

Q4 | 2022

Putnam Multi-Asset Model Portfolios Summary

Market commentary

Global stocks posted gains for the quarter despite ongoing market volatility and concerns about a slowdown in global growth. Global investors remained focused on China as the nation began lifting its Covid-19 restrictions. Asian stocks advanced briefly, and the price of oil jumped on optimism that the reopening of China's economy would support global growth and drive an increase in demand for commodities. As China lifted restrictions during the month, regional Covid outbreaks weighed on market sentiment. The European Central Bank and Bank of England also raised rates in an ongoing effort to fight inflation. Economic data was mixed in developed markets. Eurozone investor sentiment improved briefly on the heels of a report that

a decline in manufacturing activity in the region eased in November. Still, markets remained focused on evidence of slow growth in several economies, including Germany. European stocks made solid gains on the final day of trading in November, lifted by a report that annual inflation declined in the region for the first time since 2021. In the U.S., the Federal Reserve scaled back its monetary tightening with a 50-basis-point rate hike in December after four 75-basis-point hikes. Still, Fed Chair Jerome Powell noted that rate hikes would continue in 2023.

Total returns of Putnam Multi-Asset Model Portfolios

Composite performance as of 12/31/22 (net)	Inception date	QTD	1 year	3 year	Since inception
Putnam Aggressive Growth Model	11/30/19	9.01%	-17.78%	5.09%	6.08%
Putnam Aggressive Growth Model Index		9.21	-18.34	5.29	6.23
Putnam Growth Model	4/30/19	7.75	-16.59	3.82	5.66
Putnam Growth Model Index		7.89	-17.06	4.19	5.85
Putnam Balanced Growth Model	4/30/19	6.34	-15.32	2.77	4.64
Putnam Balanced Growth Model Index		6.21	-15.98	3.13	4.79
Putnam Conservative Growth Model	4/30/19	5.06	-14.33	0.96	2.95
Putnam Conservative Growth Model Index		4.85	-14.86	1.48	3.20
Putnam Balanced Income Model	4/30/19	4.00	-13.34	-0.80	1.29
Putnam Balanced Income Model Index		3.59	-13.71	-0.23	1.53
Putnam Income Model	11/30/19	2.68	-11.52	-2.96	-2.75
Putnam Income Model Index		2.30	-12.19	-1.95	-1.78

Past performance is not a guarantee of future results. An investment in these strategies can lose value. Returns are stated in U.S. dollars and include the reinvestment of dividends and interest. Returns less than one year are not annualized. Net-of-fees returns do not reflect the deduction of a management fee but are net of all fees and expenses applicable to the underlying funds within the model portfolio. Composites include all fully discretionary, actual accounts managed to represent the model portfolio strategy. Putnam does not have investment discretion over or place trade orders for any portfolios or accounts derived from the Putnam Multi-Asset Model Portfolios. Performance of accounts managed in accordance with the model by a third-party firm may differ from the performance shown. Please see the end disclosures for custom index components, weights, and rebalancing process.

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Portfolio changes

Within the Income Model, the investment committee removed the allocations to Mortgage Securities Fund and iShares 7-10 Year Treasury Bond ETF. The move was largely made to reduce tracking error relative to the benchmark while aligning the Income Model with the other portfolios, which did not invest in Mortgage Securities Fund.

Model portfolio performance commentary

Putnam Aggressive Growth Model

Aggressive Growth Model
quarterly performance -5.53% (net)

Key driver(s)

The portfolio benefited from the rally in equity markets in Q4. Active equity managers slightly lagged benchmarks.

Putnam Growth Model

Growth Model
quarterly performance -5.27% (net)

Key driver(s)

The portfolio benefited from the rally in equity markets in Q4. Active equity managers slightly lagged benchmarks.

Putnam Balanced Growth Model

Balanced Growth Model
quarterly performance -4.96% (net)

Key driver(s)

Strength across equity and fixed income markets drove positive returns. Benchmark-relative outperformance for the underlying managers was a slight positive contribution on the quarter.

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Model portfolio performance commentary

Putnam Conservative Growth Model

Conservative Growth Model
quarterly performance

–4.96% (net)

Key driver(s)

Strength across fixed income and equity markets drove positive returns. Positive contribution from benchmark-relative outperformance for active fixed income strategies outweighed small negative impacts from equity manager underperformance.

Putnam Balanced Income Model

Balanced Income Model
quarterly performance

–4.86% (net)

Key driver(s)

Strength across fixed income and equity markets drove positive returns. The portfolio benefited from substantial benchmark-relative outperformance within the active fixed income managers.

Putnam Income Model

Income Model
quarterly performance

–4.60% (net)

Key driver(s)

The fixed income market rebounded off a weak Q3 due to falling interest rates and muted moves in credit spreads. The portfolio benefited from these moves. The portfolio also had a large positive contribution from active manager benchmark-relative outperformance.

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Model portfolio performance attribution

Contribution to total performance for Q4 2022

FUND NAME	PUTNAM AGGRESSIVE GROWTH MODEL	PUTNAM GROWTH MODEL	PUTNAM BALANCED GROWTH MODEL	PUTNAM CONSERVATIVE GROWTH MODEL	PUTNAM BALANCED INCOME MODEL	PUTNAM INCOME MODEL
Putnam Growth Opportunities Y	0.28%	0.24%	0.18%	0.08%	0.00%	0.00%
iShares Russell 1000 Growth ETF	0.37%	0.31%	0.24%	0.24%	0.16%	0.00%
Putnam Large Cap Value Y	3.36%	2.81%	2.26%	1.59%	0.73%	0.00%
Schwab US Large-Cap ETF™	0.94%	0.68%	0.68%	0.38%	0.23%	0.00%
Vanguard Russell 2000 ETF	0.00%	0.00%	0.24%	0.14%	0.10%	0.00%
Putnam Small Cap Growth Y	0.16%	0.11%	0.00%	0.00%	0.00%	0.00%
Putnam Small Cap Value Y	0.34%	0.23%	0.00%	0.00%	0.00%	0.00%
iShares Core MSCI EAFE ETF	3.29%	2.63%	1.75%	1.23%	0.61%	0.00%
WisdomTree EM ex-SOE ETF	0.55%	0.44%	0.09%	0.00%	0.00%	0.00%
Putnam Income Y	0.00%	0.27%	0.65%	1.01%	1.34%	0.89%
iShares Core US Aggregate Bond ETF	0.00%	0.10%	0.23%	0.35%	0.39%	0.38%
Xtrackers USD High Yield Corp Bd ETF	0.00%	0.21%	0.21%	0.25%	0.54%	0.83%
Putnam Mortgage Securities Y	0.00%	0.00%	0.00%	0.00%	0.00%	0.44%
iShares 7-10 Year Treasury Bond ETF	0.00%	0.00%	0.00%	0.00%	0.00%	0.04%
Putnam Ultra Short Duration Income Y	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%

Portfolio performance attribution represents the underlying holdings for a fully discretionary, actual invested account managed to represent the model portfolio strategy. Investors may not invest directly in a model portfolio except through certain platforms that may offer our models or through implementation by certain third-party firms, both of which may require a certain allocation to cash, which is not reflected in the model portfolios. Putnam does not have investment discretion over or place trade orders for any portfolios or accounts derived from the Putnam Multi-Asset Model Portfolios. Performance attribution of accounts managed in accordance with the model by a third-party firm may differ from the performance attribution shown. Past performance is not a guarantee of future results. An investment in these strategies can lose value.

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Performance commentary for underlying Putnam Funds for Q4 2022

Putnam Large Cap Value Fund returned 12.09% (net) for the quarter, while its benchmark, the Russell 1000 Value Index, returned 12.42%. While sector allocation decisions had a positive impact on performance, stock selection and a drag from a small cash balance drove the underperformance. The portfolio benefited from underweights to the weaker communication services and real estate sectors. While stock selection was strong in the financials, industrials, and health care sectors, weakness among consumer staples, energy, and utilities holdings ultimately drove underperformance.

Putnam Growth Opportunities Fund returned 1.53% (net) for the quarter, while its benchmark, the Russell 1000 Growth Index, returned 2.20%. Selections within consumer staples, health care, and information technology detracted most from relative returns, as did our avoidance of the energy sector. Positions in communication services and financials proved additive.

Putnam Small Cap Growth Fund returned 3.77% (net), while its benchmark, the Russell 2000 Growth Index, returned 4.13%. Selections within information technology, communication services, and materials lagged during the period. Positions within consumer discretionary, health care, and financials proved additive.

Putnam Small Cap Value Fund returned 8.22% (net) for the quarter, while its benchmark, the Russell 2000 Value Index, returned 8.42%. While sector allocation decisions were additive, those benefits were offset by a negative impact from stock selection and a drag from a small cash balance. Top contributing sectors included energy, industrials, and materials, while consumer discretionary and financials detracted.

Putnam Income Fund returned 2.92% (net) for the quarter, while its benchmark, the Bloomberg U.S. Aggregate Bond Index, returned 1.87%. Prepayment risk strategies were the most notable contributor to relative returns during the period. The fund's duration positioning was also additive to returns in Q4, driven by positioning in December. Corporate credit strategies also proved beneficial during the quarter, driven by exposure to CLOs and a modest out-of-benchmark position in high-yield corporate credit.

Putnam Mortgage Securities Fund returned 2.23% (net), while its benchmark, the Bloomberg U.S. MBS Index, returned 2.14%. Prepayment risk strategies were the most notable contributor to relative returns during the period, driven largely by mortgage basis positioning. Exposure to residential mortgage credit was additive during the period as well, led by our seasoned credit risk transfer (CRT) holdings. Detractors during the period were the portfolio's exposure to CMBS and term structure strategies.

Putnam Ultra Short Duration Income Fund returned 0.98% (net), while its benchmark, the ICE BofA U.S. Treasury Bill Index, returned 0.86%. Corporate credit was the largest contributor to the fund's relative performance, as 1–3 year investment-grade corporate spreads tightened during the quarter. Our allocations to commercial paper contributed to returns as well.

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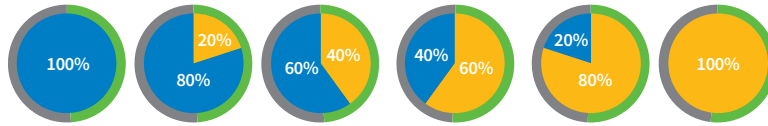
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All Bloomberg indices are provided by Bloomberg Index Services Limited.

Target allocations as of Q4 2022

Stock and bond target allocations (right) are implemented with the funds and ETFs below.

- Stock
- Bond
- Active
- Passive



FUND/ETF AS OF 12/31/22	AGGRESSIVE GROWTH	GROWTH	BALANCED GROWTH	CONSERVATIVE GROWTH	BALANCED INCOME	INCOME	EXPENSE RATIO*
● Active Putnam Funds	48.8%	48.7%	49.2%	51.0%	51.0%	52.0%	
● Putnam Large Cap Value Fund Y (PEIYX)	27.5	23.0	18.5	13.0	6.0	—	0.63
● Putnam Growth Opportunities Fund Y (PGOYX)	13.8	11.5	9.0	4.0	—	—	0.74
● Putnam Small Cap Growth Fund Y (PSYGX)	3.8	2.5	—	—	—	—	0.96
● Putnam Small Cap Value Fund Y (PYSVX)	3.8	2.5	—	—	—	—	0.90
● Putnam Income Fund Y (PNCYX)	—	9.2	21.7	34.0	45.0	30.0	0.48
● Putnam Mortgage Securities Fund Y (PUSYX)	—	—	—	—	—	19.0	0.64
● Putnam Ultra Short Duration Income Fund Y (PSDYX)	—	—	—	—	—	3.0	0.30
● Passive ETFs	51.3%	51.3%	50.8%	49.0%	49.0%	48.0%	
● Schwab US Large-Cap ETF	12.5	9.0	9.0	5.0	3.0	—	0.03
● iShares Russell 1000 Growth ETF	13.8	11.5	9.0	9.0	6.0	—	0.18
● Vanguard Russell 2000 ETF	—	—	3.5	2.0	1.5	—	0.10
● iShares Core MSCI EAFE ETF	18.8	15.0	10.0	7.0	3.5	—	0.07
● WisdomTree Emerging Markets ex-State-Owned Enterprises ETF	6.3	5.0	1.0	—	—	—	0.32
● iShares Core U.S. Aggregate Bond ETF	—	5.8	13.3	20.0	22.0	21.5	0.03
● iShares 7-10 Year Treasury Bond ETF	—	—	—	—	—	6.5	0.15
● Xtrackers USD High Yield Corp Bond ETF	—	5.0	5.0	6.0	13.0	20.0	0.15
Weighted average expense ratio†	0.41%	0.38%	0.33%	0.31%	0.30%	0.32%	
Overlay fees	—	—	—	—	—	—	

* Stated prospectus expense ratio, most recent prospectus available.

† Expense ratio for each model is the weighted average of prospectus expense ratios of each fund and ETF based on current model portfolio allocations. Totals may not sum to 100% due to rounding.

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Actual client accounts may differ from the model allocation and may hold cash.

Aggressive Growth Model Index represents 67.5% the Russell 1000® Index, 18.75% the MSCI EAFE Index (ND), 7.5% the Russell 2000® Index, and 6.25% the MSCI Emerging Markets Index (ND). Growth Model Index represents 60% the Russell 3000® Index, 15% the MSCI EAFE Index (ND), 15% the Bloomberg U.S. Aggregate Bond Index, 5% the Bloomberg U.S. Corporate High Yield Index, and 5% the MSCI Emerging Markets Index (ND). Balanced Growth Model Index represents 49% the Russell 3000 Index, 35% the Bloomberg U.S. Aggregate Bond Index, 10% the MSCI EAFE Index (ND), 5% the Bloomberg U.S. Corporate High Yield Index, and 1% the MSCI Emerging Markets Index (ND). Conservative Growth Model Index represents 54% the Bloomberg U.S. Aggregate Bond Index, 33% the Russell 3000 Index, 7% the MSCI EAFE Index (ND), and 6% the Bloomberg U.S. Corporate High Yield Index. Balanced Income Model Index represents 67% the Bloomberg U.S. Aggregate Bond Index, 16.5% the Russell 3000 Index, 13% the Bloomberg U.S. Corporate High Yield Index, and 3.5% the MSCI EAFE Index (ND). Income Model Index represents 77% the Bloomberg U.S. Aggregate Bond Index, 20% the Bloomberg U.S. Corporate High Yield Index, and 3% the ICE BofA U.S. 3-Month Treasury Bill Index. Custom indexes are rebalanced on a quarterly basis. Indexes are unmanaged and do not incur expenses. You cannot invest directly in an index.

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