

Macro Seasons

Data sources, season rules and monthly portfolio construction.

At each month-end, the model calculates one Growth score, one Inflation score and one Liquidity score. Growth and Inflation set the four season weights. Liquidity changes the final mix between risk and defensive ETFs.

1 The four seasons

Season	Growth and inflation	Economic reading	Fixed allocation emphasis
SPRING	Growth rising Inflation cooling	Recovery with disinflation	Broad equities, technology, credit, housing and modest duration
SUMMER	Growth rising Inflation heating	Reflationary expansion	Cyclicals, value, energy, materials, emerging markets, commodities and TIPS
FALL	Growth falling Inflation heating	Stagflation	Gold, broad commodities, inflation protection, dollar, defensive equities and short duration
WINTER	Growth falling Inflation cooling	Disinflationary slowdown	Treasuries, defensive and low-volatility equities, gold, safe-haven currencies and cash

2 Data used for each pillar

GROWTH Data and source ALFRED: Industrial Production (INDPRO) and Nonfarm Payrolls (PAYEMS). FRED: Initial Jobless Claims (ICSA). Yahoo Finance: XLI, XLP, SPY and IEF adjusted prices. Changes used: industrial production over 6m; payrolls over 3m; claims over 3m (falling claims count as stronger growth); XLI versus XLP and SPY versus IEF over 6m.	INFLATION Data and source ALFRED: Consumer Price Index (CPIAUCSL). FRED: Five-Year Breakeven Inflation (T5YIE) and WTI crude oil (DCOILWTICO). Yahoo Finance: TIP and IEF adjusted prices. Changes used: change in 12-month CPI inflation over 3m; breakeven inflation over 3m; WTI and TIP versus IEF over 6m.	LIQUIDITY Data and source ALFRED: M2 money stock (M2SL). FRED: NFCL, high-yield OAS, 2-year Treasury yield, Fed balance sheet, reverse repos and the Treasury General Account. Changes used: NFCL level and 3m change; OAS 3m; M2 6m; 2-year yield 12m; Fed net liquidity 3m. Portfolio effect: easier liquidity can move up to 15 points from defensive ETFs to risk ETFs; tighter liquidity can move up to 25 points the other way.
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3 From month-end data to next month's portfolio

1	Select the month-end data	Use ALFRED decision-date values for CPI, industrial production, payrolls and M2. Apply the assigned publication delay to the other FRED series, which use latest-revised history. Use Yahoo adjusted prices through month-end.
2	Calculate three scores	Calculate the listed trailing changes and set their signs so positive means stronger growth, higher inflation or easier liquidity. Standardize each reading against up to 120 prior months, with at least 36 months required and values capped at three standard deviations. Average the available readings and apply a two-month exponential average.
3	Calculate four season weights	Stronger growth raises Spring and Summer; weaker growth raises Fall and Winter. Higher inflation raises Summer and Fall; lower inflation raises Spring and Winter. The four values total 100% and determine how much of each season allocation enters the portfolio. They classify current conditions rather than forecasting event probabilities.
4	Build next month's holdings	Average each fixed season allocation with a version adjusted for trailing 36-month volatility. Blend the four results using the current season percentages, then apply the liquidity, real-yield, credit, momentum, trend and portfolio-volatility rules.
5	Record next month's return	Apply the month-end weights to the following month's returns. The long-only backtest charges 10 basis points per unit of turnover. The later physical L/S simulation applies its separate trading and financing assumptions.

Reading the dashboard
The four displayed values come from the Growth and Inflation scores and sum to 100%. The portfolio uses them directly to blend the four season allocations. A 31% Summer value assigns 31% of the pre-overlay blend to the Summer allocation; the other season allocations receive the remaining 69%. The values describe the current classification and are not calibrated forecasts of future events.

Portfolio construction and validation

How the long-only and L/S portfolios are built, tested and constrained.

4 Season allocations

How the ETFs and starting weights were set ETF choice follows each asset's economic role. The exact percentages are fixed portfolio-design choices rather than model estimates. The main expression of a season carries 12.5%-20%, most supporting exposures carry 10%, and narrower diversifiers carry 5%-7.5%.	
Spring SPY supplies broad equity exposure; QQQ and SMH add growth and technology; IWM and XHB add domestic cyclical and housing exposure; HYG and LQD add credit; IEF adds duration; GLD diversifies the allocation. Starting weights: SPY 20%, QQQ 15%, SMH 10%, IWM 10%, XHB 7.5%, HYG 15%, LQD 7.5%, IEF 10%, GLD 5%	Summer XLE, XLB, XLI, VLUE, IWM and EEM target a reflationary expansion. DBC, CPER and GLD add commodity exposure, while TIP adds inflation-linked bonds. Starting weights: XLE 15%, XLB 10%, XLI 10%, VLUE 10%, IWM 10%, EEM 10%, DBC 12.5%, CPER 5%, GLD 7.5%, TIP 10%
Fall GLD, DBC, XLE and TIP target inflation and real assets; UUP adds dollar exposure; XLP, XLU and XLV add defensive equities; SHY and BIL keep duration short. Starting weights: GLD 17.5%, DBC 10%, XLE 7.5%, TIP 15%, UUP 10%, XLP 10%, XLU 7.5%, XLV 7.5%, SHY 7.5%, BIL 7.5%	Winter TLT, IEF and SHY add Treasury duration; USMV, XLP and XLV favor defensive equities; GLD, FXY and FXF add safe-haven exposure; BIL holds cash. Starting weights: TLT 17.5%, IEF 17.5%, SHY 7.5%, GLD 12.5%, USMV 10%, XLP 10%, XLV 10%, FXY 5%, FXF 5%, BIL 5%

5 Portfolio construction

LONG-ONLY PORTFOLIO The portfolio is fully invested in long ETF positions and BIL. It does not use short positions or borrowing. - Set each season's allocation. Each season has fixed starting weights. The model also creates a risk-adjusted version by dividing each ETF's weight by its trailing 36-month volatility and rescaling the weights to 100%. The fixed and risk-adjusted versions receive equal weight. - Combine the four seasons. The current Growth and Inflation readings determine how much of each season's allocation enters the portfolio. The Liquidity score can then move up to 15 percentage points from defensive assets to risk assets, or up to 25 points in the opposite direction. - Adjust for real yields and credit conditions. The real-yield signal measures the six-month change in the 10-year Treasury yield minus five-year breakeven inflation. It can move up to half of the relevant allocation between gold and intermediate or long-term Treasuries. Credit stress is triggered when the high-yield option-adjusted spread, or the Baa spread proxy used for earlier years, is above 110% of its trailing 36-month median and wider than it was three months earlier. When this happens, the model cuts the risk-asset allocation in half. - Apply momentum and trend controls. The model ranks non-BIL holdings by their return from 12 months ago through one month ago. Each weight is adjusted by a multiplier between 0.75 and 1.25. Any ETF trading below its 200-day moving average is moved to BIL. A 10-month moving average is used when daily history is unavailable. - Control portfolio volatility and costs. The model estimates portfolio volatility from the previous 24 monthly returns. Exposure can be reduced to as little as 50% when estimated volatility exceeds the 10% target. The remaining weight goes to BIL, and leverage is not permitted. The backtest charges 10 basis points per unit of turnover. The allocation table on the website shows this portfolio.	L/S PORTFOLIO The L/S portfolio combines three components: a core Macro Seasons strategy, the full long-only strategy, and a 13-ETF trend strategy. Overlapping long and short positions are netted before trading and financing costs are calculated. - Build the two Macro Seasons components. The core component uses the season blend and Liquidity adjustment. The enhanced component uses the complete long-only process described above. Each component is scaled between 50% and 150% according to volatility measured through the previous month. - Set the trend positions. The trend universe contains SPY, QQQ, IWM, EFA, EEM, TLT, IEF, GLD, DBC, UUP, FXY, FXF and HYG. An ETF is held long when its trailing 12-month return exceeds BIL and short when it does not. - Size the trend positions. ETFs with lower trailing 36-month volatility receive larger weights. An ETF with 10% volatility receives approximately one-thirteenth of this component. Individual positions are capped at 20%, and the overall component is scaled between 50% and 150% toward a 10% volatility target. - Combine the three components. Components with lower trailing 24-month volatility receive larger weights. Only information available through the previous month is used. The combined portfolio is then scaled between 50% and 150% toward a 10% volatility target. - Calculate executable positions and costs. Duplicate positions are added together, while opposing long and short positions cancel each other. Available BIL is used before the portfolio records a USD borrowing balance. The final positions must remain within the gross exposure, net exposure, short exposure, individual asset and borrowing limits. Results include commissions, regulatory fees, slippage, margin interest and short-position costs. Long-only and L/S returns are reported separately.
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6 Walk-forward research design

MONTHLY WALK-FORWARD At each month-end, calculate the signals and holdings with data dated on or before that decision. Apply those holdings only to the following month's returns, then record trading and financing costs.	CUT-OFF TESTS Rerun the model through earlier cut-off dates. Signals, holdings and returns through each cut-off must match the same dates in the full run. Any mismatch fails the test.	RESEARCH WINDOWS Portfolio rules and overlays were compared using returns through December 2018. The selected combination was then evaluated from January 2019 through May 2026. Both samples contain simulated monthly returns.	POINT-IN-TIME RERUN The macro history was rebuilt with decision-date vintages for CPI, industrial production, payrolls and M2. The rerun through July 2026 and the L/S execution history remain retrospective simulations.
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7 Risk limits and trading costs

Long-only limits ETF and BIL weights total 100%. Exposure can fall as low as 50% when volatility is high; the remainder goes to BIL. Exposure cannot exceed 100%. Shorts and margin borrowing are disabled.	L/S limits Maximum gross exposure: 175%. Maximum net exposure: 150%. Maximum gross shorts: 35%. Maximum absolute weight per non-cash ETF: 25%. Maximum USD margin debit: 50%. IBKR calculates the final Portfolio Margin requirement on the live account.	Execution cost assumptions Assumptions reviewed August 20, 2026: \$0.005 per share, a \$1 order minimum, US regulatory-fee rates, 1 basis point of slippage and the applicable margin and short-proceeds tiers. It assumes 1% annual borrow for every short ETF because historical borrow data is unavailable. Taxes and market impact are excluded.
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