

NAVIGATING THE MARKETS

The *Portfolio Compass* provides a snapshot of LPL Research’s views on equity, equity sectors, fixed income, and alternative asset classes. This monthly publication illustrates our current views and will change as needed over a 3- to 12-month time horizon.

The top down is an important part of our asset allocation process. As a result, we have a macro section including our views of the global economy and key drivers of those views, and a section on what we are watching that might change those views.

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COMPASS CHANGES

- Upgraded our view of mortgage-backed securities (MBS) from neutral to neutral/positive.
- Downgraded our view of bank loans to neutral from neutral/positive.

INVESTMENT TAKEAWAYS

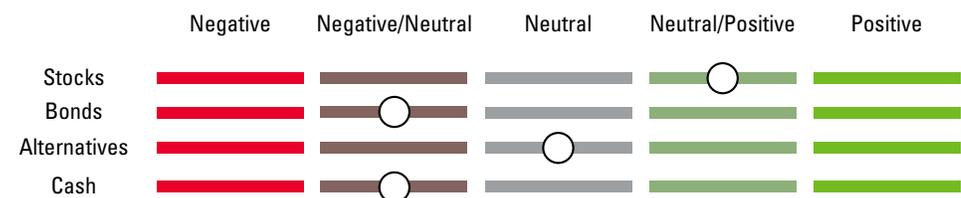
- We expect additional gains for the S&P 500 Index over the balance of 2018, driven by steady economic growth, strong earnings gains, tax cuts, and favorable seasonality following the midterm elections.
- We favor U.S. equities over developed international; we continue to have structural concerns with Europe.
- We expect strong economic growth and attractive valuations to help emerging markets (EM) offset trade risk and tighter monetary policy. A trade deal with China presents a potential positive catalyst.
- Our communication services view is neutral following the recent sector revamp. Our cautious view on media and traditional telecom, plus high valuations, offset a strong growth outlook for former technology stocks.
- We emphasize a blend of high-quality intermediate bonds, with a preference for investment-grade corporates and mortgage-backed securities (MBS) over Treasuries and a small allocation to less interest-rate-sensitive sectors, such as bank loans or high-yield bonds, for suitable investors. That said, higher issuance, fewer investor protections temper bank loan optimism.
- Yield per unit of duration remains attractive for MBS.
- A Federal Reserve (Fed) rate hike in December is likely, potentially followed by two more in 2019. A moderate pickup in economic growth and inflation may be headwinds for fixed income.
- From a technical perspective, recent volatility has the S&P 500 near its 200-day moving average, though the index remains well above the lows from the January correction, and seasonality now becomes a tailwind.

All performance referenced herein is as of November 13, 2018, unless otherwise noted.

*As noted in our *Midyear Outlook 2018*, we expect a 10–14% S&P 500 Index total return in 2018, driven by Gross Domestic Product (GDP) growth of 2.75–3.0%, 17% S&P 500 earnings growth, and a target price-to-earnings ratio (PE) of 19.0.

BROAD ASSET CLASS VIEWS

LPL Research’s views on stocks, bonds, cash, and alternatives are illustrated below.



MACROECONOMIC VIEWS

	Economic Factor	Outlook	Investing Impact
ECONOMY	U.S. GDP Growth	We expect GDP near 3.0% in 2018.*	Absence of a recession would likely support equity markets.
	Consumer Spending	New tax law, a strong labor market, and stock gains may help.	Supports consumer cyclicals, but potential growth in business spending may be more important.
	Business Spending	New tax law and deregulation are supportive; watching trade policy.	Industrials would be most likely to benefit; upside for technology but some policy risks.
	Housing	Higher rates, labor shortages have become a headwind despite years of underbuilding.	Contracting sector may not offer opportunities until the next cycle.
	Import/Export	Service sector exports strong; uncertainty around trade.	May support technology and business services; some uncertainty for multinationals.
	Labor Market	Unemployment near multidecade low; wage gains supporting consumer spending.	May soon pressure profit margins; supports additional Fed rate hikes.
	Inflation	Early signs of a potential pickup but still well contained.	Interest rates likely to rise further, but only gradually.
	Business Cycle	Some late cycle signs but economy not overheating.	Equity markets may have room to run, but volatility may continue.
	Dollar	Trending higher but may not be sustainable.	Headwind for U.S. multinational earnings building.
	Global GDP Growth	Expected to hold near steady in 2018 despite recent slowing. Trade uncertainty remains a risk.	Potentially supportive of equities with risks for global multinationals.
POLICY	Fiscal	New tax law, regulation supporting growth.	May provide an economic lift, but government debt still a potential long-term headwind.
	Monetary	Gradual rate hike path likely to continue. Balance sheet normalization has begun.	Fiscal tightening may impact growth. May be a modest headwind for quality bonds.
	Government	Fiscal stimulus likely outweighs tariff impact.	May contribute to higher stock volatility.
RISKS	Financial	Political environment may lead to looser credit standards and accelerate deregulation.	Net positives in short term but longer term may enable buildup of excesses in the economy and markets.
	Geopolitical & Other	China, trade remain in focus.	May contribute to higher stock volatility.
OVERSEAS	Developed Overseas	Anti-Eurozone populism, Brexit uncertainty, and slower growth.	Strategically, international equities expected to provide diversification benefits.
	Emerging Markets (EM)	Trade risk remains; there are pockets of stress, but EM growth outlook overall still looks good.	Low valuations and strong earnings offer EM upside potential once trade situation is resolved.
FINANCIAL CONDITIONS	Corporate Profits	Strong earnings growth expected in second half of 2018 on tax cuts, global growth backdrop.	May support year-end rally.
	Main Street	Fed Beige Book supports positive outlook.	Supports cyclical sector performance.

Source: LPL Research, U.S. Department of Energy, Haver Analytics 11/13/18

The opinions voiced in this material are for general information only and are not intended to provide or be construed as providing specific investment advice or recommendations for your clients. Any economic forecasts set forth in the presentation may not develop as predicted and there can be no guarantee that strategies promoted will be successful.

*Our forecast for GDP growth of 2.75–3.0% is based on the historical mid-cycle growth rate of the last fifty years; extra weight is given to the current cycle with a small upward adjustment due to the expected impact of the new tax law. Economic growth is affected by changes to inputs such as business and consumer spending, housing, net exports, capital investments, and government spending. Potential delays in passing major fiscal policies introduce some risk to the downside.

ASSET CLASS & SECTOR TOP PICKS

Below we provide our top overall ideas across the various asset classes and sectors covered in this publication, as well as our best ideas within the three disciplines of our investment process: fundamentals, technicals, and valuations. More details on these and other investment ideas can be found on subsequent pages.

Characteristics	EQUITY ASSET CLASSES	EQUITY SECTORS	FIXED INCOME	Characteristics	ALTERNATIVE ASSET CLASSES
BEST OVERALL IDEAS	U.S. Stocks	Industrials Technology	Investment-Grade Corporates MBS	BEST OVERALL IDEAS	Long/Short Equity
Fundamentals	U.S. Small Caps U.S. Stocks	Financials Industrials Technology	MBS Investment-Grade Corporates	Catalysts	Event Driven Global Macro
Technicals	U.S. Stocks	Healthcare	Bank Loans	Trading Environment	Long/Short Equity
Valuations	EM Value Stocks Master Limited Partnerships (MLP)	Industrials	MBS	Volatility	Global Macro Long/Short Equity Managed Futures

READING THE PORTFOLIO COMPASS

RATING	ICON	DESCRIPTION
Negative	Red square, Red circle	Fundamental, technical, and valuation characteristics for each category are shown by their blue icons below, and displayed as colored squares.
Negative/Neutral	Red square, Red circle with outline	Negative, neutral, or positive views are illustrated as a colored circle positioned over the scale, whereas an outlined black circle with an arrow indicates change, and shows the previous view.
Neutral	Grey square, Grey circle	Rationales for our views are provided on the right side.
Positive/Neutral	Green square, Green circle	
Positive	Green square, Green circle	
Previous Position	Circle with arrow	

Global macro strategy is a hedge fund strategy that selects its holdings primarily on the macroeconomic and political views of various countries, and is subject to numerous risks such as: geopolitical, derivative, commodity, volatility, currency, and regulatory.

Long/short equity strategies are subject to normal alternative investment risks, including potentially higher fees; while there is additional management risk, as the manager is attempting to accurately anticipate the likely movement of both their long and short holdings. There is also the risk of "beta-mismatch," in which long positions could lose more than short positions during falling markets.

EQUITY ASSET CLASSES

We expect additional gains for the S&P 500 over the balance of 2018, consistent with our forecasts from *Midyear Outlook 2018*, driven by steady economic growth, strong earnings gains, tax cuts, and favorable seasonality following the midterm elections. We expect value to benefit from accelerating economic growth and stronger performance in financial stocks. Small caps generally benefit more from tax reform, but large caps would likely benefit more from a potential trade deal with China. We expect strong economic growth and low valuations may help EM equities recapture recent losses despite tighter global monetary policy and trade tensions.

	Sector	F	T	V	⊖	○	⊕	Rationale
Style/Capitalization	Large Growth	■	■	■	●			Large caps benefit relatively less from tax reform, but an aging economic cycle and potential positive headlines around a trade deal with China may help fuel a late-year rally. We expect improving economic growth, better financials sector performance, and lower relative valuations to help value begin to reverse a decade of underperformance versus growth, based on the Russell indexes.
	Large Value	■	■	■			●	
	Mid Growth	■	■	■		●		Midcap valuations are attractive relative to large caps, and merger and acquisition activity has picked up, partly due to the new tax law and repatriation of overseas cash. Relatively greater focus on U.S. may help near-term performance, but relative valuations for mid growth look a bit stretched and technicals have weakened.
	Mid Value	■	■	■			●	
	Small Growth	■	■	■		●		Small caps generally benefit more than large caps from tax reform. However, a potential trade agreement with China, a stable (not rising) U.S. dollar, and an aging business cycle are key factors to watch.
	Small Value	■	■	■			●	
Region	U.S. Stocks	■	■	■			●	Among developed markets, we remain U.S. focused, supported by solid economic growth, a strong earnings backdrop, and still reasonable valuations.
	Large Foreign	■	■	■	●			Though valuations are attractive, we continue to have structural concerns in Europe, where growth has slowed. Japan looks better to us than Europe as an investment, but its economy is slowing. We continue to monitor overseas data, trade policy, geopolitical risk, and currency movements to assess international developed market opportunities.
	Small Foreign	■	■	■	●			
	EM	■	■	■			●	We expect strong growth and low valuations may help EM equities recapture recent losses despite tighter monetary policy, trade tensions, and pockets of stress such as Turkey. Trade headlines may lead to more near-term volatility, but we think the group is showing signs of stabilization with attractive upside potential.
MLPs	MLPs	■	■	■		●		Positives include rich yields, strong U.S. production, and acquisition activity. Recent tax policy clarity has buoyed performance. Positive bias.

Investing in master limited partnerships (MLPs) involves additional risks as compared with the risks of investing in common stock, including risks related to cash flow, dilution, and voting rights. MLPs may trade less frequently than larger companies due to their smaller capitalizations, which may result in erratic price movement or difficulty in buying or selling. MLPs are subject to significant regulation and may be adversely affected by changes in the regulatory environment, including the risk that an MLP could lose its tax status as a partnership. Additional management fees and other expenses are associated with investing in MLP funds.

EQUITY SECTORS

We maintain our preference for cyclical sectors as the U.S. economic expansion continues. We expect industrials to benefit from solid global demand, a pickup in capital spending, and a potential trade deal with China. Financials remain positioned to benefit from deregulation, higher dividend payouts, and rising short-term interest rates, though the relatively flat yield curve remains a headwind. After the communication services sector revamp, technology’s valuations are a bit lower, but the earnings growth outlook is also a bit weaker. Our communication services sector view is neutral.

	Sector	F	T	V	⊖	○	⊕	S&P*	Rationale
Cyclical	Materials	■	■	■	●	○	●	2.6	Strong earnings growth, potential infrastructure spending, and burgeoning inflation help, but sector unlikely to work until progress is made on China trade issues.
	Energy	■	■	■	●	○	●	5.6	Crude oil bear market creates a potentially more attractive entry point, though U.S. supply overhang remains, capping possible upside in our view.
	Industrials	■	■	■	●	○	●	9.4	Post-midterms, path to U.S.-China trade deal may be shorter, smoother. We expect a pickup in capex and defense spending, despite slower growth overseas.
	Communication Services	■	■	■	●	○	●	9.8	No longer a defensive sector after recent revamp. Our cautious view on media and traditional telecom, plus high valuations, offset strong growth outlook for former tech stocks.
	Consumer Discretionary	■	■	■	●	○	●	10.0	Solid earnings and tax cuts support a positive bias, but valuations are high and the sector tends to do relatively worse late in business cycles.
	Technology	■	■	■	●	○	●	20.3	Business spending outlook and productivity-enabling role are attractive; valuations are lower after communication services sector revamp but so is the earnings growth outlook.
	Financials	■	■	■	●	○	●	13.7	Positives include deregulation, dividend growth, tax cuts, valuations, and higher short-term interest rates; yield curve and loan demand are key sticking points.
Defensive	Utilities	■	■	■	●	○	●	3.1	Rising interest rates and our preference for cyclical sectors drive caution, though earnings growth has picked up some and interest rate increases will likely moderate.
	Healthcare	■	■	■	●	○	●	15.3	Valuations remain reasonable, healthcare spending outlook may get slight boost post-election, demographics are positive, and technicals look good; positive bias.
	Consumer Staples	■	■	■	●	○	●	7.4	We favor cyclical sectors, though market volatility helps the near-term outlook for defensive sectors; interest rate risk ebbing and performance has improved.
	Real Estate	■	■	■	●	○	●	2.8	The group offers rich yields and fundamentals still look pretty good; still, we prefer more economically sensitive sectors.

* S&P 500 Weight (%)

Investing in real estate/REITs involves special risks such as potential illiquidity and may not be suitable for all investors. There is no assurance that the investment objectives of this program will be attained.

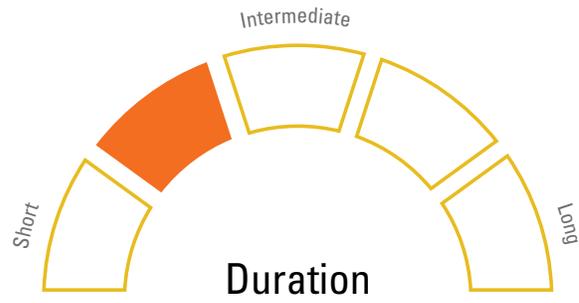
Because of its narrow focus, specialty sector investing, such as healthcare, financials, or energy, will be subject to greater volatility than investing more broadly across many sectors and companies.

There is no guarantee that a diversified portfolio will enhance overall returns or outperform a nondiversified portfolio. Diversification does not ensure against market risk.

FIXED INCOME



Maintaining a cautious approach as valuations remain rich, but still prefer corporate bonds to government bonds.



Interest rate sensitivity is less defensive but still lower than the benchmark due to expensive valuations.

Yield spread is the difference between yields on differing debt instruments, calculated by deducting the yield of one instrument from another. The higher the yield spread, the greater the difference between the yields offered by each instrument. The spread can be measured between debt instruments of differing maturities, credit ratings, and risk.

Sector	F	T	V	⊖	○	⊕	Rationale
Munis–Short-Term	■	■	■	—	●	—	Valuations relative to Treasuries remain expensive relative to history.
Munis–Intermediate-Term	■	■	■	—	●	—	Valuations relative to Treasuries remain on the expensive side.
Munis–Long-Term	■	■	■	—	—	●	Long-term yields are more attractive than short-term yields, though higher duration may be a headwind if rates continue to rise. Valuations have become attractive relative to long-dated Treasuries.
Munis–High-Yield	■	■	■	●	—	—	Valuations remain expensive, though additional yield continues to be a factor. Long duration may be a headwind if rates continue to rise.

(Continued on next page)

For the purposes of this publication, intermediate-term bonds have maturities between 3 and 10 years, and short-term bonds are those with maturities of less than 3 years. All bonds are subject to market and interest rate risk if sold prior to maturity. Bond values will decline as interest rates rise and are subject to availability and change in price. High-yield/junk bonds are not investment-grade securities, involve substantial risks, and generally should be part of the diversified portfolio of sophisticated investors. Municipal bonds are subject to availability, price, and market and interest rate risk if sold prior to maturity. Bond values will decline as interest rates rise. Interest income may be subject to the alternative minimum tax. Federally tax-free but other state and local taxes may apply. Corporate bonds are considered higher risk than government bonds but normally offer a higher yield and are subject to market, interest rate, and credit risk, as well as additional risks based on the quality of issuer coupon rate, price, yield, maturity, and redemption features.

FIXED INCOME (CONTINUED)

For fixed income allocations, we continue to emphasize a blend of high-quality intermediate bonds coupled with a small allocation to less interest-rate-sensitive sectors, such as bank loans or high-yield bonds, for suitable investors. We remain concerned about rising rates putting pressure on fixed income in 2018, and the late 2017 tax law adds slightly to that concern and may also lead to additional Treasury issuance in the near term. Improving consumer demand and business investment could help corporate profits, though inflationary pressures may offset these benefits for fixed income investors. We maintain a cautious approach with credit-sensitive areas of the market, but a “coupon-clipping” environment may still aid suitable investors.

Sector	F	T	V	⊖	○	⊕	Rationale
Taxable Bonds – U.S.	Treasuries	■	■	■	●		Yield spreads to overseas alternatives remain elevated but hedging costs lower attractiveness. Heavy supply, growth, and inflation normalization could be headwinds.
	TIPS	■	■	■		●	Breakeven inflation remains slightly above the Fed’s 2% target. Interest rate sensitivity could be a headwind.
	MBS	■	■	■		●	Yield per unit of duration remains attractive relative to other high-quality options, but Fed balance sheet normalization remains a risk over time.
	Investment-Grade Corporates	■	■	■		●	We still find incremental value in corporate bonds due to the economic backdrop and a potential slowing in the pace of rising rates.
	Preferred Stocks	■	■	■		●	Fundamentals are firm for U.S. banks, but valuations continue to warrant caution. Higher interest rate sensitivity remains a risk.
	High-Yield Corporates	■	■	■		●	Average yield spread of about 3.2% is just below our estimate of fair value but leaves little room for error. Yields remain attractive. Oil price or equity market weakness could be negative drivers.
	Bank Loans	■	■	■		●	Floating rates may benefit holders if short-term rates continue to rise, but high issuance, fewer investor protections becoming a concern.
Taxable Bonds – Foreign	Foreign Bonds– Hedged	■	■	■		●	Fading easing bias of foreign central banks could lead to rising rates and pressure on performance.
	Foreign Bonds– Unhedged	■	■	■	●		Potential currency volatility, low yields, and unattractive valuations are negatives.
	EMD	■	■	■		●	Spreads have widened amid Turkish currency collapse but remain tight relative to history. Trade policy remains a risk.

Investing in foreign and emerging market debt (EMD) securities involves special additional risks. These risks include, but are not limited to, currency risk, geopolitical and regulatory risk, and risk associated with varying settlement standards.

Mortgage-backed securities (MBS) are subject to credit, default, prepayment risk that acts much like call risk when you get your principal back sooner than the stated maturity, extension risk, the opposite of prepayment risk, market and interest rate risk.

Bank loans are loans issued by below investment-grade companies for short-term funding purposes with higher yield than short-term debt and involve risk.

Treasury Inflation-Protected Securities, or TIPS, are subject to market risk and significant interest rate risk as their longer duration makes them more sensitive to price declines associated with higher interest rates.

COMMODITIES & ALTERNATIVE ASSET CLASSES

The bear market in WTI Crude offers a potentially attractive entry point, although the U.S. supply overhang remains. Demand outlook remains generally positive for industrial metals, but trade tensions may persist and technicals are challenged. Tariffs are also weighing on crop prices, which have broken down technically. The event-driven investing outlook remains promising as tax reform and continued global growth may increase the corporate activity opportunity set.

	Sector	F	T	V	⊖	○	⊕	Rationale
Commodities	Industrial Metals	■	■		—●—			Global demand outlook remains generally positive and more U.S. infrastructure spending is still possible, but trade tensions may persist.
	Precious Metals	■	■		●—			U.S. dollar strength, rising interest rates, and our preference for riskier assets suggest caution. Watching inflation and market's level of risk tolerance.
	Energy	■	■		—●—			The bear market in WTI Crude offers a potentially attractive entry point, although the U.S. supply overhang remains, capping possible upside in our view.
	Agricultural	■	■		●—			Agriculture prices have broken down technically due to tariffs; trade tensions may persist.

	Sector	T	E	C	T	V	O	⊖	○	⊕	Rationale
Alternatives	Long/Short Equity	■	■	■				—●—			We continue to favor strategies with a conservative or variable net exposure to global markets. Recent equity market volatility has led some strategies to implement more of a value tilt, while also moving away from crowded holdings.
	Event Driven	■	■	■				—●—			Deal flow remains healthy; however, global mergers requiring regulatory approval from multiple countries face additional risk due to the ongoing global trade negotiations. The strategies' low-beta profile has provided investors strong downside protection the past month.
	Managed Futures	■	■	■				—●—			We continue to favor either multimanagers or a combination of uncorrelated trading strategies to smooth and diversify return profiles. Recent performance has been driven by short equity and Treasury exposure, while long oil positioning has detracted from overall gains.
	Global Macro	■	■	■				—●—			Global macro strategies continue to provide diverse exposure sets and have provided attractive downside protection during equity sell-offs. Shifts in fiscal policy, global political uncertainty, and economic divergences provide an attractive opportunity set.

	CHARACTERISTICS	ICON	DEFINITION
LEGEND	Catalysts	C T	Potential for favorable macroeconomic and/or idiosyncratic market developments that may benefit the investment strategy.
	Trading Environment	T E	Market characteristics present sufficient investment opportunities for this investment style.
	Volatility	V O	The current volatility regime provides a constructive environment that an investment of this style can capitalize on.

Alternative strategies may not be suitable for all investors and should be considered as an investment for the risk capital portion of the investor's portfolio. The strategies employed in the management of alternative investments may accelerate the velocity of potential losses.

Commodity-linked investments may be more volatile and less liquid than the underlying instruments or measures, and their value may be affected by the performance of the overall commodities baskets as well as weather, geopolitical events, and regulatory developments.

IMPORTANT DISCLOSURES

All performance referenced is historical and is no guarantee of future results.

There is no assurance that the techniques and strategies discussed are suitable for all investors or will yield positive outcomes. The purchase of certain securities may be required to effect some of the strategies.

All indexes are unmanaged and cannot be invested into directly. Unmanaged index returns do not reflect fees, expenses, or sales charges. Index performance is not indicative of the performance of any investment.

Stock and Pooled Investment Risks

The payment of dividends is not guaranteed. Companies may reduce or eliminate the payment of dividends at any given time.

Value investments can perform differently from the market as a whole. They can remain undervalued by the market for long periods of time.

Investing in stock includes numerous specific risks including: the fluctuation of dividend, loss of principal, and potential illiquidity of the investment in a falling market.

Investing in foreign and emerging markets securities involves special additional risks. These risks include, but are not limited to, currency risk, geopolitical risk, and risk associated with varying accounting standards. Investing in emerging markets may accentuate these risks.

The prices of small and mid cap stocks are generally more volatile than large cap stocks.

Bond and Debt Equity Risks

Government bonds and Treasury bills are guaranteed by the U.S. government as to the timely payment of principal and interest and, if held to maturity, offer a fixed rate of return and fixed principal value. However, the value of fund shares is not guaranteed and will fluctuate.

Alternative Risks

Event driven strategies, such as merger arbitrage, consist of buying shares of the target company in a proposed merger and fully or partially hedging the exposure to the acquirer by shorting the stock of the acquiring company or other means. This strategy involves significant risk as events may not occur as planned and disruptions to a planned merger may result in significant loss to a hedged position.

Managed futures strategies use systematic quantitative programs to find and invest in positive and negative trends in the futures markets for financials and commodities. Futures and forward trading is speculative, includes a high degree of risk that the anticipated market outcome may not occur, and may not be suitable for all investors.

INDEX DEFINITIONS

The S&P 500 Index is a capitalization-weighted index of 500 stocks designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.

The Bloomberg Barclays U.S. Municipal Bond Index covers the USD-denominated long-term tax-exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and prerefunded bonds.

The Russell 1000 Growth Index measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values. Russell 1000 Value Index measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.

DEFINITIONS

A cyclical stock is an equity security whose price is affected by ups and downs in the overall economy. Cyclical stocks typically relate to companies that sell discretionary items that consumers can afford to buy more of in a booming economy and will cut back on during a recession.

Gross domestic product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific time period, though GDP is usually calculated on an annual basis. It includes all of private and public consumption, government outlays, investments and exports less imports that occur within a defined territory.

The simple moving average is an arithmetic moving average that is calculated by adding the closing price of the security for a number of time periods and then dividing this total by the number of time periods. Short-term averages respond quickly to changes in the price of the underlying, while long-term averages are slow to react.

The Beige Book is a commonly used name for the Federal Reserve's (Fed) report called the Summary of Commentary on Current Economic Conditions by Federal Reserve District. It is published just before the Federal Open Market Committee (FOMC) meeting on interest rates and is used to inform the members on changes in the economy since the last meeting.

Technical analysis is a methodology for evaluating securities based on statistics generated by market activity, such as past prices, volume and momentum, and is not intended to be used as the sole mechanism for trading decisions. Technical analysts do not attempt to measure a security's intrinsic value, but instead use charts and other tools to identify patterns and trends. Technical analysis carries inherent risk, chief amongst which is that past performance is not indicative of future results. Technical analysis should be used in conjunction with Fundamental analysis within the decision-making process and shall include but not be limited to the following considerations: investment thesis, suitability, expected time horizon, and operational factors, such as trading costs are examples.

The PE ratio (price-to-earnings ratio) is a measure of the price paid for a share relative to the annual net income or profit earned by the firm per share. It is a financial ratio used for valuation: a higher PE ratio means that investors are paying more for each unit of net income, so the stock is more expensive compared to one with lower PE ratio.

Alpha measures the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by Beta. A positive (negative) Alpha indicates the portfolio has performed better (worse) than its Beta would predict.

Beta measures a portfolio's volatility relative to its benchmark. A Beta greater than 1 suggests the portfolio has historically been more volatile than its benchmark. A Beta less than 1 suggests the portfolio has historically been less volatile than its benchmark.

Idiosyncratic risk can be thought of as the factors that affect an asset such as a stock and its underlying company at the microeconomic level. Idiosyncratic risk has little or no correlation with market risk, and can therefore be substantially mitigated or eliminated from a portfolio by using adequate diversification.

This research material has been prepared by LPL Financial LLC.

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