Investment Risks

While Putnam seeks to achieve a client's stated investment objective, there is no guarantee that we will succeed. Investing in securities and other financial instruments involves risk of loss that clients should be prepared to bear. Our accounts may not perform as well as accounts managed by others or as well as their benchmarks.

Below is a summary of material risks that may apply to a client portfolio depending on the asset class or classes in which it invests. These descriptions cover our most significant strategies, and they focus on risks that are shared by most portfolios in a given asset class (such as equities or fixed-income). Some specialized portfolios may be subject to additional risks. For example, our Capital Spectrum and Equity Spectrum strategies may sell securities short and invest in leveraged companies, and our regional or sector strategies, such as European Core Equity, will be subject to risks associated with focusing in one geographic region or sector.

Of course, this summary does not cover every possible risk, and Putnam may sometimes buy investments that we do not describe below. In addition, each specific account's guidelines and strategy will determine the risks that apply. For more detailed information about your portfolio's risks, please contact Putnam.

Fixed-income investments

»Interest rate risk. The values of bonds and other debt instruments usually rise and fall in response to changes in interest rates. Declining interest rates generally increase the value of existing debt instruments, and rising interest rates generally decrease the value of existing debt instruments. Changes in a debt instrument's value usually will not affect the amount of interest income paid to a portfolio, but will affect the value of the portfolio. Interest rate risk is generally greater for investments with longer maturities.

Some investments give the issuer the option to call or redeem an investment before its maturity date. If an issuer calls or redeems an investment during a time of declining interest rates, we might have to reinvest the proceeds in an investment offering a lower yield, and therefore might not benefit from any increase in value as a result of declining interest rates.

»Credit risk. Investors normally expect to be compensated in proportion to the risk they are assuming. Thus, debt of issuers with poor credit prospects usually offers higher yields than debt of issuers with more secure credit. Higher-rated investments generally have lower credit risk.

Where a portfolio's investment guidelines permit, we may invest in higher-yield, higher-risk debt investments that are below investment grade. Investments rated below BBB or its equivalent are below investment-grade. This rating reflects a greater possibility that the issuers may be unable to make timely payments of interest and principal and thus default. If this happens, or is perceived as likely to happen, the values of those investments will usually be more volatile and are likely to fall. A default or expected default could also make it difficult for us to sell the investments at prices approximating the values we had previously placed on them. Lower-rated debt usually has a more limited market than higher-rated debt, which may at times make it difficult for us to buy or sell some debt instruments or to establish their fair value. Credit risk is generally greater for zero coupon bonds and other investments that are issued at less than their face value and that are required to make interest payments only at maturity rather than at intervals during the life of the investment.

Credit ratings are based largely on the issuer's historical financial condition and the rating agencies' investment analysis at the time of rating. The rating assigned to any particular investment does not necessarily reflect the issuer's current financial condition, and does not reflect an assessment of an investment's volatility or liquidity. Although we consider credit ratings in making investment decisions, we perform our own investment analysis and do not rely only on ratings assigned by the rating agencies. Our success in achieving a portfolio's investment objective may depend more on our own credit analysis when we buy lower quality bonds than when we buy higher quality bonds. We may have to participate in legal proceedings involving the issuer. This could increase a portfolio's operating expenses and decrease its value.

Although investment-grade investments generally have lower credit risk, they may share some of the risks of lower-rated investments.

Mortgage-backed securities may be subject to the risk that underlying borrowers will be unable to meet their obligations.

»Prepayment risk. Traditional debt investments typically pay a fixed rate of interest until maturity, when the entire principal amount is due. By contrast, payments on securitized debt instruments, including mortgage-backed and asset-backed investments, typically include both interest and partial payment of principal. Principal may also be prepaid voluntarily, or as a result of refinancing or foreclosure. We may have to invest the proceeds from prepaid investments in other investments with less attractive terms and yields. Compared to debt that cannot be prepaid, mortgage-backed investments are less likely to increase in value during periods of declining interest rates and have a higher risk of decline in value during periods of rising interest rates. They may increase the volatility of the portfolio. Some mortgage-backed investments receive only the interest portion or the principal portion of payments on the underlying mortgages. The yields and values of these investments are extremely sensitive to changes in interest rates and in the rate of principal payments on the underlying mortgages. The market for these investments may be volatile and limited, which may make them difficult to buy or sell. Asset-backed securities, which are subject to risks similar to those of mortgage-backed securities, are also structured like mortgage-backed securities, but instead of mortgage loans or interests in mortgage loans, the underlying assets may include such items as motor vehicle installment sales or installment loan contracts, leases of various types of real and personal property, and receivables from credit card agreements.

»Floating rate loans. Floating rate loans are debt obligations with interest rates that adjust or "float" periodically (normally on a monthly or quarterly basis) based on a generally recognized base rate, such as the London Inter-Bank Offered Rate or the prime rate offered by one or more major U.S. banks. While most floating rate loans are below-investment-grade in quality, most also are senior in rank in the event of bankruptcy to most other securities of the borrower, such as common stock or public bonds. Floating rate loans are also normally secured by specific collateral or assets of the borrower so that the holders of the loans will have a priority claim on those assets in the event of default or bankruptcy of the issuer.

Floating rate loans generally are less sensitive to interest rate changes than obligations with fixed interest rates but may decline in value if their interest rates do not rise as much, or as quickly, as interest rates in general. Conversely, floating rate instruments will not generally increase in value if interest rates decline. Changes in interest rates will also affect the amount of interest income the client earns on its floating rate investments. Most floating rate loans allow for prepayment of principal without penalty. If a borrower prepays a loan, we might have to reinvest the proceeds in an investment that may have lower yields than the yield on the prepaid loan or might not be able to take advantage of potential gains from increases in the credit quality of the issuer. The value of collateral, if any, securing a floating rate loan can decline, and may be insufficient to meet the borrower's obligations or difficult to liquidate. In addition, our access to collateral may be limited by bankruptcy or other insolvency proceedings. Floating rate loans may not be fully collateralized and may decline in value.

Although the market for the types of floating rate loans in which we invest has become increasingly liquid over time, this market is still developing, and there can be no assurance that adverse developments with respect to this market or particular borrowers will not prevent us from selling these loans at their market values when we consider such a sale desirable.

Equity investments

»Common stocks. Common stock represents an ownership interest in a company. The value of a company's stock may fall as a result of factors directly relating to that company, such as decisions made by its management or lower demand for the company's products or services. A stock's value may also fall because of factors affecting not just the company, but also companies in the same industry or in a number of different industries, such as increases in production costs. From time to time, a portfolio may invest a significant portion of its assets in companies in one or more related industries or sectors, such as the financial sector, which would make the portfolio more vulnerable to adverse developments affecting those industries or sectors. The value of a company's stock may also be affected by changes in financial markets that are relatively unrelated to the company or its industry, such as changes in interest rates or currency exchange rates. In addition, a company's stock generally pays dividends only after the company invests in its own business and makes required payments to holders of its bonds and other debt. For this reason, the value of a company's stock will usually react more strongly than its bonds and other debt to actual or perceived changes in the company's financial condition or prospects. Stocks of smaller companies may be more vulnerable to adverse developments than those of larger companies.

<u>Growth stocks</u> **—** Stocks of companies we believe are fast-growing may trade at a higher multiple of current earnings than other stocks. The values of these stocks may be more sensitive to changes in current or expected earnings than the values of other stocks. If our assessment of the prospects for a company's earnings growth is wrong, or if our judgment of how other investors will value the company's earnings growth is wrong, then the price of the company's stock may fall or not approach the value that we have placed on it. Seeking earnings growth may result in significant investments in some sectors, including the technology sector, which may be subject to greater volatility than other sectors of the economy.

<u>Value stocks</u> **—** Companies whose stock we believe is undervalued by the market may have experienced adverse business developments or may be subject to special risks that have caused their stocks to be out of favor. If our assessment of a company's prospects is wrong, or if other investors do not similarly recognize the value of the company, then the price of the company's stock may fall or may not approach the value that we have placed on it.

»**Small and midsized companies.** These companies, some of which may have a market capitalization of less than $1 billion, are more likely than larger companies to have limited product lines, markets, or financial resources, or to depend on a small, inexperienced management group. Stocks of these companies often trade less frequently and in limited volume, and their prices may fluctuate more than stocks of larger companies. Stocks of small and midsized companies may therefore be more vulnerable to adverse developments than those of larger companies. Small companies in non-U.S. countries could be relatively smaller than those in the United States.

Non-U.S. investments

Non-U.S. investments (whether equities or fixed-income investments) involve special risks, including:

» Unfavorable changes in currency exchange rates: Non-U.S. investments are typically issued and traded in non-U.S. currencies. As a result, their values may be affected by changes in exchange rates.

» Political and economic developments: Non-U.S. investments may be subject to the risks of seizure by a non-U.S. government, direct or indirect impact of sovereign debt default, imposition of restrictions on the exchange or export of non-U.S. currency, and tax increases.

» Unreliable or untimely information: There may be less information publicly available about a non-U.S. company than about most publicly traded U.S. companies, and non-U.S. companies are usually not subject to accounting, auditing, and financial reporting standards and practices as stringent as those in the United States.

» Limited legal recourse: Legal remedies for investors may be more limited than the remedies available for investors in U.S. companies.

» Limited markets: Some non-U.S. investments may be less liquid (harder to buy and sell) and more volatile, which means we may at times be unable to sell these non-U.S. investments at desirable prices. For the same reason, we may at times find it difficult to value the portfolio's non-U.S. investments.

» Trading practices: Brokerage commissions and other fees are generally higher for non-U.S. investments than for U.S. investments. The procedures and rules governing non-U.S. transactions and custody may also involve delays in payment, delivery, or recovery of money or investments.

The risks of non-U.S. investments are typically increased in less developed countries, which are sometimes referred to as emerging markets. For example, political and economic structures in these countries may be changing rapidly, which can cause instability. These countries are also more likely to experience high levels of inflation, deflation or currency devaluation, which could hurt their economies and securities markets. For these and other reasons, investments in emerging markets are often considered speculative.

Some of these risks may also apply to some extent to U.S. investments that are denominated in non-U.S. currencies, investments in U.S. companies that are traded in non-U.S. markets, or investments in U.S. companies that have significant non-U.S. operations.

Derivatives investments

We may engage in a variety of transactions involving derivatives, such as futures, options, warrants, and swap contracts. Derivatives are financial instruments whose value depends upon, or is derived from, the value of something else, such as one or more underlying investments, pools of investments, indices, or currencies. We may make use of "short" derivatives positions, the values of which move in the opposite direction from the price of the underlying investment, pool of investments, index, or currency. The risk of loss from some short derivatives positions is theoretically unlimited. We may use derivatives both for hedging and non-hedging purposes. For example, we may use foreign currency transactions to increase or decrease a portfolio's exposure to a particular currency or group of currencies. We may also use derivatives as a substitute for a direct investment in the securities of one or more issuers. However, we may also choose not to use derivatives, based on our evaluation of market conditions or the availability of suitable derivatives. It is not possible to hedge fully or perfectly against any risk, and hedging entails its own costs. In addition, derivatives trading may involve other costs, such as the cost of posting collateral, which could reduce or negate the return from a derivative.

Derivatives involve special risks and may result in losses. The successful use of derivatives depends on our ability to manage these sophisticated instruments. Some derivatives are "leveraged," which means that they provide a portfolio with investment exposure greater than the value of the portfolio's investment in the derivatives. As a result, these derivatives may magnify or otherwise increase investment losses to the portfolio, and an account investing in derivatives could lose more than the amount invested in them. The prices of derivatives may move in unexpected ways due to the use of leverage or other factors, especially in unusual market conditions, and may result in increased volatility. Derivatives strategies that use hedging can cause the value of a portfolio to appreciate or depreciate at a greater rate than if such techniques were not used.

Other risks arise from the potential inability to terminate or sell derivatives positions. A liquid secondary market may not always exist for the portfolio derivatives positions at any time. In fact, many over-the-counter instruments (investments not traded on an exchange) will not be liquid. Over-the-counter instruments also involve the risk that the other party to the derivative transaction will not meet its obligations.

More broadly, clients investing in derivatives should be aware that the legal requirements for derivatives trading are complex and continue to evolve, both in the U.S. and internationally. For example, client derivative trading may require public or non-public regulatory reporting in the U.S., Europe, and other jurisdictions, and local law may impose other related obligations (such as valuation and risk mitigation requirements) directly on the client. Derivatives must in some cases be “cleared” through a clearinghouse and/or traded on an exchange or similar facility, and even bilateral, “over the counter” positions may be subject to collateralization and other operational arrangements. Each of these trading requirements presents additional operational, legal, and investment issues for relevant accounts. Increasing derivatives regulation could reduce liquidity, increase costs, or otherwise impact the effectiveness of strategies that make significant use of derivatives.

Short sales

In certain strategies, we may engage in short sales of securities either as a hedge against potential declines in value of a portfolio security or to realize appreciation when a security that the account does not own declines in value. Short sales are transactions in which the fund or other client sells a security it does not own to a third party by borrowing the security in anticipation of purchasing the same security at the market price on a later date to close out the short position. The potential loss from a short sale is theoretically unlimited since the potential increase in the market price of the security sold short is not limited. The successful use of short sales is subject to our ability to accurately predict movements in the market price of the security sold short. Short selling may involve financial leverage because the portfolio is exposed both to changes in the market price of the security sold short and to changes in the value of securities purchased with the proceeds of the short sale, effectively leveraging its assets. Under adverse market conditions, we may have difficulty purchasing securities to meet short sale delivery obligations, and may be required to close out a short position (including by selling other portfolio securities) at an inopportune time.

Commodity-linked investments

Exposure to the commodities markets may subject an investor to greater volatility than investments in traditional securities and is typically achieved through derivative instruments or commodity-linked notes. Commodities trading involves substantial risk of loss. There are additional risks involved with trading securities in a margin account, including the risk of losing more funds than the amount deposited. Commodity-linked notes are subject to the same risks as commodities, such as weather, disease, political, tax, and other regulatory developments and other factors affecting the value of commodities. Commodity-linked investments may be more volatile and less liquid than the underlying measures, may be leveraged, and have substantial risk of loss and are subject to the credit risks associated with the issuer or counterparty.

Convertible securities

Convertible securities include bonds, preferred stocks, and other instruments that pay interest or dividends and that can be converted into or exchanged for common stocks or other equity securities, or equivalent value, at a particular price or rate (a "conversion price"). Convertible securities generally have less potential for gain or loss than common stocks, but may have more potential for gain or loss than debt securities. In general, a convertible security performs more like a stock when the underlying stock's price is near or higher than the conversion price (because it is assumed that it will be converted into the stock) and more like a bond when the underlying stock's price is lower than the conversion price (because it is assumed that it will not be converted). Convertible securities tend to provide higher yields than common stocks. However, a higher yield may not protect investors against the risk of loss or adequately mitigate any loss associated with a decline in the price of a convertible security.

Privately placed and Rule 144A securities

We may invest in securities purchased in private placements or pursuant to Rule 144A under the Securities Act of 1933 (if available). Rule 144A securities are securities that are not registered for public sale, but can be sold to institutional investors in accordance with Rule 144A. Other privately placed securities may be sold only in private offerings, the terms of which may be individually structured depending on the issuer and offering. Privately placed and Rule 144A securities may be subject to limitations on resale or transfer as a matter of law or contract, and are normally resold only to institutional investors. There can be no assurance that we will be able to dispose of these securities readily. Particularly given the smaller size of some emerging companies, in some cases, we could hold a substantial portion of an issuer's capital. In addition to impacting potential liquidity, large positions of this kind could raise additional legal requirements, such as public disclosure or regulatory approvals, depending on the nature of our holding. In some cases, in order to comply with applicable law and/or to avoid position disclosure or other legal steps that we believe are not in the best interest of our clients, Putnam may choose, in its discretion, to purchase non-voting shares, or to take other steps that would not typically be needed in public investments. Private securities may also require greater involvement by Putnam in the valuation process.

Holdings limits

The laws of some non-U.S. countries may limit our ability to invest in securities of certain issuers organized under the laws of those foreign countries. These restrictions may take the form of prior governmental approval requirements, limits on the amount or type of securities held by foreign investors, and limits on the types of companies in which foreign investors may invest (such as limits on investment in certain industries). Some countries also limit the investment of foreign persons to only a specific class of securities of an issuer that has less advantageous terms than securities of the issuer available for purchase by domestic parties, or may directly limit foreign investors' rights (such as voting rights). Although securities subject to these restrictions may be marketable abroad, they may be less liquid than securities of the same class that are not subject to the restrictions. Non-U.S. laws may also impact the availability of derivatives or hedging techniques relating to a non-U.S. country's government securities. Legal holdings limits or pre-approval requirements may also apply in the U.S. based on state laws applicable to specific kinds of companies, such as insurers or banks. In each of these situations, our ability to invest significantly in desired issuers, or the terms of the investments, could be negatively impacted.

For purposes of some U.S. or non-U.S. holding limits or disclosure thresholds, all positions owned or controlled by the same person or entity, even if in different accounts, may be aggregated for purposes of determining whether the applicable limits or thresholds have been exceeded. As a result, even if a particular client account does not exceed applicable limits, it is possible that different clients managed by Putnam and its affiliates may be aggregated for this purpose. Putnam and its affiliates may choose, as a prudential matter, to limit trading in a particular issuer, country, industry, or other investment type at a level lower than the relevant legal threshold. Any modification of trading decisions that may be required to avoid exceeding relevant limits or triggering other legal requirements may adversely affect the performance of a client account.

Turnover

A client account pays transaction-related costs when Putnam buys and sells securities (or “turns over” the portfolio). A higher turnover rate may indicate higher brokerage commissions, transaction costs and taxes, which affect performance. The turnover for Putnam client accounts varies widely among strategies and portfolio managers and, even within a single account, will be higher or lower at different times depending on Putnam’s view of market opportunities. While Putnam generally seeks long-term outperformance rather than short-term opportunity, some Putnam client portfolios may have relatively high turnover.

Securities of investment companies

Putnam may also purchase securities issued by other open- or closed-end investment companies, including exchange traded funds (“ETFs”). Investments in these types of securities may involve the indirect payment of additional management fee or other expenses as the underlying funds will normally pay such fees and incur other operating expenses. In addition, any investment in a fund will be dependent on the skills of the firm managing the fund. Putnam most often uses ETFs and other funds to equitize cash held in client accounts, or, in some instances, to gain market exposure through purchasing ETFs on particular securities indices.