



Capital Money+ Hedge fund

D-A-R Trading Strategy

Financial Crisis



Product Overview

6.68%

**Downturn
Return**

Insurance for financial crisis

2.65%

**CAPM
Alpha**

$$r_i - r_f = \alpha_i + \beta_i(r_m - r_f)$$

Product Overview

61.55%

Win

Using CAPM

$$\frac{\text{Winning Months}}{\text{Total Months}}$$

15.7%

99% VaR

Historical Method

1 Month out of 8 Years

Executive Summary



Behavioral

Human Mind Bias
Little Factor Crowding



Algorithm

Rule-based Strategy
No Human Emotion



Consistent

Different Time Windows
Different Regimes

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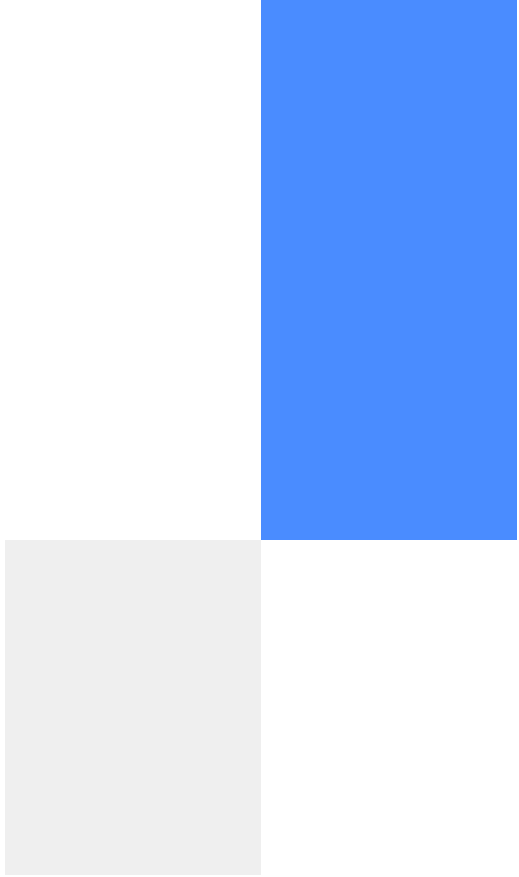
Strategy

Signal Generation
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Evaluation

Risk & Return
Time Horizon
Different Regimes



01 People

Team & Advantages

Team



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MATH

FINA

RMSC

PSYC

CSCI



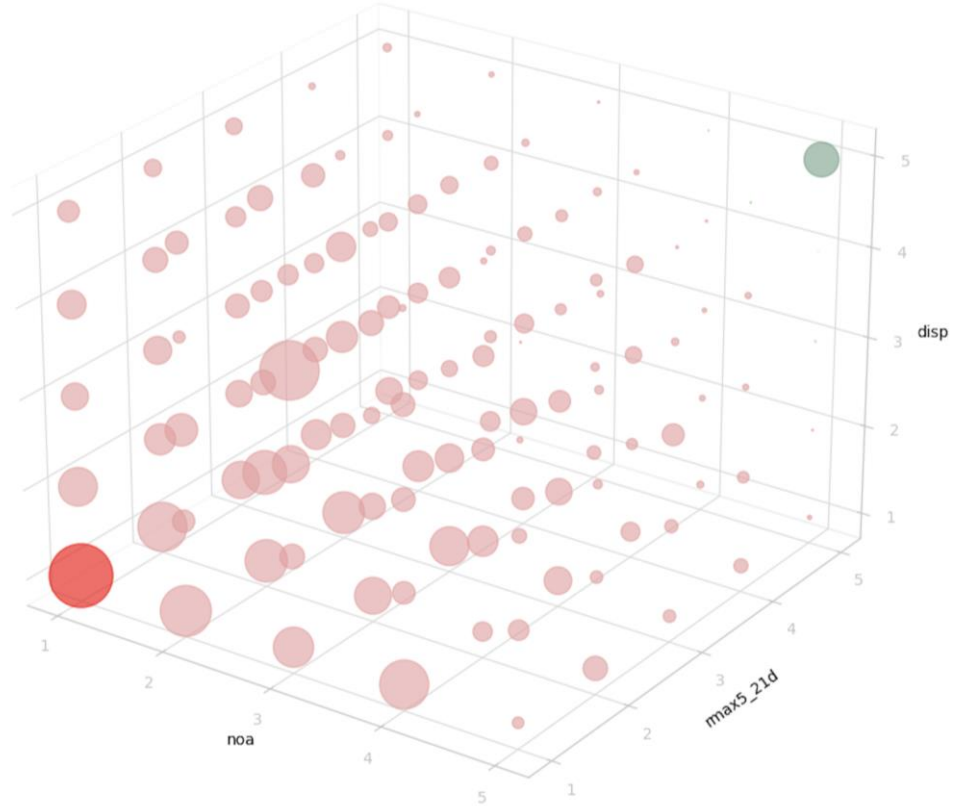
02

Strategy Design

Long-Short Strategy
Portfolio Return Overview
Predictors Selection
Stop Loss

1) Portfolio Return Overview

> 2.6% average monthly return

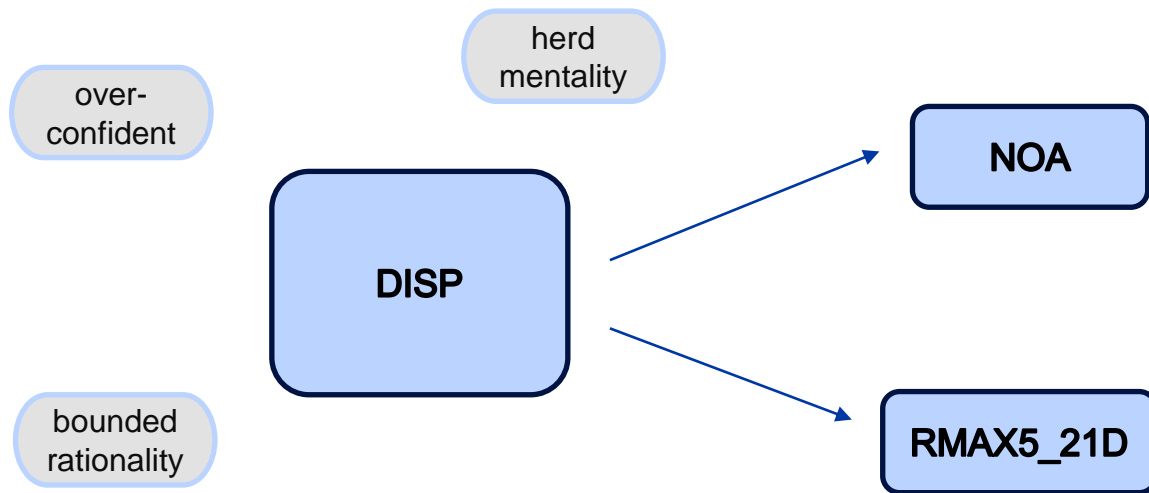


2) Predictors Selection

Our Predictors:

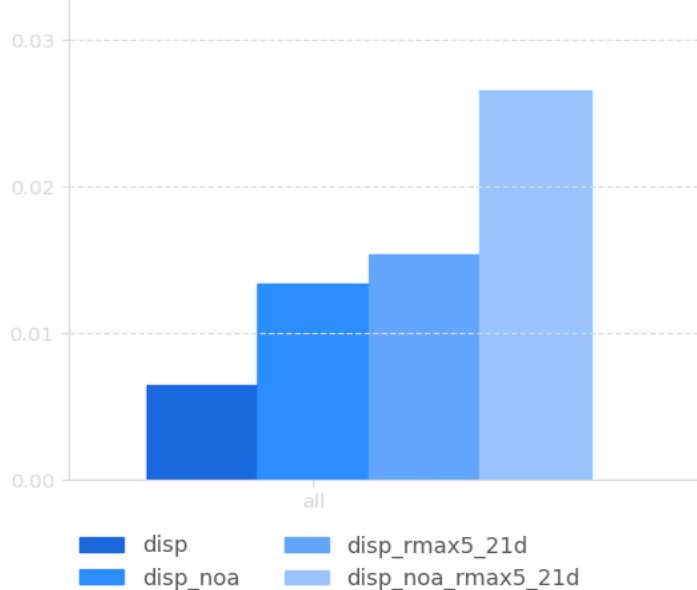
- **Dispersion (DISP)**: Dispersion equals standard deviation of analyst forecasts/ Abs (Forecasted Earnings per Share (FEPS)).
- **Net Operating Asset (NOA)**: Net operating asset defines the difference between a company's operating assets necessary to its core operations and its operating liabilities.
- **Highest 5 days of Return Per Month (RMAX5_21D)**: records an indicator of the five highest return trading days for an asset or security in a month.

What behavioral biases in the predictor?



2) Predictors Selection

Portfolio's Return with Different Predictors



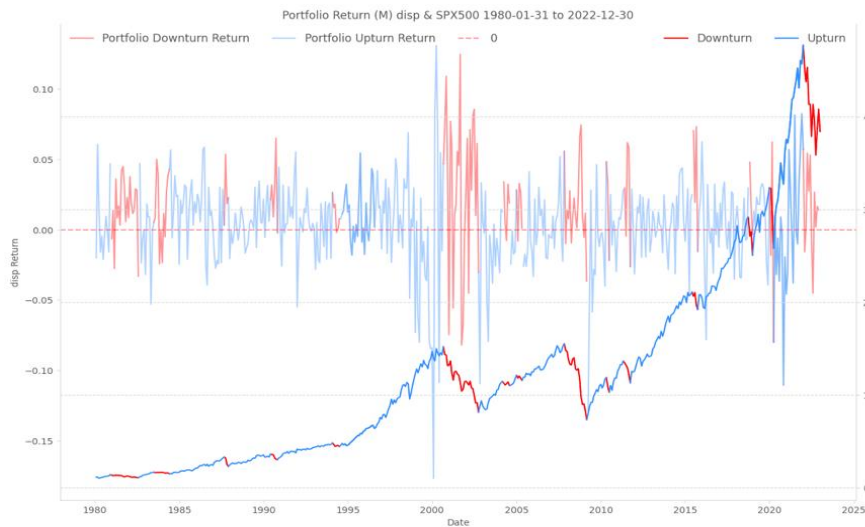
In addition to DISP, we **added two predictors** to get higher returns



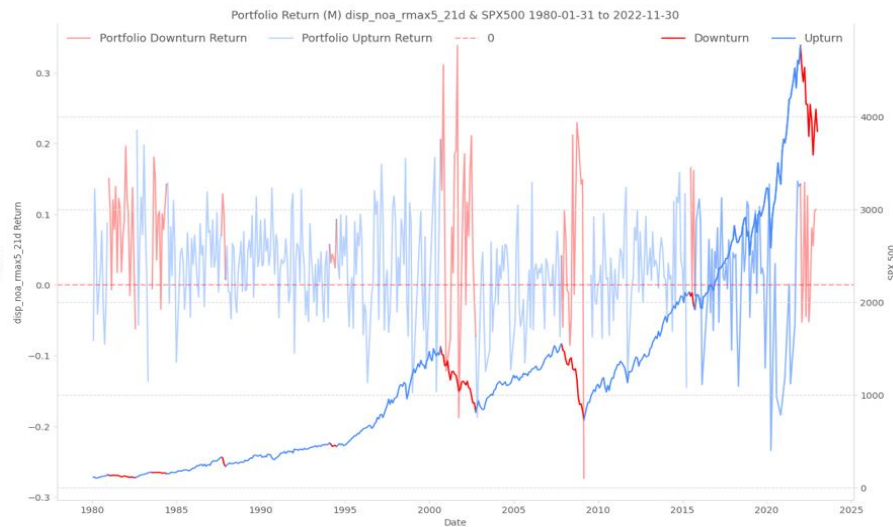
Through the combination of disp + noa + rmax5_21d, we can get **higher returns**

- **Dispersion (DISP)**: Dispersion equals standard deviation of analyst forecasts/ Abs (Forecasted Earnings per Share (FEPS)).
- **Net Operating Asset (NOA)**: Net operating asset defines the difference between a company's operating assets necessary to its core operations and its operating liabilities.
- **Highest 5 days of Return Per Month (RMAX5_21D)**: records an indicator of the five highest return trading days for an asset or security in a month.

3) Stop Loss Design



Without Stop Loss



With Stop Loss



If the month i return is less than -10%, then stop trading for $i+1$, $i+2$ months



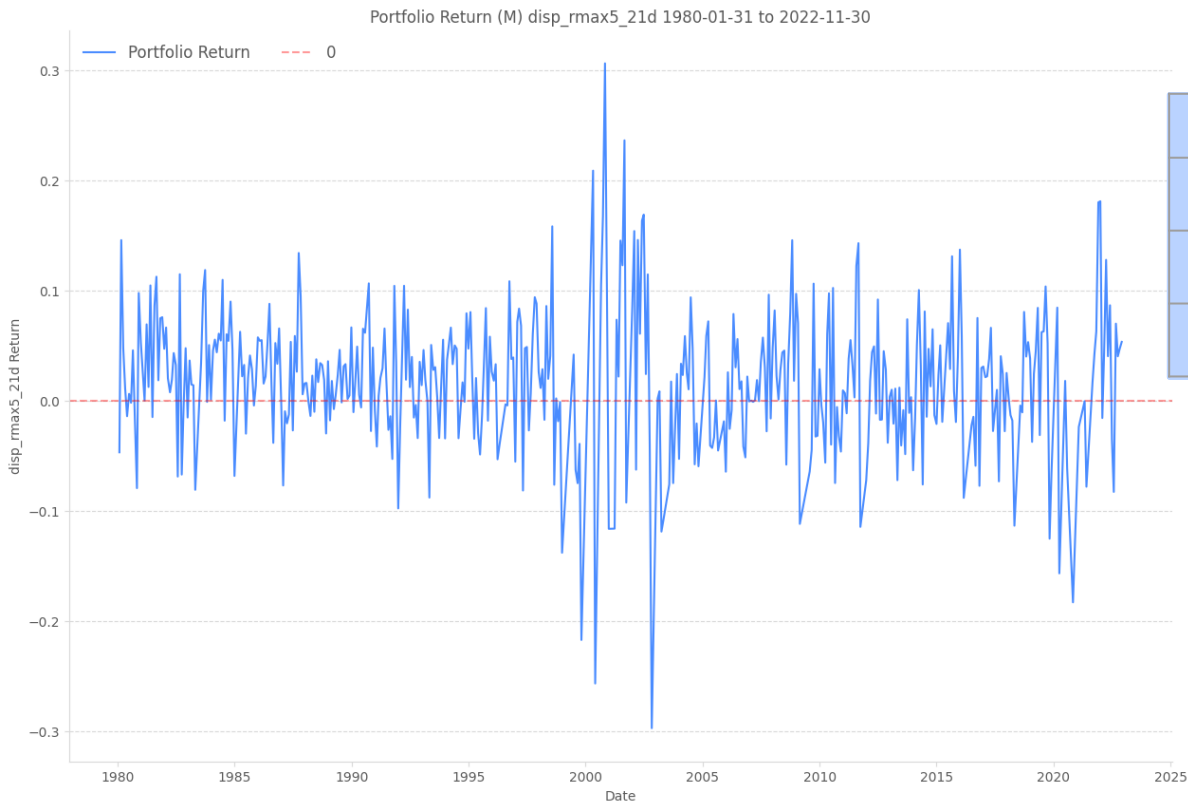
03

Evaluation of Performances

T-test
Alpha
Value at Risk
Long-term/Short-term
Different Regimes
Comparison

1) Our Portfolio Has a Significant Return

-- Hedging Portfolio Return and its t-test



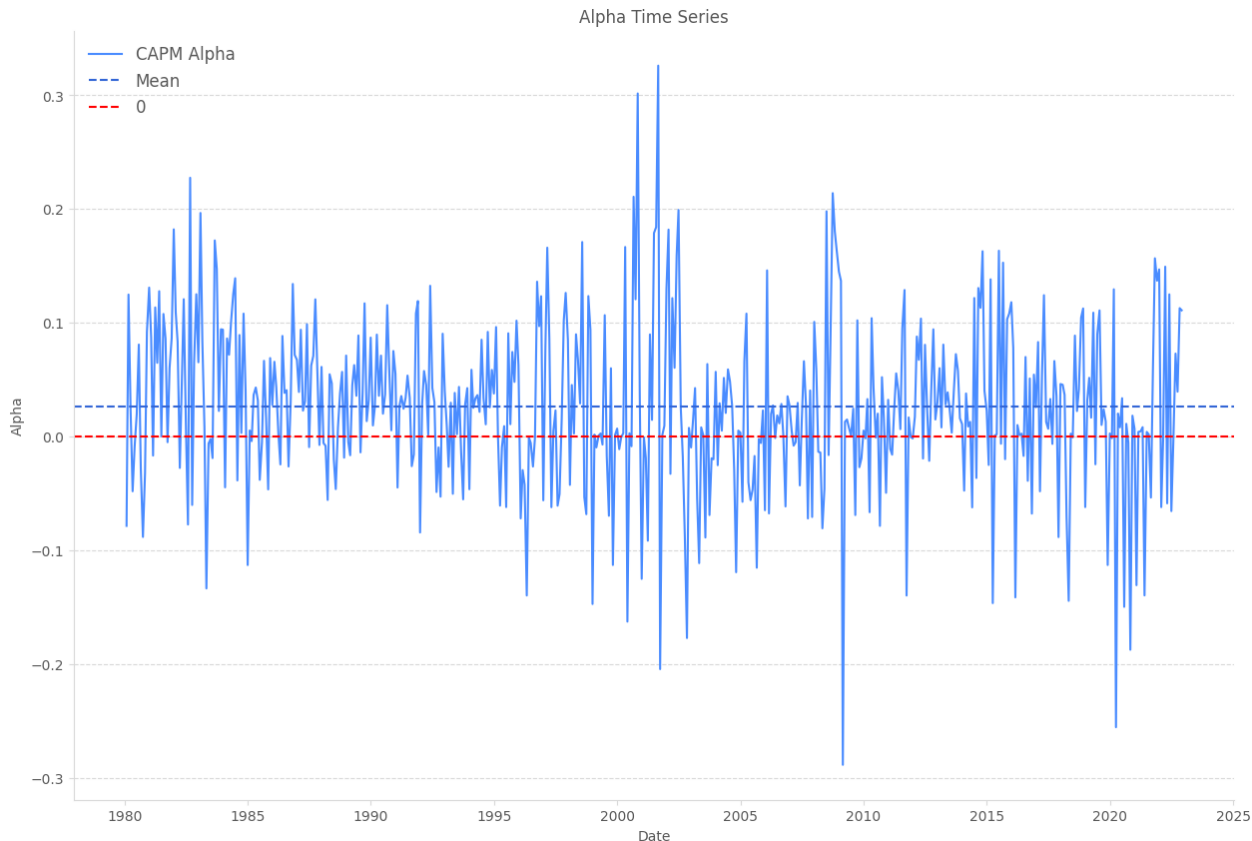
	t-statistic	p-value
Lead 1-month return	8.1762	0.0000
Lead 6-month return	3.4296	0.0007
Lead 12-month return	2.9986	0.0028



You can get a significant return!

2) Take Advantage of Behavioral Biases

-- Tests of Alpha of Portfolios



CAPM Alpha: 0.0265
CAPM t-statistic: 7.9616
CAPM p-value ≈ 0

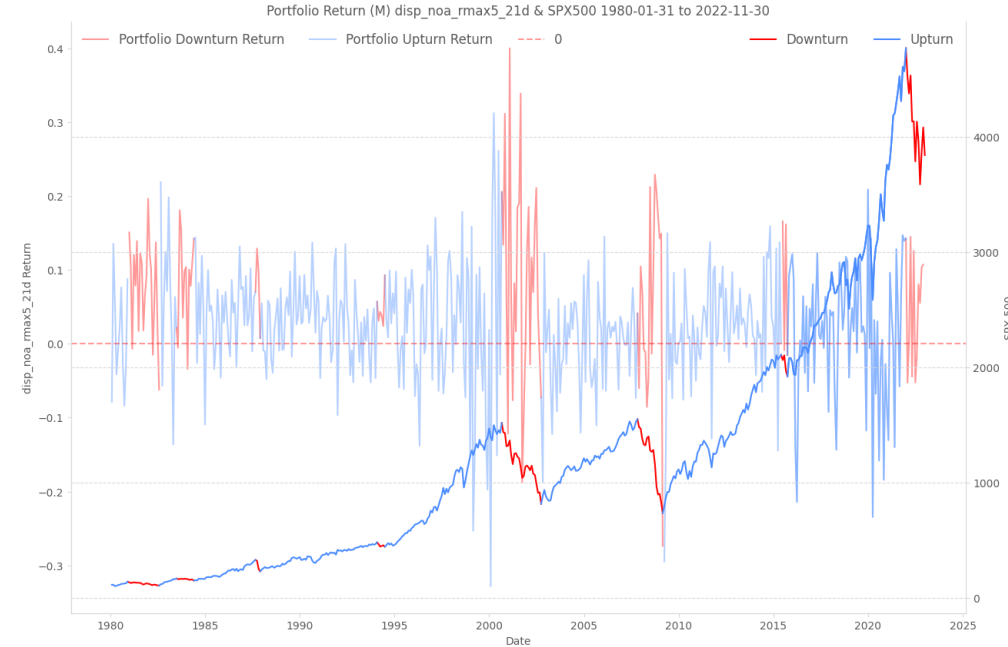
FF4 Alpha: 0.0259
FF4 t-statistic: 7.7432
FF4 p-value ≈ 0



Returns comes from other
investors' **behavioral biases**

3) Predictors has a significant impact on returns

-- Fama-MacBeth Regressions



	T-stat	P-value
disp	-1.7968	0.0724
noa	5.1771	0.0000
rmax5_21d	2.0645	0.0390



- These three predictors contribute significantly to return
- The contribution has a long and stable existence

4) Value at Risk & Win Rate

99% VaR:

-21.20% (without stop-loss)

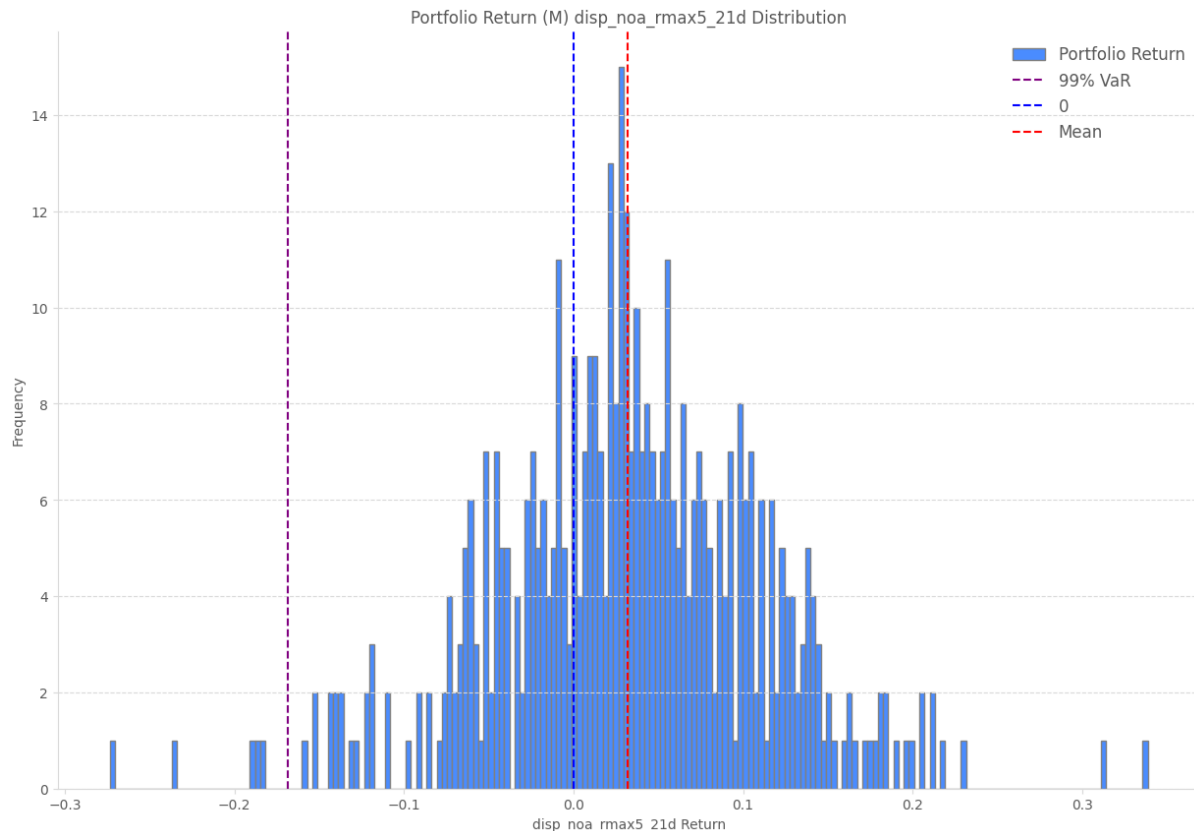
-15.74% (with stop-loss)

Win Rate: 0.6155

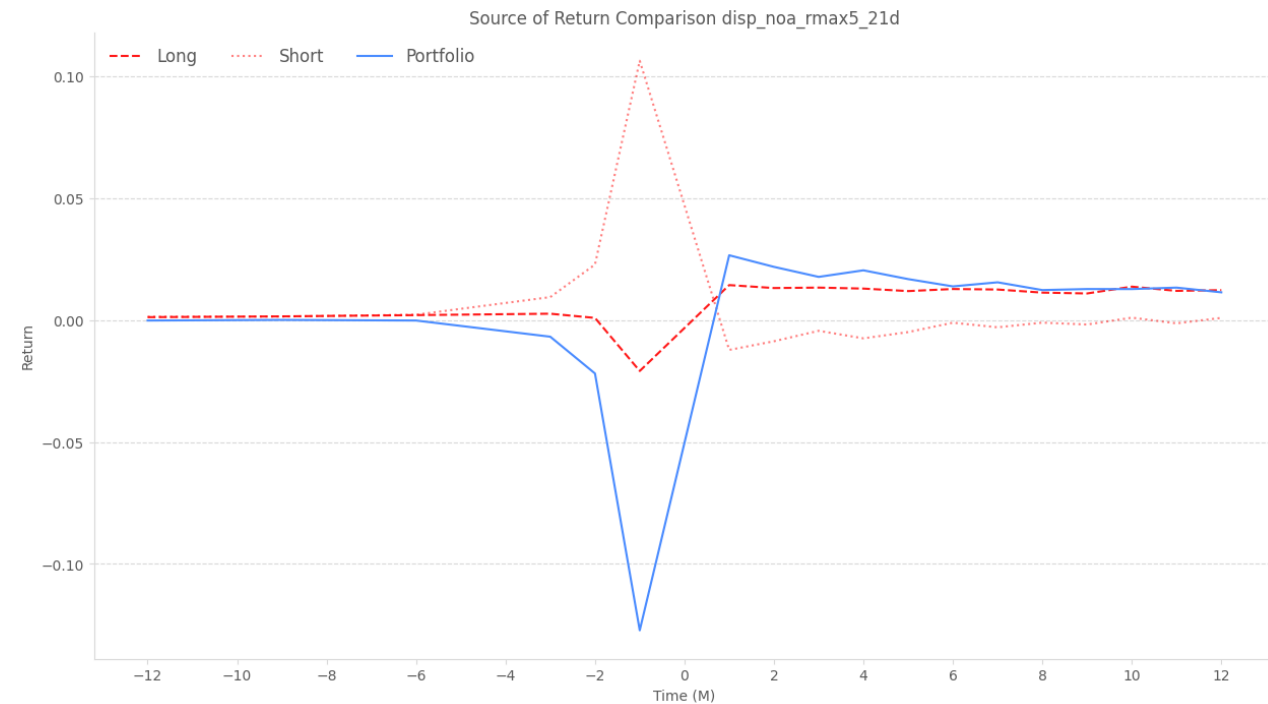


We can **profit in most of time**,
only 1% chances to lose
exceeding 15.74%.

With stop-loss:
lose less with same probability.



5) Long/Short Term Performances



Short-term return:
around **3%**

Long-term:
steadily maintain around
1.5-2%



Extraordinary short-term return
Stable long-term return

We successfully seize the
investment opportunities

6) Portfolio Return in Different Regimes

Market Trend detection:

Upturn: **blue**

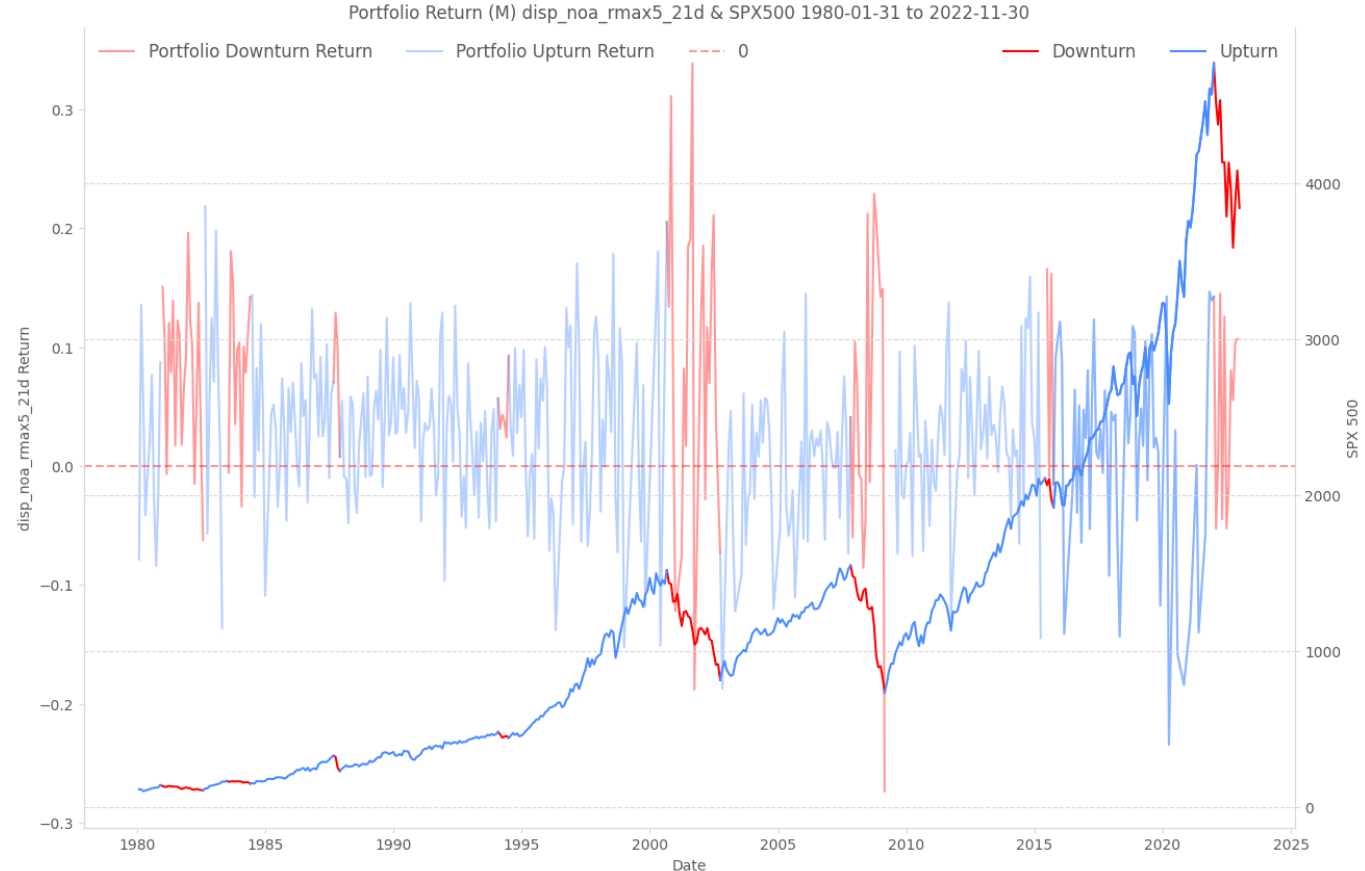
Downturn: **red**

Insights:

- Downturn:
Positive drift
High positive average returns
- Upturn:
Positive average returns
- Downturn \leftrightarrow Upturn
Negative drift.

Possible reason:

DISP effect diminishes



7) Comparison: DISP 1/2/3 Predictors

Improvements for Long/Short-term Performance

In DISP-related portfolios

Champion: Our **D-A-R** Strategy

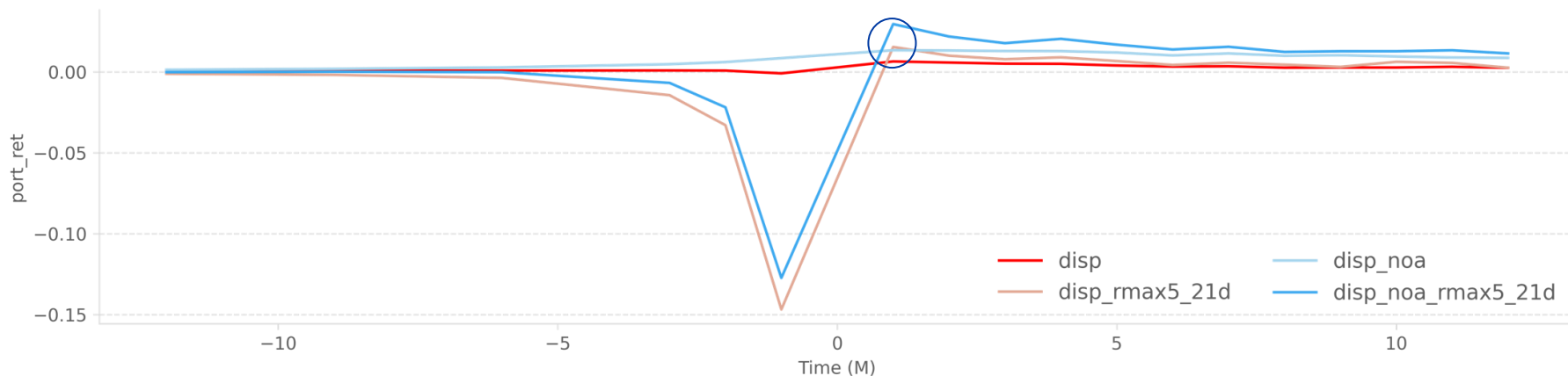
Highest short-term return

Highest + stable long-term return

Helps from the additional predictors

rmax5_21d: increases short-term return

NOA: increases long-term return



7) Comparison: DISP 1/2/3 Predictors

Improvements for Different Regimes Performance

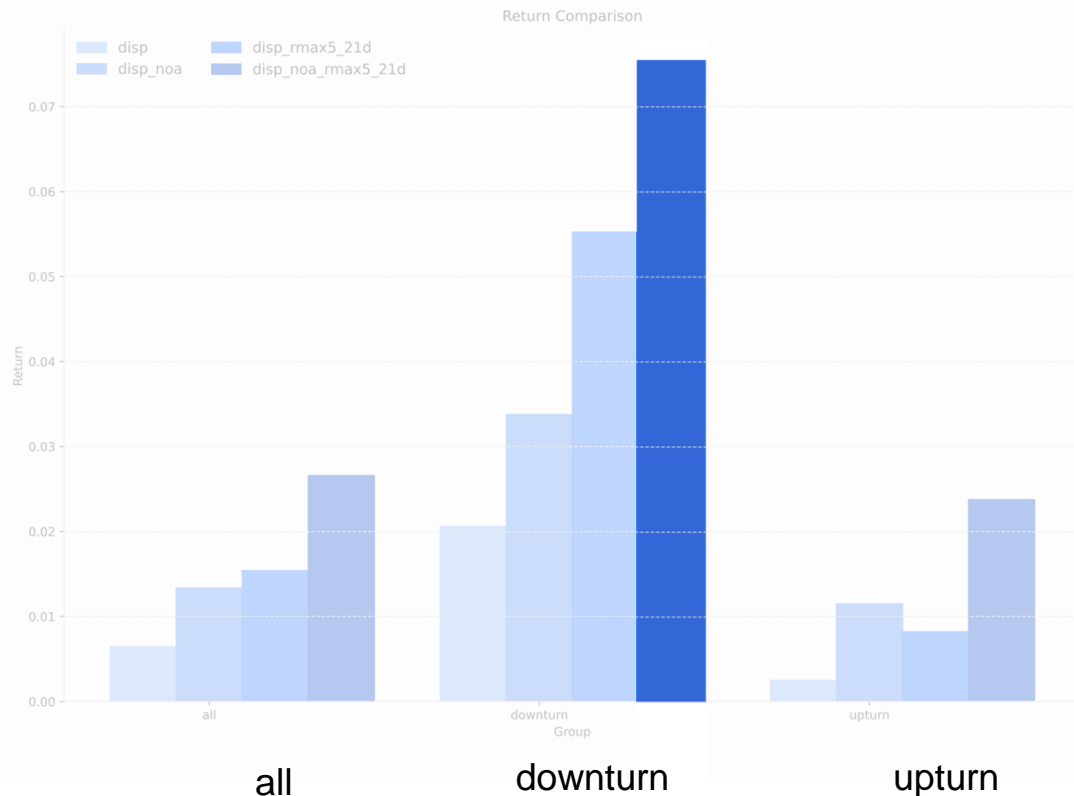
In DISP-related portfolios

7+% downturn return

2.3% upturn return

1st place all the stages

Champion: Our D-A-R Strategy



Risk Exposure Disclosure

Risk Exposure Details

Market Risk

Leverage risk

While increasing potential gains, increasing potential risks

Liquidity risk

If market liquidity decreases, unreasonable price...

Operational risk

The performance depends on the operation of our investment team

Hedging strategy risk

Only focus on some biased scenarios.
May invalid sometimes

Potential Risk

May only address specific risk problems and ignore other potential risks

INVEST!

Q & A

