Cycles (7): 2/09-8/20 Bull	10/07-2/09 Bear	Pct. Yield (8)
AB Equity Income A (AUIAX)	Y	GI/LV	25.87	3	3	3	-6.9	6.4	22.0	-1.8	4.5	8.0	9.4	252.3	-41.2	2.1
AB Growth A (AGRFX)	Y	GR/LG	95.85	1	3	1	19.6	9.2	41.1	28.7	20.6	18.8	16.5	652.6	-52.2	0.0
AB Lg Cap Growth A (APGAX)	Y	GR/LG	69.23	1	3	1	20.8	8.7	36.2	32.9	20.8	19.0	17.6	707.1	-41.2	0.0
AB Relative Value A (CABDX)	Y	GR/LV	4.90	3	3	3	-13.0	3.8	18.4	-6.9	2.4	7.3	10.4	308.3	-51.3	1.3
AIG Focused Div Strategy A (FDSAX)	Y	GI/LV	14.48	5	3	▼ 4	-13.9	2.6	17.9	-11.5	-1.6	4.8	9.4	417.3	-53.0	3.9
AMG Managers Brandywine Blue I (BLUEX)		GR/LG	55.88	1	3	1	17.6	13.4	38.6	28.2	16.6	16.4	12.8	329.9	-51.5	0.0
AMG Managers Emerging Opportuns N (MMCFX)		SC/SG	36.98	3	5	▼ 3	-8.3	4.3	36.2	0.6	4.8	9.9	11.8	448.0	-53.3	0.0
AMG Mgr Montag & Caldwell Growth N (MCGFX)		GI/LG	22.21	1	3	2	19.0	12.0	39.9	29.6	18.1	14.9	13.1	424.2	-42.4	0.0
AMG Yacktman Focused N (YAFFX)		GR/LV	17.66	3	2	▼ 3	-3.2	5.6	22.6	3.5	8.6	11.0	10.3	461.1	-38.3	1.2
AMG Yacktman I (YACKX)		GI/VL	19.60	3	2	3	-4.3	5.4	22.2	2.4	7.7	9.9	10.1	449.5	-41.0	1.7
Aberdeen Dynamic Dividend Instl (ADVDX)		IN/LB	3.84	3	3	3	-4.3	5.4	25.5	4.3	4.5	8.2	6.7	181.0	-58.9	5.9
Aberdeen Focused US Equity A (MLSAX)	Y	GR/LS	8.33	2	3	3	9.0	9.2	29.3	19.7	14.4	10.8	6.2	111.3	-14.5	0.0
Aberdeen US Small Cap Equity A (GSXAX)	Y	SC/SB	33.28	3	4	3	3.5	5.0	35.8	9.9	5.0	10.4	12.0	503.4	-59.1	0.0
AdvisorOne CLS Growth & Income N (CLERX)		GR/LB	10.78	3	2	5	-4.2	3.2	14.0	0.7	2.0	4.6	4.6	132.5	-38.8	2.2
Alger Capital Apprec A (ACAAX)	Y	GR/LG	34.82	1	3	1	29.3	13.6	45.7	43.0	22.0	20.2	17.3	757.1	-50.7	0.0
Alger Capital Appreciation I-2 (ALVOX)		GR/LG	104.41	1	3	▼ 2	29.0	13.6	45.4	42.8	22.4	19.6	17.2	768.7	-51.4	0.0
Alger Growth & Income A (ALBAX)	Y	GI/LG	45.00	2	3	2	2.4	6.7	27.6	11.5	10.2	12.3	11.7	353.7	-37.5	1.3
Alger Spectra Fund A (SPECX)	Y	AG/LG	29.00	1	3	2	29.2	14.6	48.9	41.8	21.8	19.2	16.9	783.6	-49.7	0.0
AllianzGI Dividend Value A (PNEAX)	Y	IN/LV	10.14	4	3	3	-11.8	5.2	19.6	-5.1	1.7	6.5	8.1	246.6	-53.8	1.5
AllianzGI Focused Growth C (PGWCX)		GR/LG	40.57	2	4	2	32.6	17.3	53.3	47.9	21.1	18.4	16.3	603.8	-46.9	0.0
AllianzGI Mid-Cap Value C (PQNCX)		GR/MV	21.87	4	4	3	-12.0	5.4	22.6	-6.5	-0.7	7.1	8.6	312.9	-54.2	0.6
AllianzGI Small Cap Value A (PCVAX)	Y	SC/SV	11.14	5	4	4	-22.6	0.6	14.5	-17.6	-7.2	1.0	4.9	188.0	-44.1	0.5
Amana Growth Investor (AMAGX)		GR/LG	52.56	1	3	1	17.8	11.2	36.4	27.9	19.7	18.6	13.7	463.8	-38.8	0.3
Amana Income Investor (AMANX)		IN/LB	54.17	2	3	2	3.2	6.3	25.9	13.2	9.5	11.6	10.6	304.4	-34.7	1.1
American Beacon London Co Inc Eq A (ABCAX)	Y	IN/LV	18.52	3	3	3	0.5	9.8	27.3	8.7	9.3	10.4	—	—	—	1.5
American Century Discipl Gr Inv (ADSIX)		GR/LG	26.60	1	3	1	22.1	9.1	38.3	32.1	16.7	16.5	15.3	620.8	-49.7	0.0
American Century Discpl Core ValInv (BIGRX)		GI/LB	38.38	▼ 3	3	2	0.8	7.8	27.1	8.2	7.6	11.0	11.7	372.8	-51.5	2.4
American Century Equity Growth Inv (BEQGX)		GR/LB	32.48	2	3	1	4.8	7.4	29.3	12.6	10.4	12.1	12.6	422.5	-49.3	1.2
American Century Equity Income Inv (TWEIX)		IN/LV	8.21	3	2	3	-8.0	4.4	17.2	-3.7	4.2	9.5	9.5	246.6	-34.4	2.6
American Century Growth Inv (TWCGX)		GR/LG	43.70	1	3	1	22.8	10.8	41.7	35.3	20.7	18.9	15.5	607.4	-45.5	0.3
American Century Heritage A (ATHAX)	Y	GR/MG	21.57	2	4	2	16.9	11.2	47.0	24.9	16.4	14.0	12.7	485.2	-52.0	0.0
American Century Mid Cap Value Inv (ACMVX)		GR/MV	14.70	4	3	3	-12.5	4.6	20.8	-6.6	0.9	7.0	9.9	348.0	-41.6	2.1
American Century Select Inv (TWCIX)		GR/LG	96.78	1	3	1	20.7	10.8	39.9	33.7	19.1	18.3	15.9	616.2	-47.7	0.0
American Century Ultra Inv (TWCUX)		AG/LG	69.08	1	4	1	32.4	15.3	52.5	48.1	24.1	21.3	17.7	769.1	-49.6	0.0
American Century Value Inv (TWVLX)		GI/LV	6.93	4	4	3	-16.3	3.2	19.0	-7.8	0.2	5.8	8.4	258.2	-45.0	2.5
American Funds AMCAP A (AMCPX)	Y	GR/LG	35.69	▼ 2	3	2	8.2	6.2	30.7	20.2	12.4	12.3	13.0	476.0	-48.6	0.4
American Funds Cap Inc Builder A (CAIBX)	Y	IN/LB	58.11	3	2	4	-5.7	2.0	11.6	-0.6	1.8	5.2	5.9	159.6	-40.7	3.3
American Funds Fundamentl Invs A (ANCFX)	Y	GI/LB	61.12	2	3	2	0.8	6.9	27.5	11.9	6.8	11.3	11.4	387.0	-50.1	1.4
American Funds Gr Fnd of Amer A (AGTHX)	Y	GR/LG	60.73	1	3	1	18.8	11.0	39.9	32.1	16.5	16.8	14.7	534.4	-48.8	0.6
American Funds Inv Co of Amer A (AIVSX)	Y	GI/LB	40.06	2	3	2	2.9	6.7	27.1	12.7	8.3	11.7	11.4	367.3	-47.2	1.7
American Funds Mutual Fund A (AMRMX)	Y	GI/LV	41.44	3	2	2	-3.2	4.8	18.3	2.3	6.6	10.3	10.6	330.5	-43.3	2.0
American Funds Wash Mutual A (AWSHX)	Y	GI/LB	45.87	3	3	2	-3.3	5.8	23.2	4.1	7.9	11.5	11.8	381.2	-48.9	1.8
Ariel Appreciation Fund Inv (CAAPX)		GR/MV	38.76	5	4	4	-13.1	5.7	26.7	-5.9	-0.3	4.8	8.3	384.1	-55.1	1.0
Ariel Fund Inv (ARGFX)		GR/MV	54.40	4	5	3	-16.4	4.6	28.9	-9.0	-1.0	5.4	8.4	467.9	-64.4	0.9
Artisan Mid Cap Fund Inv (ARTMX)		GR/MG	47.75	▲ 1	4	2	35.9	11.9	53.6	45.7	22.9	17.6	15.6	705.2	-52.1	0.0
Artisan Mid Cap Value Fund Inv (ARTQX)		GR/MV	16.26	4	5	4	-13.8	5.7	32.3	-9.0	-1.2	4.8	7.4	259.9	-41.5	0.6
Auxier Focus Inv (AUXFX)		GR/LV	21.54	▼ 4	3	▼ 4	-5.3	5.6	20.0	1.2	3.5	6.9	7.6	218.2	-35.7	0.0
Ave Maria Growth (AVEGX)		GR/MG	40.75	▼ 2	3	1	7.2	8.4	34.8	14.4	15.7	16.0	14.1	526.7	-43.2	0.0
Ave Maria Rising Dividend (AVEDX)		GR/LB	17.60	3	3	2	-4.8	6.9	30.2	0.3	7.3	10.2	10.8	371.3	-40.2	1.1
BMO Large-Cap Growth Y (MASTX)		GR/LG	21.29	1	3	1	14.6	10.7	37.4	23.7	15.6	16.4	15.5	579.0	-47.8	0.4
BNY Mellon Appreciation Investor (DGAGX)		GR/LB	36.83	1	3	1	11.7	10.2	33.4	22.5	14.9	15.1	12.3	411.9	-45.4	0.6
BNY Mellon Income Stock Fund Inv (MIISX)		GI/LB	7.19	4	4	3	-19.0	3.1	21.2	-13.4	0.3	6.4	9.5	313.7	-52.8	2.1
BNY Mellon Ins S&P 500 Stock Idx I (DSPIX)		GI/LB	62.66	▼ 2	3	1	5.4	8.9	31.2	15.0	12.1	13.9	13.5	493.7	-51.0	1.5
BNY Mellon Large Cap Securities (DREVX)		GI/LG	14.07	2	3	2	14.6	11.2	37.5	24.2	15.8	14.1	12.7	461.5	-50.5	0.7
BNY Mellon Lg-Cap Equity A (DLQAX)	Y	GR/LB	22.01	1	3	1	9.5	10.9	35.6	19.4	12.8	14.5	13.1	440.5	-56.1	0.6
BNY Mellon Mid Cap Multi-Strat M (MPMCX)		GR/MG	18.84	3	4	2	2.7	7.7	35.7	10.6	8.8	10.8	11.1	393.2	-51.4	0.2
BNY Mellon MidCap Index Investor (PESPX)		GR/XM	29.64	4	4	3	-9.0	4.7	29.7	-2.7	2.4	7.6	10.0	386.3	-49.5	1.2
BNY Mellon Oppor Midcap Val A (DMCVX)	Y	GR/MV	26.08	4	4	4	-2.0	7.1	33.3	5.7	3.0	6.6	9.0	393.2	-48.7	0.2
BNY Mellon Research Growth Z (DREQX)		GR/LG	19.60	1	▼ 4	2	29.4	13.2	48.8	40.8	21.7	18.2	15.6	654.5	-46.7	0.1
BNY Mellon S&P 500 Index (PEOPX)		GI/X5	52.91	▼ 2	3	1	5.1	8.8	31.0	14.5	11.7	13.6	13.2	472.6	-51.2	1.3

LG - Large Growth; LV - Large Value; SG - Small Growth; SV - Small Value; FO - Foreign Equity; EM - Emerging Market Equity; PM - Precious Metals; BD - Intermediate Bond; HY - High Yield Bond; IB - International Bond. The style attribution numbers shown are the percentage weightings across the ten styles that best explains the fund's actual returns. See page 12. Changes greater than 10 points are flagged with [up] and [down] arrows.

FUND PERFORMANCE INDEX

				9						10				11	12	13	14		15	16
			Style Attribution Analysis							% invested in				Max. Sales	Expense	Min	Fund		Mgr	
LG	LV	SG	SV	FO	EM	PM	IB	HY	BD	Cash	Bds	Cvts	Stks	Charge	Ratio	Init. Inv.	Manager	Since	Rating [2]	Telephone
49	49	0	0	0	0	0	0	0	0	-	-	-	100	4.25	1.01	2500	Joseph Paul	9/10	1.7	800 221-5672
57	0	15	0	0	0	0	27	0	0	-	-	-	94	4.25	1.16	2500	Team Managed	-	-	800 221-5672
85	0	3	0	0	0	0	11	0	0	-	-	-	92	4.25	0.85	2500	Team Managed	-	-	800 221-5672
17	61	0	0	0	0	0	21	0	0	-	-	-	100	4.25	0.89	2500	Team Managed	-	-	800 221-5672
20	75	0	0	0	0	0	0	0	0	-	-	-	99	5.75	1.08	500	Team Managed	-	-	800 858-8850
66	0	0	0	0	0	2	29	0	0	-	-	-	97	None	1.16	2000	Scott Gates	12/10	-0.9	800 548-4539
0	0	19	35	0	0	2	42	0	0	-	-	-	95	None	1.18	2000	Team Managed	-	-	800 548-4539
82	9	0	0	0	0	0	0	8	0	-	-	-	97	None	1.16	2000	Team Managed	-	-	800 548-4539
0	57	0	0	30	9	0	0	0	0	-	-	-	78	None	1.24	2000	Stephen Yacktman	12/02	3.5	800 548-4539
9	63	0	0	25	0	0	0	0	0	-	-	-	77	None	0.71	100000	Stephen Yacktman	12/02	2.2	800 548-4539
25	24	0	0	34	8	0	0	7	0	-	-	-	98	None	1.25	1 Mil	Team Managed	-	-	866 667-9231
72	27	0	0	0	0	0	0	0	0	-	-	-	98	5.75	1.25	1000	Team Managed	-	-	866 667-9231
0	16	67	15	0	0	0	0	0	0	-	-	-	97	5.75	1.44	1000	Team Managed	-	-	866 667-9231
11	18	0	0	16	10	3	0	0	40	-	-	-	0	None	1.11	2500	Team Managed	-	-	866 811-0225
97	0	0	0	0	3	0	0	0	0	-	-	-	99	5.25	1.20	1000	Patrick Kelly	9/04	4.1	800 992-3863
97	0	0	0	0	3	0	0	0	0	-	-	-	97	None	0.93	500000	Patrick Kelly	9/04	4.1	800 992-3863
58	30	0	0	0	0	0	0	11	0	-	-	-	99	5.25	1.05	1000	Daniel Chung	1/11	0.9	800 992-3863
83	0	0	0	0	0	0	16	0	0	-	-	-	107	5.25	1.41	1000	Patrick Kelly	9/04	4.5	800 992-3863
31	52	0	0	0	0	0	0	16	0	-	-	-	99	5.50	1.04	1000	Team Managed	-	-	888 852-3922
72	0	0	0	0	3	0	24	0	0	-	-	-	99	None	1.77	1000	Karen Hiatt	9/12	2.0	888 852-3922
7	43	12	0	0	0	2	17	17	0	-	-	-	100	None	1.74	1000	Team Managed	-	-	888 852-3922
0	29	20	50	0	0	0	0	0	0	-	-	-	99	5.50	1.17	1000	Team Managed	-	-	888 852-3922
80	11	0	0	7	0	0	0	0	0	-	-	-	91	None	1.02	250	Team Managed	-	-	888 732-6262
51	30	0	0	13	0	0	0	0	0	-	-	-	93	None	1.06	250	Team Managed	-	-	888 732-6262
52	33	0	0	0	0	0	0	11	0	-	-	-	93	5.75	1.03	2500	Team Managed	-	-	800 967-9009
98	0	0	0	0	0	2	0	0	0	-	-	-	95	None	1.01	2500	Yulin Long	9/16	2.1	800 345-2021
53	34	0	0	0	0	0	0	12	0	-	-	-	97	None	0.67	2500	Steven Rossi	4/20	-	800 345-2021
62	29	0	0	0	0	1	0	8	0	-	-	-	97	None	0.67	2500	Steven Rossi	11/16	3.8	800 345-2021
28	38	0	0	0	0	3	20	9	0	-	-	8	86	None	0.91	2500	Team Managed	-	-	800 345-2021
-	0	0	0	0	0	0	0	0	0	1	-	-	99	None	0.98	2500	Team Managed	-	-	800 345-2021
35	0	28	0	0	7	0	28	0	0	-	-	-	99	5.75	1.25	2500	Nalin Yogasundram	3/16	-0.7	800 345-2021
0	83	14	0	0	0	2	0	0	0	-	-	-	94	None	0.98	Closed	Team Managed	-	-	800 345-2021
97	3	0	0	0	0	0	0	0	0	-	-	-	99	None	0.97	2500	Team Managed	-	-	800 345-2021
99	0	0	0	0	0	0	0	0	0	-	-	-	100	None	0.97	2500	Team Managed	-	-	800 345-2021
0	91	0	0	0	8	0	0	0	0	-	-	-	99	None	1.00	2500	Team Managed	-	-	800 345-2021
58	17	5	0	0	5	0	14	0	0	-	-	-	100	5.75	0.68	250	Team Managed	-	-	800 421-4225
15	17	0	0	30	0	0	15	20	0	-	-	1	70	5.75	0.61	250	Team Managed	-	-	800 421-4225
40	17	0	0	8	4	0	29	0	0	-	-	-	94	5.75	0.62	250	Team Managed	-	-	800 421-4225
64	0	0	4	0	4	0	27	0	0	-	-	-	100	5.75	0.64	250	Team Managed	-	-	800 421-4225
61	24	0	0	7	0	0	0	6	0	-	-	0	94	5.75	0.59	250	Team Managed	-	-	800 421-4225
43	40	0	0	0	0	0	0	15	0	-	-	0	93	5.75	0.60	250	Team Managed	-	-	800 421-4225
40	35	0	0	0	0	0	23	0	0	-	-	1	95	5.75	0.58	250	Team Managed	-	-	800 421-4225
0	82	0	14	0	0	2	0	0	0	-	-	-	99	None	1.15	1000	John W. Rogers Jr.	9/02	-1.1	800 292-7435
0	69	0	27	0	0	0	0	0	0	-	-	-	99	None	1.03	1000	Team Managed	-	-	800 292-7435
52	0	16	0	0	0	2	25	0	0	-	-	-	97	None	1.20	1000	Team Managed	-	-	800 344-1770
0	49	13	37	0	0	0	0	0	0	-	-	-	96	None	1.22	1000	Team Managed	-	-	800 344-1770
44	54	0	0	0	0	0	0	0	0	-	-	-	95	None	0.95	5000	J. Jeffrey Auxier	4/01	1.8	877 328 9437
40	44	11	0	0	0	0	0	0	0	-	-	-	93	None	0.92	2500	Adam P. Gaglio	7/19	-	866 283-6274
22	56	12	0	0	0	0	0	8	0	-	-	-	96	None	0.92	2500	Team Managed	-	-	866 283-6274
87	12	0	0	0	0	0	0	0	0	-	-	-	100	None	0.79	1000	Team Managed	-	-	800 236-3863
74	19	0	0	0	0	0	0	6	0	-	-	-	99	None	0.90	2500	Team Managed	-	-	800 782-6620
0	69	5	6	0	7	0	0	0	13	-	-	-	100	None	1.06	10000	Team Managed	-	-	800 430 7629
61	34	0	0	0	0	0	0	5	0	-	-	-	98	None	0.20	1000	Team Managed	-	-	800 782-6620
73	15	0	0	0	0	0	0	12	0	-	-	-	99	None	0.73	2500	Team Managed	-	-	800 782-6620
68	24	0	0	0	0	0	0	8	0	-	-	-	99	5.75	1.10	1000	Donald Sauber	2/18	6.8	800 782-6620
20	32	26	0	0	0	2	19	0	0	-	-	-	99	None	0.90	10000	Team Managed	-	-	800 430 7629
0	33	40	26	0	0	0	0	0	0	-	-	-	100	None	0.50	2500	Team Managed	-	-	800 782-6620
11	38	26	0	0	0	3	0	0	20	-	-	-	97	5.75	1.17	1000	James M. Boyd	12/08	1.2	800 782-6620
98	0	0	0	0	0	1	0	0	0	-	-	-	97	None	0.84	0	Team Managed	-	-	800 782-6620
61	34	0	0	0	0	0	0	4	0	-	-	-	99	None	0.50	2500	Team Managed	-	-	800 782-6620

2) Manager Rating *seeks to measure the "value added" (or detracted) by a manager during his or her tenure at the fund, adjusted for risk, as compared with the fund's peers. The number expressed represents the annualized percentage by which the actual return was above or below the "expected" return, with the expected return determined by the risk and performance of the peer group. See the beginning of this fund listing section or the Subscriber's Guide for more detail.*

CHAPTER

2

How To Invest in Mutual Funds

HOW FUNDS WORK

Introduced in England more than 100 years ago, the first mutual funds in the United States began operating in the 1920s. A fund essentially represents a pool of investors who combine their money and collectively hire professional management to make investment decisions. Legally, it is a corporation, or trust, whose sole purpose is the investment of its shareholders' assets. Investments are spread over a variety of securities (equity, fixed-income, or a combination of the two) and are managed in pursuit of specific, predetermined investment objectives. Unlike a stock, which has a fixed number of shares, most mutual funds stand ready to issue and redeem shares continuously. This feature gives the fund "open end" status. Thus, individuals can make investments and withdrawals easily.

Mutual funds are very tightly regulated by the U.S. government. These regulations provide more investor safeguards than for any other type of investment. As a result, the mutual fund industry has built a solid reputation that has helped to fuel its phenomenal growth—to roughly $21 trillion in assets today.

Currently, there are approximately 20,000 mutual funds (includes multiple share classes) that are publicly offered in the United States, not including money-market funds.

SPECIAL SERVICES

Most mutual funds offer a wide variety of shareholder services that facilitate purchasing and redeeming shares and tracking investments. Several of these services are predicated on linking the investor's bank account with a fund account. **Automatic Investing** is one such service; it enables an investor to make single or periodic purchases of fund shares using preauthorized bank drafts drawn against his or her personal checking or savings account, and can generally can be initiated through your brokerage website. Another such service is **Telephone Redemption**, through which an investor can liquidate shares by phone and have the proceeds mailed in the form of a check or deposited automatically in his or her bank account.

A third popular service is **Automatic Dividend Reinvestment**. Under this program, investors purchase additional shares whenever income and capital gains distributions are paid by the fund. With such reinvestment the initial mutual fund investment compounds over time.

Retirement Plans, including IRAs, Keoghs, and 401(k) s, are offered by most major mutual fund companies as another popular service. As a redemption or retirement program, an investor can initiate a **Systematic Withdrawal Plan** to redeem a number of shares or withdraw a specified sum of money each month or quarter in order to provide steady income.

FACTORS INFLUENCING A FUND'S PERFORMANCE

Understanding the forces that drive the performance (percentage gain or loss) of mutual funds is a prerequisite to investing wisely in them. For equity funds, the performance of the stock market is paramount. The price of stocks, of course, is influenced as much by investors' perceptions as by such quantifiable factors as earnings and dividend growth or the vagaries of the economy.

Within subsets of the equity universe, factors influencing performance vary widely. For specialty or so-called sector funds, the performance and economic fundamentals underlying the particular sector(s) in which the fund invests are critical. For international funds, currency exchange rates can have a profound effect on a portfolio's performance: A rising dollar will depress the value of a fund's foreign investments in U.S.-dollar terms, while a falling dollar can result in a windfall to an international fund investor. Some international funds employ hedging strategies to reduce currency risk.

Bond-fund investors must be aware of two major factors that drive the performance of bonds: interest rates and credit quality. As interest rates rise, bond prices fall, and vice versa. The share prices of bond funds holding longer-maturity issues tend to rise and fall more sharply as interest rates change, while those with shorter maturities tend to be less volatile. Similarly, bond funds holding issues of higher credit quality tend to be less sensitive to changes in the economy than those holding lower-quality bonds.

DEVELOPING A FINANCIAL PLAN

The purpose of financial planning is to build and preserve wealth. Investing is only one part of an overall financial plan. Other aspects include insurance coverage, tax planning, retirement planning, and estate planning. Investing encompasses all means by which one accumulates assets, and in investment planning one must consider all asset categories: a home or other real estate, tangibles such as collectibles or gold and jewelry, the cash value of any insurance policies, social security benefits and the value of other retirement plans, savings accounts, and traditional financial investments such as stocks, bonds, and mutual funds. Factors that will affect an investment program include one's family situation, age, tax status, income requirements, and specific financial goals.

Identifying Goals

Before an investor can consider long-term financial goals, it is essential that he or she establish minimal protection against a financial emergency. Most financial planners recommend keeping an adequate cash reserve in highly safe, liquid investments, such as a savings account or money market fund. (Although most investments can be converted to cash, doing so on short notice could result in losses or a large tax burden.) The amount of money to set aside varies according to individual circumstances; a rule of thumb is six months' living expenses.

Once adequate reserves are established, an investor needs to consider and plan for specific goals. For a young couple, these may include marriage, children, or purchasing a home. People with children may wish to prepare for college expenses. Older couples or individuals will want to prepare for retirement. In realizing any of these goals, mutual fund accumulation plans are especially helpful, since they encourage regular, disciplined saving. Though individuals' situations and life experiences vary, most investors' lifetimes can be divided into four broad phases: early years, family years, pre-retirement, and retirement. Below we provide general descriptions of each stage. We recommend that each investor consider how his or her situation relates to these and begin to formulate financial goals in as broad a context as possible.

The **early years** encompass the period from when an individual starts his or her first job until marriage and family responsibilities and expenses begin to dominate. Many young people fail to recognize the importance of saving during this period because there are so many short-term pleasures to be pursued and desires to be satisfied. Worthy goals during this period might include paying off school debt and saving to purchase a car or home or to start a family. Young people often incur low living expenses and, in the case of many couples, benefit from two incomes. Some have no major financial constraints. These circumstances are ideal for beginning a serious, long-term investment program. Perhaps most important is the very long time horizon of young investors, so that even small, regular investments have an excellent opportunity to grow significantly. Young individuals and couples also can afford to assume above-average risk, since they have ample time to recoup any temporary losses.

During the years in which one's **family** is growing, other financial concerns often take precedence over regular saving and investing. Supporting a comfortable lifestyle for a spouse and children, protecting the family should an income earner die or become disabled, and preparing for the childrens' college costs are important during this period. Because time is still on the side of the investor during these high-expense years, it is important to continue to save and invest regularly, even in small amounts. Building retirement assets through an IRA or pension plan is also very important at this time. As long as adequate cash reserves are maintained, investors can afford to take above-average risks during these years—particularly with retirement-plan assets—in pursuit of long-term growth.

The **pre-retirement** period is critically important for consolidating retirement goals. For many "empty nesters" the mortgage is paid and family income is at a peak. This is a good time to accumulate additional financial resources for retirement. As retirement nears, however, there is less time to make up for investment losses. Accordingly, individuals in this phase need to gradually reduce their risk exposure.

To a large degree, foresight and diligence during the first three phases of one's investment "life" lead to financial independence in **retirement**—the final phase. During retirement, the overriding concern is income, since the payouts from a pension plan and social security are substantially less, in most instances, than the income earned from active business or employment. Conservative, income-producing investments are highly appropriate at this stage since losses can directly impact one's standard of living, and there is little time to recoup any losses. For those who are wealthy beyond what they require to maintain a comfortable standard of living, estate planning is an important consideration. Trusts can protect the value of an estate from taxes while preserving the individual's influence over investment decisions.

USING VALUE LINE TO ASSEMBLE A FUND PORTFOLIO

The Value Line Fund Advisor Plus can be a vital tool in developing and maintaining a portfolio of mutual funds. Once investors have determined their financial goals, it is time to focus on identifying the kinds of funds that will help to realize those goals. This selection process begins by evaluating risk and by understanding how to control it.

Evaluating Risk

Value Line recognizes that the evaluation of any investment begins with an assessment of risk. Investors must consider their tolerance for risk and weigh it against the desire to achieve a specific financial goal. Identifying risk, which can be defined as the uncertainty of achieving a desired return, is difficult. An investor seeking a higher return must be willing to tolerate a higher level of risk in order to have a chance of achieving that desired return. By contrast, someone willing to accept a lower rate of return has a higher probability of achieving his or her objective. A key aspect to evaluating risk is the investor's time horizon. Investors with long horizons can afford to assume a higher level of risk, since there is a greater chance that, over time, the investment will pay off. Investors with shorter horizons should choose lower-risk investments, since they may not be able to wait out a period of weak investment performance.

There are two types of risk: market risk and unique risk. **Market risk** is the degree to which a security's behavior is related to the overall behavior of the market. If a stock fund behaves in a fashion similar to the overall stock market, it is said to have a high degree of market risk. If the market declines, there is a strong likelihood that the fund's value will decline as well. **Unique risk** pertains only to a particular security. It is independent of changes in the stock market. For a bond, credit risk is unique risk, since a bond's credit rating is solely a function of the issuer's financial condition. In assessing the level of risk that is acceptable, investors must consider their investment portfolio in its entirety and understand that the risk of certain types of investments can be reduced, even significantly, through diversification.

Controlling Risk Through Optimization

Asset allocation, at its simplest, means diversification of financial investments among stocks, bonds, and cash. At a more sophisticated level, asset allocation involves trying to attain the greatest potential return with a given level of risk. Given a choice between assets, an investor stands to realize the greatest return by choosing, to the exclusion of all others, the asset expected to perform best. Diversification automatically dilutes the potential return. But because some assets typically rise when others fall, it is possible to diversify among asset classes in such a way as to lower the potential risk by a greater amount than one has lowered the potential return. This concept of portfolio optimization captures the essence of what all investors are trying to accomplish: getting the highest potential return within the limits of acceptable risk.

Determining the Portfolio Mix

Differences of opinion abound concerning how to determine the percentage of assets that should be invested in stocks, bonds, and cash, respectively. Perhaps the simplest rule of thumb is this: The percentage of assets in bonds and cash combined should equal the investor's age. The remainder should be in common stocks. This oversimplification is intended only to illustrate the conventional wisdom: A young investor seeks growth, primarily through stocks, while an older investor requires stability and the income generated by a larger percentage of assets in bonds and cash. Clearly, individual preferences and circumstances must be the determining factors in making asset allocation decisions.

Investors seeking guidance in building a diversified portfolio will find the Value Line guide, *Planning an Investment Strategy* helpful. The "Investor Profile Questionnaire" poses a series of questions intended to identify the investor's appropriate level of risk, based on his or her individual circumstances. Completing the worksheet results in assignment to one of nine investor profiles. Each month, *The Value Line Fund Advisor Plus* publishes a recommended optimized portfolio which serves as an example for investors.

The Value Line Fund Advisor Plus Model Portfolio

Following the three fund highlights is The Value Line Fund Advisor Plus Model Portfolio, which is updated monthly. The portfolio illustrates various investment categories, known as "asset classes." There is a fund selected for each asset class, including Large-Cap Growth, Large-Cap Value, Small-Cap Growth, Small-Cap Value, Foreign Stock, Emerging Market, Domestic Bond, Foreign Bond, Income and a Banking sector fund. This portfolio is not intended as a suggested investment strategy, but to illustrate the variety of mutual funds that are available.

New ETF Model Portfolio

Trillions of dollars are invested in mutual funds, and these securities often form the bedrock of an individual's portfolio investments, which are then supplemented with other securities, such as individual stocks and bonds. A fast-expanding alternative to conventional mutual funds is found in exchange-traded funds (ETFs). These funds, bought and sold on the stock exchanges (rather than directly from the fund), offer some advantages, including tax benefits, no investment minimum, lower expense ratios in most cases and the ability to trade them at any time during the trading day. Investors now commonly own both mutual funds and ETFs. To serve investors, Value Line recently bolstered its *Fund Advisor Plus* offering with a new actively managed Model Portfolio that focuses on ETFs across eight major asset classes, including large cap growth, small cap value, foreign stock, and many more.

Choosing Individual Funds

For some people, selecting individual funds is the most difficult aspect of mutual fund investing. But for those who approach investing in a diligent and thorough manner—first evaluating their circumstances and goals, then assessing risk tolerance, and finally determining desirable portfolio allocations—the final step of selecting funds is far less difficult. The reason is simple: Investors too impatient to make an adequate assessment of their overall financial position will unwittingly try to make up for this deficiency in their fund selections. If they can simply find the "perfect" fund, then they assume that other considerations won't matter. The problem, of course, is that the definition of a perfect fund is subjective; it depends on the goals and profile of each individual. Therefore, investors who have a clear picture of their goals will always find it far easier to identify appropriate funds.

We recommend that once investors have identified appropriate fund categories, they begin by using the Value Line Mutual Fund Ranking System to narrow the field. Since investment always begins with risk, investors should first look at funds whose Risk ranks meet their criteria, then focus on those with the highest Overall rank. At that point more detailed research is required to make the final selections. We suggest taking into consideration a combination of factors, including a fund's long-term track record, consistency of management, and the reputation and the organization of the fund family. Although different traits are desirable in different situations, most investors will do well to emphasize consistency of returns as the framework of highly ranked funds.

Dollar-Cost Averaging

Once funds have been selected, a disciplined, regular investment program is an ideal way to build wealth. Dollar-cost averaging, one of the most widely used systematic investment programs, involves investing a fixed sum of money at regular intervals, regardless of how the market is performing. With dollar-cost averaging an investor will purchase more shares at lower prices and fewer shares at higher prices. The result is a lower average cost per share. The following example illustrates how dollar-cost averaging works.

Assumption: John Q. Investor has $10,000 to invest. He chooses the aggressive Go-Go Growth Fund. He is concerned, however, that if the market is near a top he could suffer substantial near-term losses. Thus, he decides that instead of investing a lump sum, he will invest $2,000 each quarter over the next five quarters.

Quarter	Go-Go fund share price	Amount invested	Shares purchased	Total value
1	$10	$2,000	200	$2,000
2	$11	$2,000	181.8	$4,200
3	$7	$2,000	285.7	$4,673
4	$8	$2,000	250	$7,340
5	$11	$2,000	181.8	$12,092
Average Go-Go Fund Share Price				**$9.40**
Average Share Price Paid by Investor				**$9.09**
Go-Go Fund Total Return				**+10.0%**
Total Return for Investor				**+20.9%**

As shown in the above example, market declines can actually benefit the investor who dollar-cost averages. However, considerable fortitude is required to maintain this strategy in the face of severe or extended market declines.

Load Fees and 12b-1 Fees

Mutual fund shares are sold in two ways: directly or through a sales force. Those sold directly usually carry no sales charge and are known as "no-load" funds. Those sold through a sales force usually charge a commission or load. Load funds can be further subdivided into two groups: those charging a front-end load and those charging a back-end load.

A "front-end" load results in a deduction from the initial investment. By law, no fund may charge a front-end load of more than 8.5%. Such loads average 5% for stock funds and about 4% for bond funds. A back-end load (also known as a contingent deferred sales charge) applies if shares are redeemed within a certain period of time, usually five years. Such charges decline over time. For example, a back-end load may start at 5% during the first year and decline by one percentage point each year, so that the charge is eliminated after five years. Back-end loads often are accompanied by 12b-1 fees.

Named for the SEC Rule that authorizes them, 12b-1 fees are charged yearly, and are intended to be used to help promote the fund to investors, thereby increasing its assets and lowering expenses. In reality, the fee has become part of the overall sales-charge structure of many load funds.

Mutual fund sales charges are regulated and cannot exceed specified amounts. These rules vary depending on certain fund circumstances, but in no case (as indicated previously) may a front-end load exceed 8.5%. The ceiling on 12b-1 fees is 0.75%, with an additional 0.25% service fee permitted for funds offering certain shareholder services. Excluding funds that charge only a front-end load, mutual fund sales charges may not exceed 7.25% over the life of an investment.

Funds Offering Multiple Share Classes

In order to accommodate the greatest number of potential investors, many funds offer separate classes of shares, each carrying different load structures. The most common convention is to classify shares offered with a front-end load as "Class A shares," and shares with a back-end load as "Class B shares."

In some cases, shares purchased with a back-end load "convert" to the share class corresponding to purchases made with a front-end load after a certain period of time (generally six to eight years after purchase). The benefit of this "conversion" feature is that once the back-end shares convert, the 12b-1 fee is reduced or even eliminated. A fund's performance figures and NAVs will be different for different share classes.

CHOOSING THE RIGHT CLASS OF SHARES

If a load fund offers more than one share class, which one should an investor choose? The answer depends on a number of factors, including the specific sales, redemption, and 12b-1 charges, the redemption fee schedule for the back-end load shares, and whether (and, if so, when) back-end shares convert to front-end shares. Although it may be tempting to believe that the back-end load arrangement is always preferable (since there will be no sales charge if the shares are held to the conversion date), in reality the back-end shares are often more expensive in the long run, since the ongoing 12b-1 fees are so much higher.

A fund's prospectus is required to provide a hypothetical example of the expenses incurred for each share class over a period of time. By comparing the relative expenses and fees and taking into consideration how long the investor plans to hold the shares, he or she can better determine which share class is most appropriate.

Load Versus No-Load: Performance and Services

The question of differences in performance of load and no-load funds has been studied and argued over decades. Most analyses have shown little or no difference in performance, while some recent studies have indicated a slight advantage for load funds. It is argued that this advantage is a result of better research and management at load groups. More likely, however, it is because load fund families tend to have larger individual funds because of extensive sales efforts and, therefore, lower average expenses. The argument is of little consequence, in any event, since any advantage enjoyed by load funds is usually eliminated once sales charges are deducted.

The important question is not whether load funds outperform no-load funds but rather what a sales load buys an investor. The answer in most cases is that a load pays for advice from a financial planner or broker on such matters as which funds to own, when to buy, and when to sell, and how to plan for taxes. An investor should evaluate his or her need for such services before deciding whether to invest in load or no-load funds.

Impact of Expenses

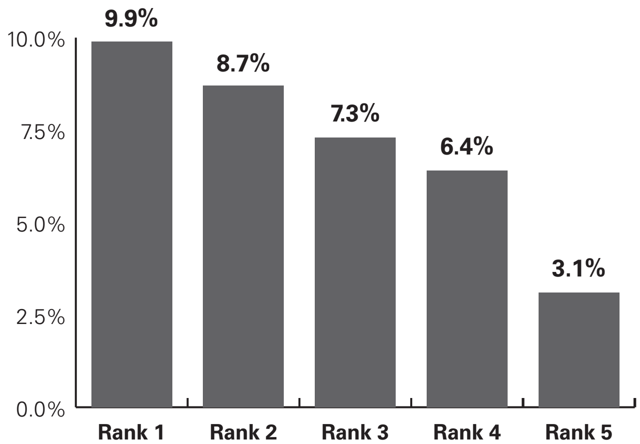
Mutual fund expenses are measured as a ratio of operating expenses to average net assets. Such expenses include a fund's administrative and management costs but exclude portfolio transaction costs. Annual expenses typically range between 1.0% and 1.5% for stock funds and from 0.5% to 1.0% for bond funds. However, these expenses can range from zero (with management absorbing them) to 5% or more for very small funds.

Expenses always impact a fund's performance, since they are deducted from share values. For equity funds, the impact is generally less significant, since investment decisions are usually the major determinant of performance, and there is sufficient opportunity for profitable investment decisions to dwarf the effect of expenses. But for bond funds, whose returns fall within a narrower range, expenses can make a substantial difference. Bond fund expenses are of particular concern to investors seeking income, since the expenses are taken first from income and thereby reduce a fund's yield.

WHEN TO SELL A FUND

Several factors make selling a fund appropriate. A change in management may be a reason to sell. In situations where management has changed it is important to assess the likelihood that the fund will continue in the same manner as in the past. Such an evaluation begins with determining whether the fund was managed by a group or by an individual, how much autonomy management is given, and the degree to which investment decisions are prescribed by the fund's prospectus or other internal charters, systems, or methods. In some respects, fund management systems can be compared to those adopted in preparing meals at restaurants. At one eatery, a star chef cooks up specialties

Annualized Return of all Value Line Ranked No-Load Equity Funds from the inception of our Ranking System on November 30, 1993 to September 30, 2020



each night according to his or her whims, while at another, series of recipes are rigorously followed night after night. Clearly, at the former, a change in chefs is a major event (whether good or bad), while at the latter it doesn't matter much who is cooking from night to night—as long as the chef follows the recipes carefully.

If a fund's performance deteriorates over several quarters, investors should consider selling in favor of another fund that shows better results. If this appears to be the case, it is of critical importance to make a fair and accurate assessment of what constitutes poor performance. Investors who buy a fund because of the way it claims to invest should first consider whether or not the fund is doing what it said it was going to do. If the fund is following its charter, the investor must approach the sell decision from a different angle, questioning instead the viability of the investment concept itself.

It is not always poor performance that should prompt an astute investor to sell a fund. Investors who purchase a fund for a specific purpose should always sell when the fund is no longer satisfying that aim. To illustrate, consider funds that specialize in small-capitalization equities. Virtually all small-cap funds were laggards during 2014 and 2015. A less sophisticated investor in a weak small-company fund might have sold in favor of a better performer. By contrast, a more sophisticated investor might have taken exactly the opposite tack, selling his stronger performing small-company fund, knowing that its strength resulted from its failure to maintain its small-cap style.

Investors should always sell a fund when their own goals have changed. This is easy to overlook, especially if a fund is performing well.

FOUR COMMON MISTAKES

1) Buying last year's top performer. At any given time, there are funds that have posted phenomenal results. Unfortunately for the legions of investors who chase them, the same aggressive or specialty techniques that rocketed the fund to the top one year can lead to dizzying declines the next. As was the case for the slow-but-steady tortoise that beat the hare, a fund that performs consistently and lands in the top half of its group year in and year out will undoubtedly rise to the top 10% of all funds over a decade or longer. Again, the investor should purchase funds solely on the basis of how they contribute to his or her long-term financial goals.

2) Acting on hunches. Unless you have an uncanny knack for calling market trends, you are better off developing a consistent, disciplined approach and sticking to it. The most enduring trait of a successful money manager is discipline and consistency.

3) Selling too soon. Many investors fail to understand the style with which their fund is managed. When that style goes out of favor for several years, performance will suffer, but it will also rebound when the style returns to favor. Many investors wind up selling a fund right before its performance improves, in favor of a fund whose relative performance is about to turn weak. One should sell, of course, if the fund is doing badly because it is not sticking to any discernible style.

4) Holding too long. Since the funds ranked Highest (1) significantly outperform those ranked Lowest (5), it is better to sell the Lowest-ranked funds rather than hold them.

5) Owning too many stock funds. A diversified portfolio of stock funds is a good idea. But investors who own dozens of stock funds run the risk of overdiversifying. Investors who want a portfolio that behaves like the market should save themselves a lot of trouble and buy a low-cost index fund.

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