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The case for continued allocations to liquid alternatives

Investors began making substantial allocations to liquid alternatives over the past decade in order to decrease their reliance on traditional asset class returns and diversify their overall portfolios. We believe this was the correct decision to make. Unfortunately, in a world of uncertainty, the correct decisions do not always lead to the desired outcomes, especially over relatively short samples of time.

While at times we have shared with our clients a sense of disappointment in the performance of liquid alternatives, we have great confidence that allocating to them is the correct decision to make, and will lead to better outcomes in the long run. We will explain why we have this confidence through the following arguments and analyses.

The necessity to diversify is greater than ever

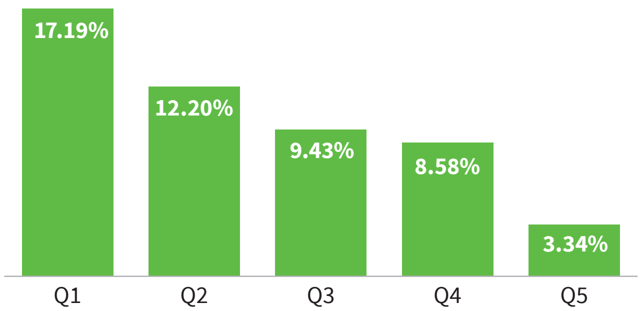
The opportunity to exploit diversification should always be appealing to investors, as it is the one true "free lunch" available, but it should be especially appealing to investors now given the current market environment of high equity valuations and relatively low bond yields, both of which are suggesting low expected excess returns over the next five years and beyond.

Figure 1 shows the relationship between 5-year forward equity returns and the starting Shiller P/E quintile. When stocks begin the period in the bottom quintile, as they are now, subsequent 5-year performance is less than half the long-term average return.

FIGURE 1

Relationship between 5-year forward equity returns and starting Shiller P/E quintile, 1926–2017

S&P 500 annual 5-year foward total returns

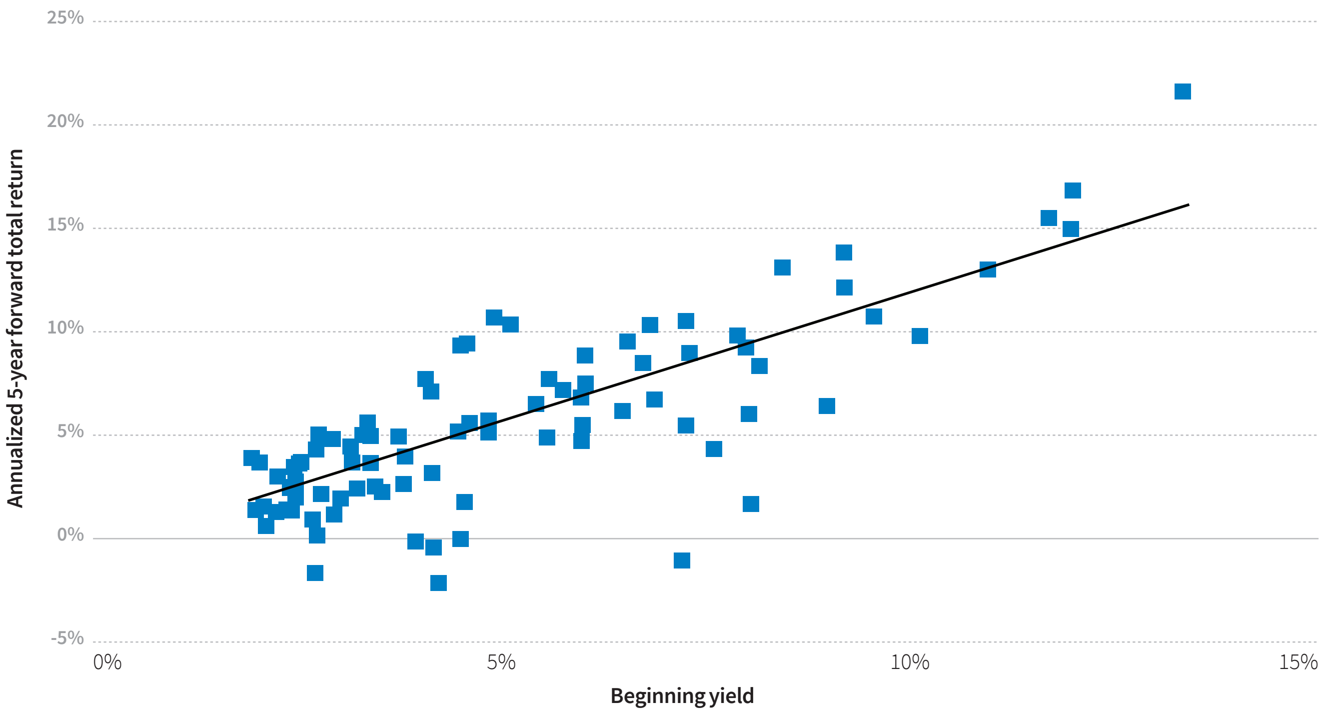


Sources: Bloomberg, IA SBBI, Robert Shiller.
Past performance is not a guarantee of future results.

Figure 2 shows the relationship between 5-year forward long-term government bond returns and the starting bond yield. When bond yields are low, as they are now, subsequent 5-year total returns are generally lower than average. Both of these exhibits suggest that investors may experience significantly lower returns from traditional stock-bond portfolios in the coming years. This only increases the importance of diversifying portfolios with alternative sources of potential return, which is exactly what liquid alternatives aim to do.

FIGURE 2

Relationship between 5-year forward bond returns and starting bond yield, 1926–2017



Sources: Bloomberg, IA SBBI.

Shiller P/E is a cyclically adjusted P/E measure where earnings are smoothed 10 years. Indexes are unmanaged and do not incur expenses. You cannot invest directly in an index. Past performance is not a guarantee of futures results.

How liquid alternatives can help

According to our research (see Figure 3), in the long run, allocations to liquid alternatives can significantly improve the risk-adjusted returns of portfolios, even when the Sharpe ratios of liquid alternatives are modest and positively correlated with the original portfolio. Figure 3 shows the theoretical improvement in Sharpe ratio by adding an allocation to a liquid alternatives strategy, with a 0.5 Sharpe ratio and a 5% volatility, to an initial portfolio with a 0.5 Sharpe ratio and a 10% volatility.

The size of the allocation is varied along the x-axis and the correlation of the liquid alternatives strategy to the initial portfolio is varied along the y-axis. The green color indicates improvement in risk-adjusted performance. As this graphic shows, nowhere does the allocation to liquid alternatives hurt risk-adjusted performance, and depending on the correlation and allocation size, it can potentially make very significant improvements to the final Sharpe ratio.

FIGURE 3

Improvements in Sharpe ratio by including allocations to liquid alternatives

Allocation to alt portfolio

Correlation to original portfolio	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
0.00	0.03	0.06	0.09	0.13	0.17	0.20	0.21	0.17	0.10	0.00
0.05	0.03	0.05	0.09	0.12	0.16	0.18	0.19	0.16	0.09	0.00
0.10	0.02	0.05	0.08	0.11	0.15	0.17	0.17	0.15	0.08	0.00
0.15	0.02	0.05	0.08	0.11	0.13	0.15	0.16	0.13	0.08	0.00
0.20	0.02	0.04	0.07	0.10	0.12	0.14	0.14	0.12	0.07	0.00
0.25	0.02	0.04	0.07	0.09	0.11	0.13	0.13	0.11	0.07	0.00
0.30	0.02	0.04	0.06	0.08	0.10	0.12	0.12	0.10	0.06	0.00
0.35	0.02	0.04	0.06	0.07	0.09	0.11	0.11	0.09	0.06	0.00
0.40	0.02	0.03	0.05	0.07	0.08	0.10	0.10	0.08	0.05	0.00
0.45	0.01	0.03	0.05	0.06	0.08	0.08	0.09	0.08	0.05	0.00
0.50	0.01	0.03	0.04	0.05	0.07	0.08	0.08	0.07	0.04	0.00
0.55	0.01	0.02	0.04	0.05	0.06	0.07	0.07	0.06	0.04	0.00
0.60	0.01	0.02	0.03	0.04	0.05	0.06	0.06	0.05	0.03	0.00
0.65	0.01	0.02	0.03	0.04	0.04	0.05	0.05	0.04	0.03	0.00
0.70	0.01	0.02	0.02	0.03	0.04	0.04	0.04	0.04	0.02	0.00
0.75	0.01	0.01	0.02	0.03	0.03	0.03	0.03	0.03	0.02	0.00
0.80	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.02	0.02	0.00
0.85	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.00
0.90	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
0.95	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00
1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source: Putnam. As of November 2018.

Starting original portfolio represents a portfolio with a 0.5 Sharpe ratio and 10% volatility. The allocation to alt portfolio represents a portfolio with a Sharpe ratio of 0.5 and 5% volatility. The initial portfolio represents a Global 60/40 portfolio and is based on account allocations of 60% MSCI World TR Net Index unhedged and 40% FTSE World Government Bond Index unhedged. Past performance is not a guarantee of future results.

Support from a real-world example

The previous example illustrates the theoretical argument for including liquid alternatives, assuming they have a sufficiently high Sharpe ratio and sufficiently low correlation to the initial portfolio. Putnam has managed its Multi-Asset Absolute Return Strategy (MAARS) for close to ten years, so we have a large amount of actual performance data that can be used to demonstrate the potential value of adding liquid alternatives to a traditional stock-bond portfolio.

TABLE 1

Historical data for the past 117 months (9.67 years)

January 31, 2009, to September 30, 2018

	Return	Volatility	Sharpe ratio
MSCI	12.7%	13.7%	0.93
WGBI	1.7%	5.8%	0.30
60/40	8.3%	9.2%	0.90
MAARS (gross)	6.0%	4.5%	1.26
MAARS (net)	5.1%	4.5%	1.07
HFRXGL	1.9%	4.0%	0.46

Correlation

	MSCI	WGBI	60/40	MAARS	HFRXGL
MSCI	1.00	0.10	0.96	0.69	0.69
WGBI	0.10	1.00	0.36	0.00	-0.09
60/40	0.96	0.36	1.00	0.65	0.63
MAARS	0.69	0.00	0.65	1.00	0.58
HFRXGL	0.69	-0.09	0.63	0.58	1.00

Source: Bloomberg.

MAARS return is for the Multi-Asset Absolute Return Composite. MAARS correlation is for a representative account and shown for illustrative purposes only. Each account is managed individually. Accordingly, account characteristics may vary. Past performance is not a guarantee of future results. An investment in this strategy can lose value. Please see the composite disclosures attached in this email for strategy-specific risk disclosures. Performance is stated in U.S. dollars and includes the reinvestment of dividends and interest. Returns less than one year are not annualized. HFRXGLA represents the HFRX Global Hedge Fund Index. The Global 60/40 is based on account allocations of MSCI World Index unhedged and FTSE World Government Bond Index unhedged.

Table 2 shows the Sharpe ratio over this period of a hypothetical portfolio that allocates a percentage to MAARS and the remaining percentage to a Global 60/40 portfolio. For the time period presented (January 31, 2009, to September 30, 2018), all allocations to MAARS improved the risk-adjusted performance of the combined hypothetical portfolio. This improvement is not too surprising given that MAARS had a significantly higher Sharpe ratio than the Global 60/40 over this period, but as Figure 3 showed, it would have improved risk-adjusted returns even if the Sharpe ratio had been lower.

TABLE 2

Sharpe ratio of combined hypothetical portfolio of MAARS and Global 60/40 stock-bond portfolio

Allocation to MAARS	Sharpe
50%	1.09
40%	1.05
30%	1.01
20%	0.97
10%	0.93
0%	0.90

Source: Putnam.

As of September 30, 2018. Sharpe ratio calculation is based on the percentages specified of the since inception (January 31, 2009) returns of a hypothetical combination of a global 60/40 portfolio and the Putnam Multi-Asset Absolute Return Composite. The Global 60/40 is based on account allocations of 60% MSCI World TR Net Index unhedged and 40% FTSE World Government Bond Index unhedged. Results were prepared with the benefit of hindsight. Actual results experienced by clients may vary significantly from the illustrations shown. Past performance is not a guarantee of future results.

Recent disappointment in liquid alternatives

Recent years have been disappointing for those investors that embraced liquid alternatives, including those that have allocated to MAARS. This is primarily due to unusually large differences between the risk-adjusted returns of equities and those of liquid alternatives. The Sharpe ratio of MSCI World (in USD) in the trailing 3-year period has been 1.37, which is more than triple the long-term Sharpe ratio of stocks over the prior century. Meanwhile, liquid alternatives have had lower Sharpe ratios over this period. MAARS has had a Sharpe ratio of 0.73 (gross of fees) and

0.53 (net of fees), and the HFRX Global Hedge Fund index has had a Sharpe ratio of 0.42 in the past three years, which is respectable but considerably lower than that of equities and the Global 60/40. When there is a very large difference between the risk-adjusted returns of liquid alternatives and the Global 60/40 portfolio, it becomes very difficult for liquid alternatives to improve the risk-adjusted performance of the combined portfolio.

TABLE 3

Portfolio data for trailing three years

September 30, 2015, to September 30, 2018

	Return	Volatility	Sharpe ratio
MSCI	12.74%	9.0%	1.37
WGBI	1.1%	5.8%	0.18
60/40	7.9%	6.1%	1.29
MAARS (gross)	3.7%	4.0%	0.73
MAARS (net)	2.9%	4.0%	0.53
HFRXGL	1.4%	3.4%	0.42

Source: Putnam.

For the period September 30, 2015, to September 30, 2018. Past performance is not a guarantee of future results. An investment in this strategy can lose value. Please see the composite disclosures attached in this email for strategy-specific risk disclosures. Performance is stated in U.S. dollars and includes the reinvestment of dividends and interest. HFRXGLA represents the HFRX Global Hedge Fund Index. The Global 60/40 is based on account allocations of 60% MSCI World Index unhedged and 40% FTSE World Government Bond Index unhedged.

Why have liquid alternatives had lower Sharpe ratios in the past three years? We have little transparency into what drives other products, but we can make some observations based on what we have experienced with MAARS.

MAARS relies heavily on quantitative strategies, which try to systematically capture alternative risk premia in equities such as Value, Momentum, Quality, and Defensive. The performance of these factors has been disappointing in recent years, although this kind of drawdown is not inconsistent with what we know about the long-term distribution of these factor returns. Sometimes they perform poorly for multi-year periods, but the historical evidence overwhelmingly suggests that these factors have significantly positive Sharpe ratios with little to no correlation with traditional asset class returns.

We have no reason to believe that the recent drawdown is due to anything other than the normal variation in these factor returns and have committed to staying invested in these factors.

It may be useful here to again emphasize the difference between decisions and outcomes. When we do research and convince ourselves that a strategy puts the odds of a trade decisively in our favor, we believe we are making the correct decision, regardless of the outcome. Let's say I tell you that I am going to draw a ball from an urn and you know that six of the balls are green and four are red. If you have to place an even-money bet on the color of the ball that I pull out, then you should bet that the ball will be green. That clearly would be the correct decision. If I pull out a red ball, then you got a bad outcome, but you still made the correct decision. This is how we feel about strategies that have gone against us in 2018. We believe we are making the right decisions, based upon our historical analysis, but are simply getting bad outcomes. Our response in the face of bad outcomes under uncertainty should not be to question our process or change the way we make decisions.

While the statistical evidence and logical arguments can be useful for putting things in perspective, we cannot ignore the visceral effects caused by recent underperformance. We have been very frustrated by MAARS's recent struggles, especially with regard to negative returns during times of market crisis. When time series volatility spikes, as it has in recent days, cross-sectional volatility also spikes with very great reliability. This higher cross-sectional volatility results in higher volatility for market-neutral strategies, resulting in a much higher probability of getting an extreme outcome, either positive or negative. The good news is that if a strategy has a good outcome during these periods of high volatility, then it will likely be a very good outcome. Conversely, if it is a bad outcome, it will likely be a very bad outcome. Unfortunately, we have experienced the very bad outcomes more often than the very good outcomes recently. There are only a handful of these episodes, so it is not enough to draw any conclusions. Based on our risk models and our long experience trading these strategies, we do not believe that we are more likely to have bad outcomes than good outcomes in these volatile environments, which strongly suggests that we have simply been unlucky in a small sample of episodes.

Sticking with liquid alternatives

We fully understand why investors are questioning their allocations to liquid alternatives given the poor recent performance and the underwhelming diversification provided in the past three years. However, we think investors would be making a mistake if they abandoned their allocations now. The need to diversify away from traditional asset classes is greater than ever due to low expected returns in stocks and bonds, and the improvement to risk-adjusted returns from liquid alternatives is strongly supported by theoretical analysis and long-term performance data. We believe it would be a mistake for investors to decide that they made a bad decision allocating to liquid alternatives due to a bad outcome in the short run.

Putnam Investments Multi-Asset Absolute Return Strategy Composite

Year	Gross of fees return (%)	Net of fees return (%)	Annual benchmark return (%)	Three-year standard deviation of composite (%)[1]	Three-year standard deviation of benchmark (%)[1]	Standard deviation of account returns (%)[2]	Composite assets (millions)	Total firm assets (millions)[3]	Number of accounts
2017	10.85	10.01	0.81	4.47	0.11	N/A	1,626	117,916	≤5
2016	3.95	3.11	0.37	4.69	0.06	N/A	1,349	109,728	≤5
2015	-0.41	-1.26	0.09	4.99	0.03	N/A	1,407	110,621	≤5
2014	7.29	6.38	0.06	3.93	0.02	N/A	1,125	120,093	≤5
2013	7.27	6.35	0.09	5.04	0.03	N/A	1,024	110,816	≤5
2012	9.19	8.26	0.12	4.80	0.03	N/A	830	98,926	≤5
2011	1.92	1.06	0.14	N/A	N/A	N/A	696	95,033	≤5
2010	5.23	4.33	0.21	N/A	N/A	N/A	580	102,320	≤5
2009	16.76*	15.85*	0.31*	N/A	N/A	N/A	254	96,570	≤5

* The period from inception, January 31, 2009, to December 31, 2009, is not annualized.

1 The three-year, annualized ex-post standard deviation of monthly composite and benchmark returns represents a measure of total investment risk (volatility) and calculates the variance of a distribution of returns. Data is not presented for periods with less than 36 months of composite returns.

2 The standard deviation of comparable performance over time is a measure of volatility. Composite dispersion is measured by the standard deviation across equal weighted portfolios represented within the composite for the full year. Standard deviation is N/A for composites with five or fewer accounts for the full year.

3 Total Firm Assets prior to 2011 do not include Guaranteed Investment Contract ("GIC") assets.

Firm overview: Putnam Investments claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Putnam Investments has been independently verified from January 1, 2000, through December 31, 2017. The verification report(s) is/are available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. Putnam Investments (the "Firm") is defined as a broad-based investment management organization that provides financial services to institutions and individuals through separately managed accounts, pooled funds, and mutual funds. Except for a minority stake owned by employees, the Firm is a wholly owned subsidiary of Great-West Lifeco Inc. Investment management is provided by four wholly owned subsidiaries of the Firm: The Putnam Advisory Company, LLC; Putnam Investment Management, LLC; Putnam Fiduciary Trust Company; and Putnam Investments Limited. A list of the Firm's composite descriptions is available upon request.

Composition of composite: The Putnam Investments Multi-Asset Absolute Return Strategy Composite (the "Composite") seeks positive returns with a similar level of volatility over a full market cycle. The strategy pursues a consistent absolute return by combining two independent investment strategies — a directional (beta) component, which provides broad exposure to investment markets, and a non-directional (alpha) component, which seeks returns from active trading strategies. The beta strategy seeks to balance risk and to provide positive total return by investing, without limit, in many different asset classes, including U.S., international, and emerging markets equity securities and fixed-income securities; mortgage- and asset-backed securities; below-investment-grade securities; inflation-protected securities; commodities; and real estate investment trusts. The alpha strategy involves the potential use of active trading strategies designed to provide additional total return through active security selection, tactical asset allocation, currency transactions and options transactions. The Composite's benchmark is the ICE BofA Merrill Lynch U.S. Treasury Bill Index. Accounts in the Composite may use other cash benchmarks. The Composite comprises all fully discretionary accounts managed by Putnam in this style. The Composite creation date was March 17, 2009. The Composite was formerly called the Absolute Return 700 Composite. This strategy allows for the use of leverage and derivatives (including futures, forwards, swaps, and options, exchange traded or OTC) may be used for hedging and non-hedging purposes.

Risk considerations: Our allocation of assets among permitted asset categories may hurt performance. The prices of stocks and bonds in your portfolio may fall or fail to rise over extended periods of time for a variety of reasons, including both general financial market conditions and factors related to a specific issuer or industry. Our active trading strategy may lose money or not earn a return sufficient to cover associated trading and other costs. This strategy may use futures, forwards, swaps, and other derivative instruments on equity, fixed income, and commodity indices and currencies to gain exposure to various markets. Commodities trading involves substantial risk of loss. There are additional risks involved with trading securities in a margin account, including the fact that you can lose more funds than you deposit in the margin account. Derivatives involve special costs and risks, such as the potential inability to terminate or sell derivatives positions and the potential failure of the other party to the instrument to meet its obligations. Some derivatives are "leveraged," which means that they provide a portfolio with investment exposure greater than the value of your portfolio's investment in the derivatives. As a result, these derivatives may magnify or otherwise increase investment losses to a portfolio. Strategies that use leverage to gain exposure to various markets may not be suitable for all investors. Any use of leverage exposes the strategy to risk of loss. In some cases, the risk may be substantial. This strategy may also sell securities short and may engage in securities lending. Selling short is a strategy employed by aggressive investors attempting to benefit from the expected price deterioration of a security and can lead to extraordinary losses. When engaging in the short sale of securities, the Firm will sell borrowed shares with the intent of repurchasing the shares at a lower price before returning the shares to the lender. A portfolio that engages in short sales may incur losses if the securities appreciate in value prior to repurchase. Also, such portfolios may experience greater volatility due to potential leverage. The loss involved in a short position is theoretically unlimited. Bond investments are subject to interest-rate risk and credit risk. Mortgage-backed securities are subject to prepayment risk. International investing involves certain risks, such as currency fluctuations, economic instability, and political developments. Additional risks may be associated with emerging-market securities, including illiquidity and volatility. REITs involve the risks of real estate investing, including declining property values. Commodities involve the risks of changes in market, political, regulatory, and natural conditions. Investments in small and/or midsize companies increase the risk of greater price fluctuations. Growth stocks may be more susceptible to earnings disappointments, and value stocks may fail to rebound. The strategy may not achieve its goal, and it is not intended to be a complete investment program. The strategy's effort to produce lower-volatility returns may not be successful and may make it more difficult at time for the strategy to achieve its targeted return. In addition, under certain market conditions, the strategy may accept greater volatility than would typically be the case, in order to seek its targeted return. No assurance can be given that the investment objective or target return will be achieved or that an investor will receive a return of all or part of his or her investment. As with any investment, there is a potential for profit as well as the possibility of loss. This strategy may not be suitable for all investors. It is important to understand that you can lose money by investing in this strategy.

Calculation of composite: Returns are presented in U.S. dollars ("USD"). Benchmark, Putnam account and Putnam mutual fund valuation sources and timing may sometimes differ, causing dispersion within the composite and between the composite and the benchmark. The results of the Composite for all periods shown include the reinvestment of dividends and other earnings. The Firm values securities using market quotations, fair value prices from pricing services and/or broker quotations. In limited circumstances, the Firm will value securities based solely on its own analysis, this may include using model prices based on third-party data or, for private equity securities, a fair valuation process whereby a special Valuation committee will review the nature of each deal, the model currently used to value each deal, and any critical underlying assumptions in order to determine fair value. Fair valuations based on internal resources are made in accordance with the Putnam Funds Pricing Procedures and are subject to the oversight of the Firm's Valuation Committee. Please note that, in limited cases, the inputs used to value the security are unobservable and reflect the source's own assumptions. Policies for valuing portfolios, calculating performance, and preparing compliant presentations are available upon request.

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Gross and net of fees disclosure: Gross of fee Returns are net of transactions costs but do not include the deduction of management fees and other expenses that may be incurred in managing an investment account. A portfolio's return will be reduced by management and other fees. The impact of management fees can be material. For instance, assume that $1 million is invested in a Putnam Investments account, and this account achieves a 10% compounded annual return, gross of fees, for 10 years. If a management fee of 0.50% was charged each year for the 10-year period, the annual return would be 9.5% and the ending dollar value would be $2,478,200, net of fees, as opposed to $2,593,700, gross of fees. The actual fee rates are stated in advisory contracts with clients. For composites that contain U.S. mutual funds and UCITS funds, gross-of-fee performance is calculated by applying the prorated monthly percentage of the total net annual expense ratio (as published in the fund's annual report) to the monthly return on net asset value per share. Annual expense ratios for the current year may be based on the prior year's financial statements. Returns may be adjusted based upon each year's audited annual report.

Net of fee returns are calculated using a model fee ("Model Net Fee"). For the applicable time periods, net of fees returns reflect either the deduction of the highest management fee that is paid by a portfolio in the Composite during the performance period, applied on a monthly basis or the deduction of the highest applicable management fee in effect during the performance period that would be charged based on the fee schedule appropriate to this mandate, without the benefit of breakpoints, applied on a monthly basis, whichever is higher. Net of fee calculation methodology may change over time. For composites that include commingled funds that pay a performance fee and that calculate performance using the highest fee paid by an account in the composite, performance-based fee adjustments are included in net of fee returns. For commingled funds, the fee is typically updated for the most recent fiscal year end after the portfolio has been audited. Returns may be adjusted based upon each year's audited annual report. Please be advised that the Composite may include other investment products or share classes of funds that are subject to management fees, including performance fees, that are inapplicable to you but that could have been in excess of the Model Net Fee. Therefore, the actual performance of all the portfolios in the composite on a net-of-fees basis will be different, and may be higher or lower, than the Model Net Fee performance. Composites that include certain commingled portfolios may also assess a performance fee to underlying investors which could result in the underlying investors paying a higher total management fee than the highest stated management fee below. However, Model Net Fee performance is intended to provide the most appropriate example of the impact management fees would have by applying management fees relevant to you to the gross performance of the Composite. Actual investment advisory fees incurred by clients are typically negotiated on an individual basis and may vary depending upon, among other things, the applicable fee schedule and portfolio size.

Fee schedule: The standard fee schedule is based on the market value of an account's assets under management and is stated on an annual basis. Separate account management fees are subject to change and are for investment management services only. Standard management fee is: 0.75% of assets on the first $50 million, 0.70% of assets on the next $50 million, 0.60% of assets on the next $150 million, 0.50% of assets on the next $250 million, and 0.25% for assets over $500 million.

Past performance is not a guarantee of future performance. No assurance can be given as to future performance.

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The hypothetical data included in this article represents the performance of a hypothetical combination of a global 60/40 portfolio and the Putnam Multi-Asset Absolute Return Composite and is for illustrative purposes only. Hypothetical data does not reflect actual investment results of any actual Putnam product or account. Hypothetical data is shown before fees, transaction costs, and taxes. Management fees would reduce returns, and therefore the probabilities shown. Additional advisory fees, transaction costs, and other potential expenses are not considered and would also reduce returns. Results were prepared with the benefit of hindsight. Actual results experienced by clients may vary significantly from the hypothetical illustrations shown.

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