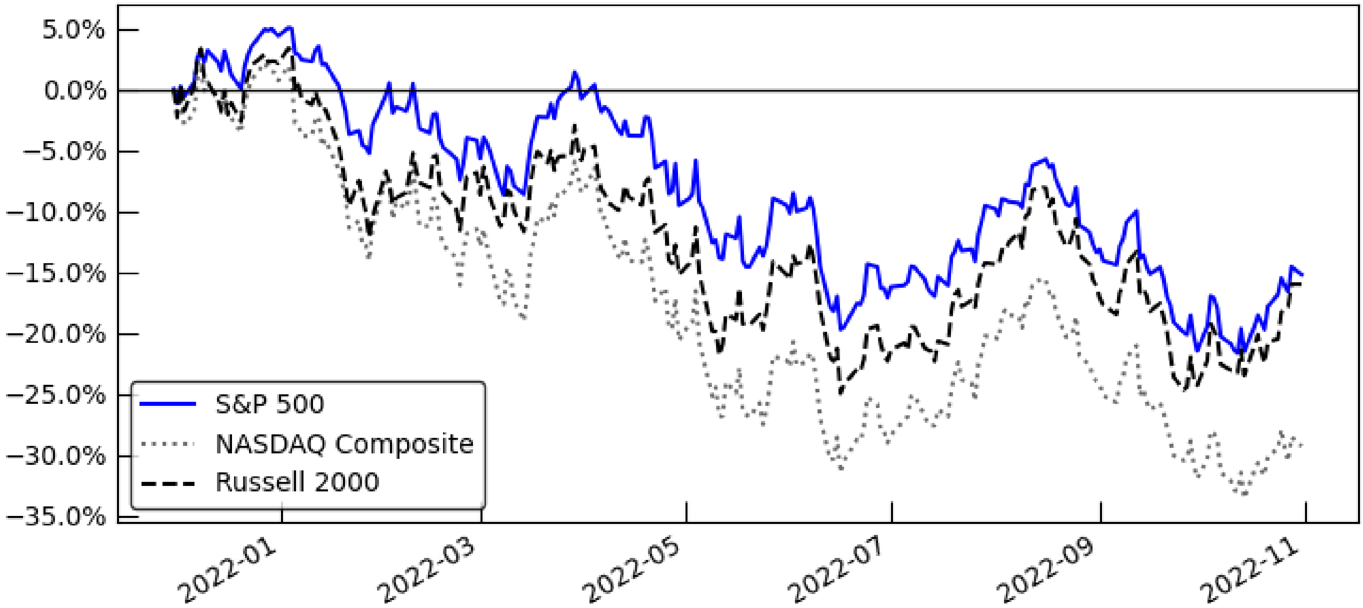
US Business Cycle Report

For the Month of October 2022

US Equity Indices Trailing 12 Month Cumulative Returns



Source: Yahoo Finance, as of 2022-10-31

Monthly Summary

Business Cycle Phase	Target Asset Allocation
Early Expansion	Target Sectors: UT, HC, CS Target Factor: Momentum
Late Expansion	**Target Sectors: ID, FN, CD** **Target Factor: Low Volatility**
Early Contraction	Target Sectors: MA, CS, HC Target Factor: Safe Haven
Late Contraction	Target Sectors: EN, CD, ID Target Factor: Growth

Composite Business Cycle Indicator

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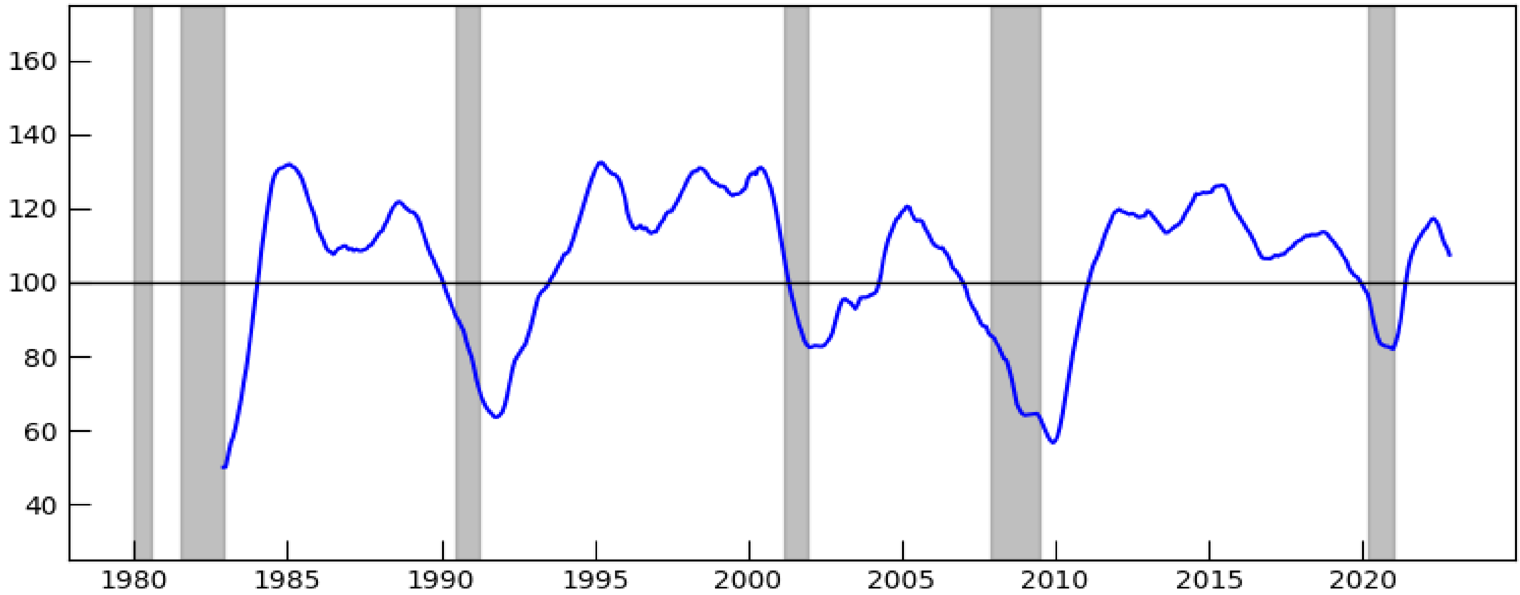
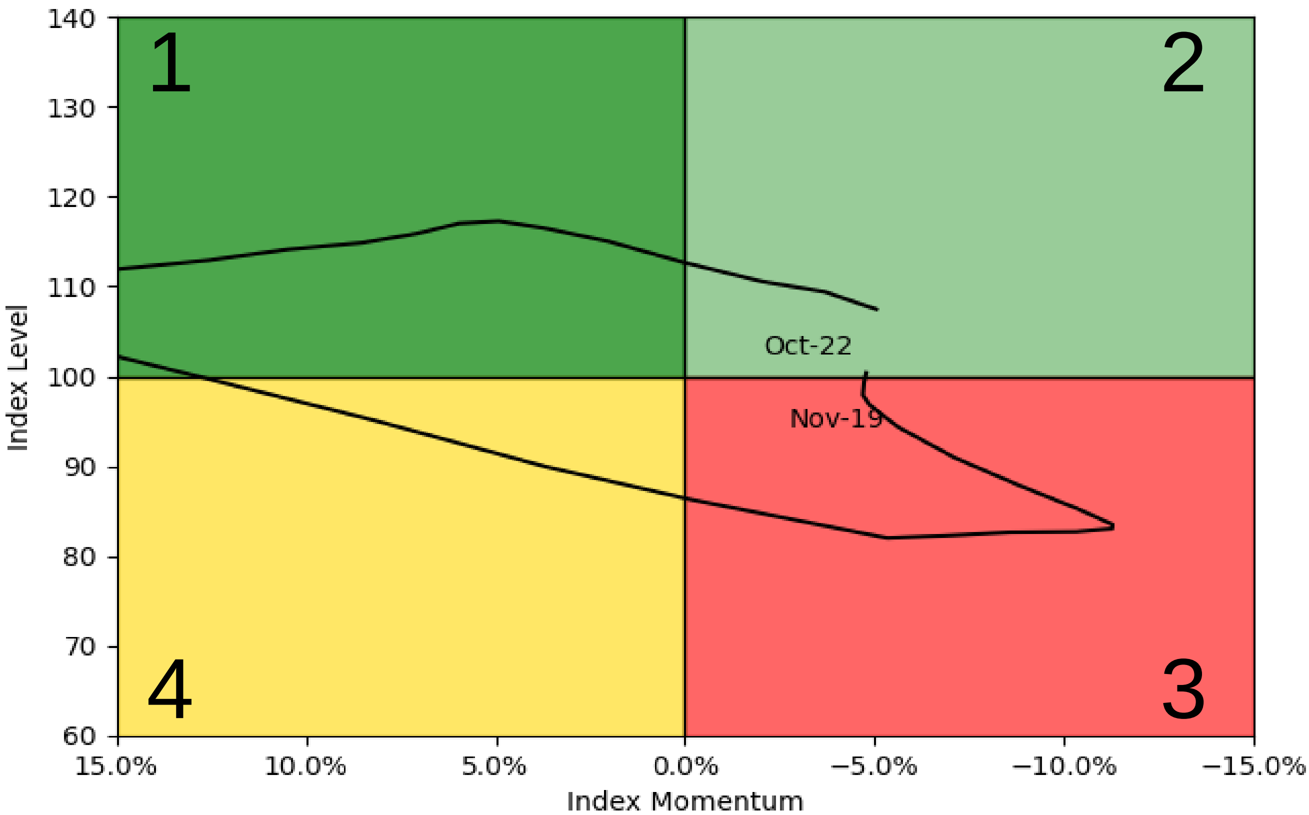


Note: Shaded areas represent US recessions as indicated by NBER.
Reading greater than 100 indicates expansion, less than 100 indicates contraction.

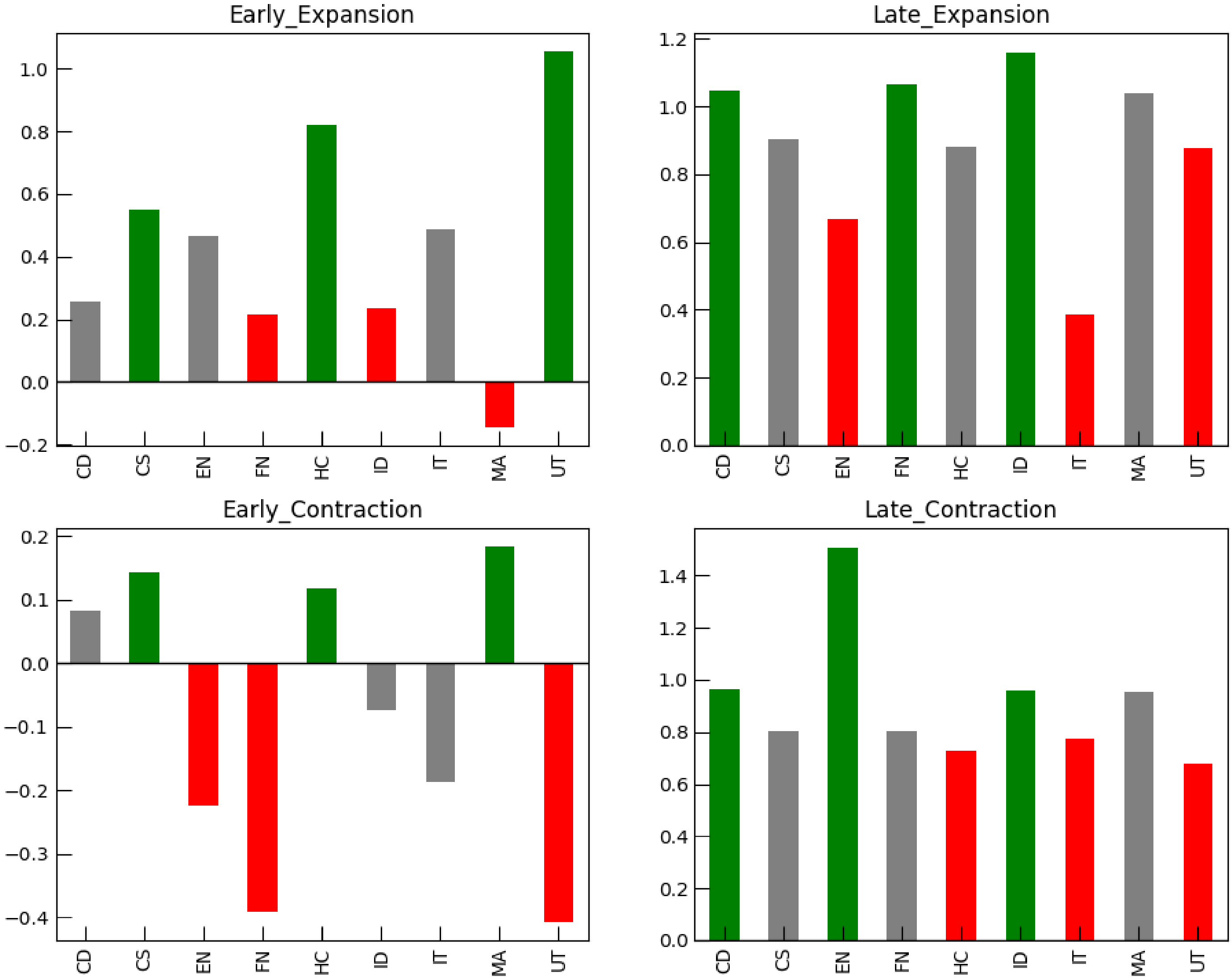
Business Cycle Compass



Note: Momentum calculated as 25% 6M Change, 75% 3M Average less 12M Average.
1 = Early Expansion, 2 = Late Expansion, 3 = Early Contraction, 4 = Late Contraction

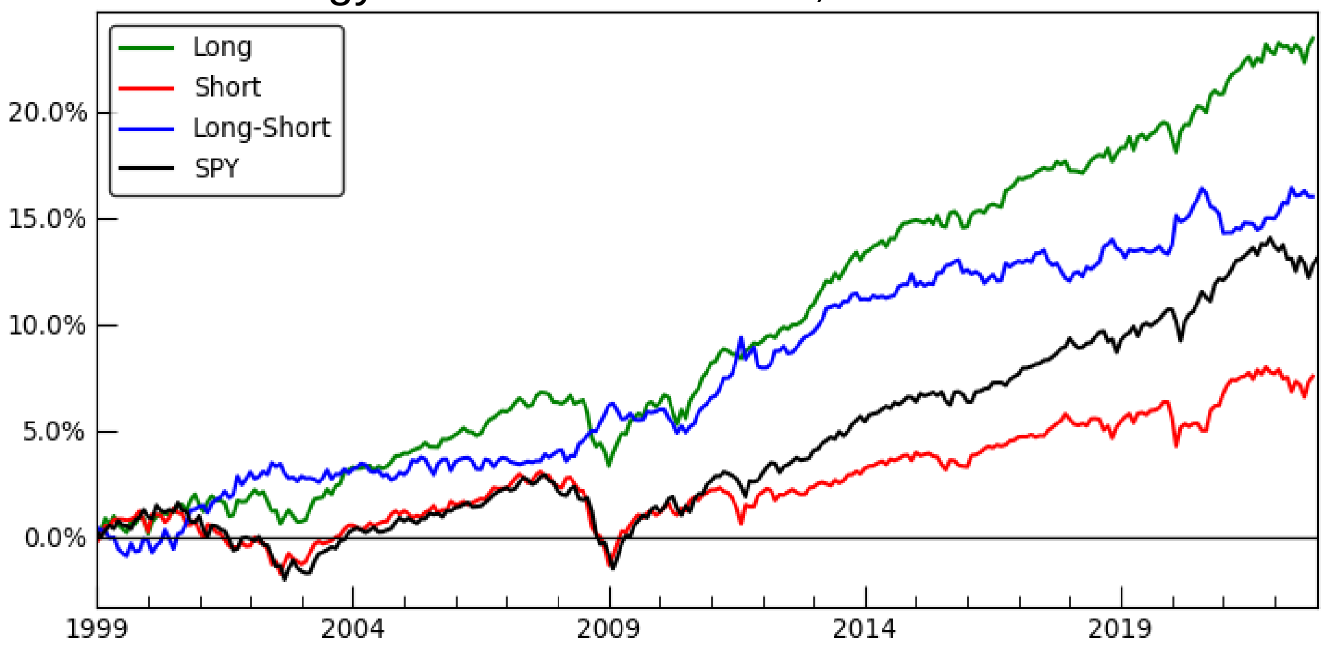
US Sector Rotation Strategy

US Sectors Information Ratios by Phase of Business Cycle



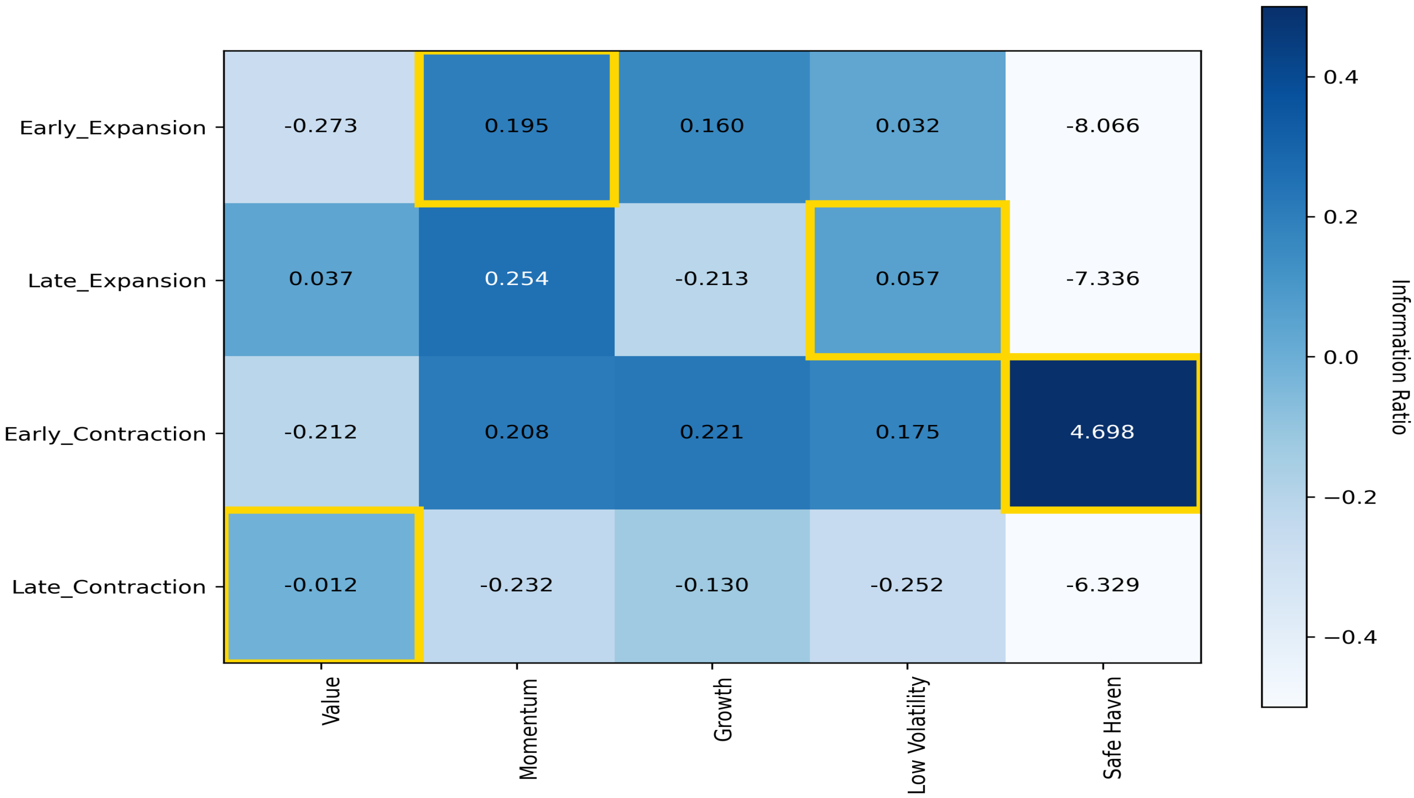
Note: Green bars denote sectors with long position, red short, and grey neutral.
Sector returns based on SPDR Sector ETF returns from 1999-01-31 to 2022-10-31

Sector Strategy Cumulative Returns, Risk Level 1%



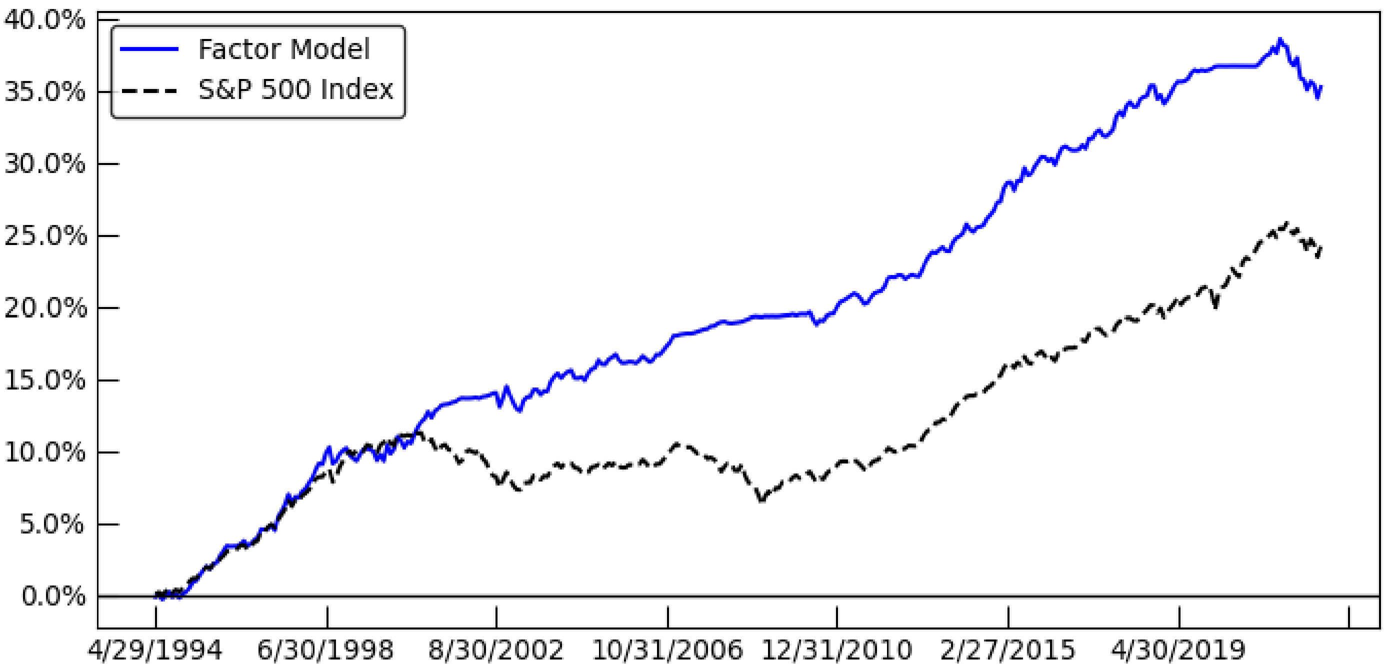
US Factor Rotation Strategy

US Factors Information Ratios by Phase of Business Cycle

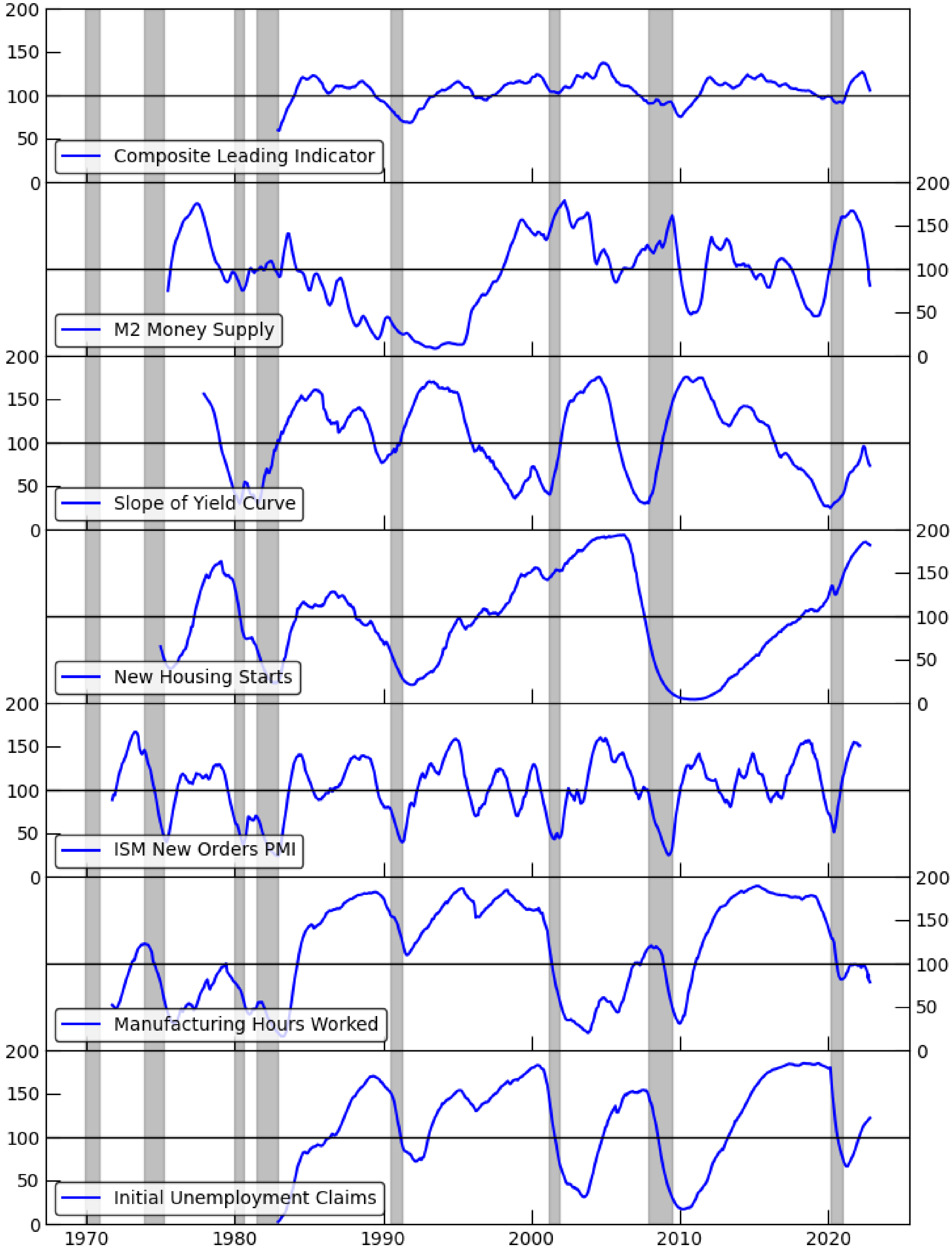


Note: Gold borders denote factors with long exposure during phase of Business Cycle.
Information Ratio calculated as factor excess return to S&P 500 Index, scaled by annualized volatility.
Returns sourced from period 1994-02-28 to 2022-10-31

Factor Strategy Cumulative Returns, Risk Level 1%



Composite Leading Indicators



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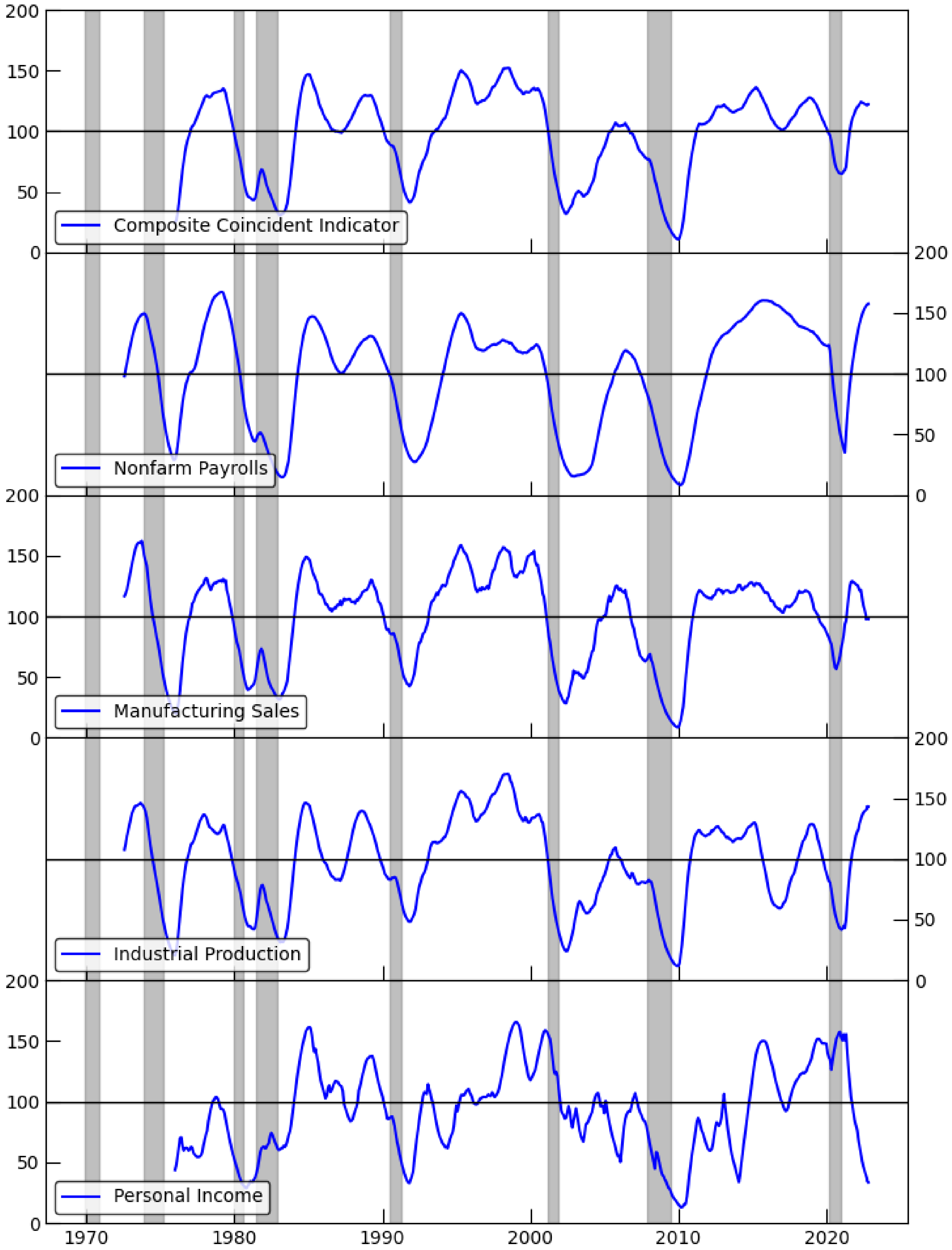
Composite Coincident Indicators



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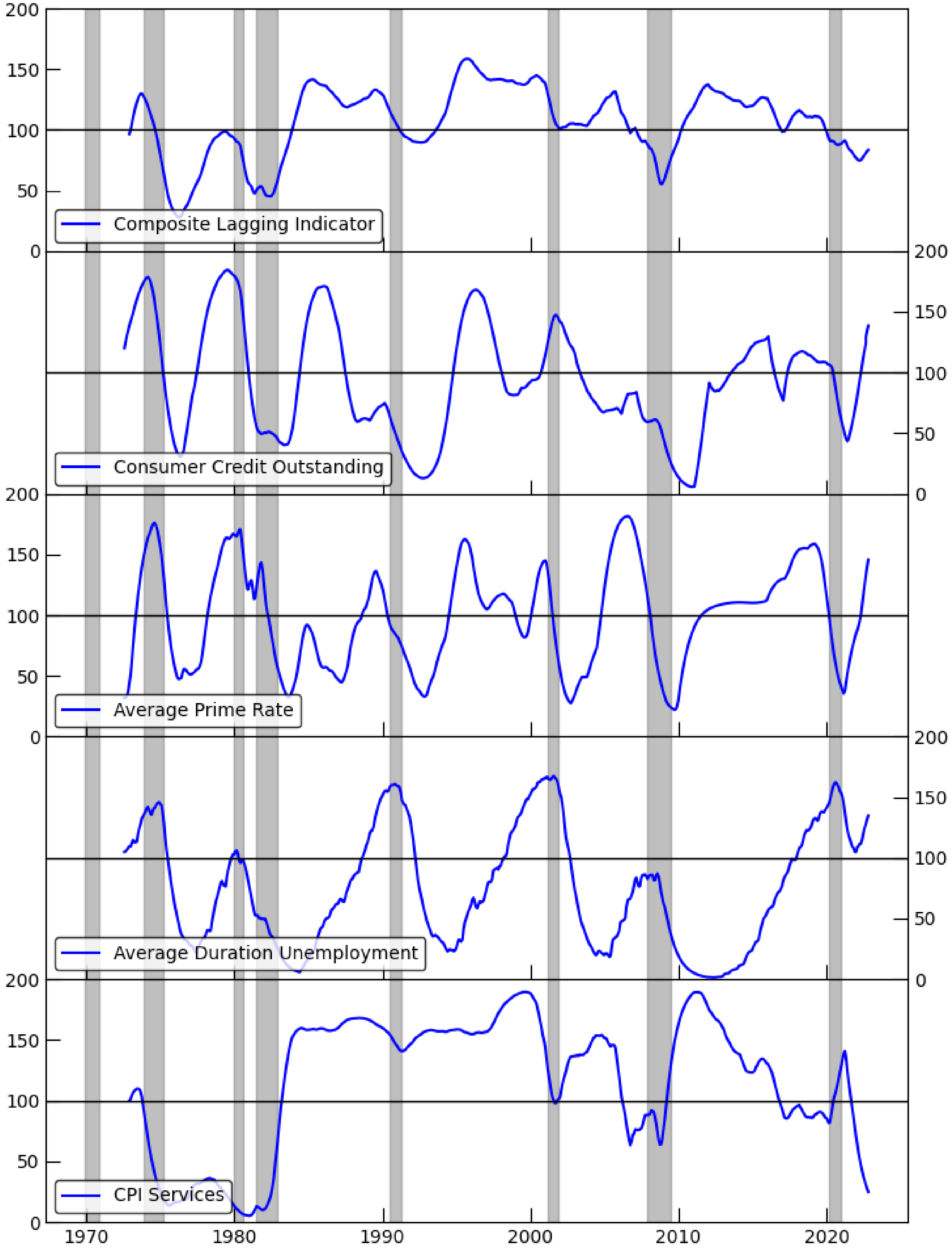
Composite Lagging Indicators



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