

# FORMULAIC ALPHA REPORT

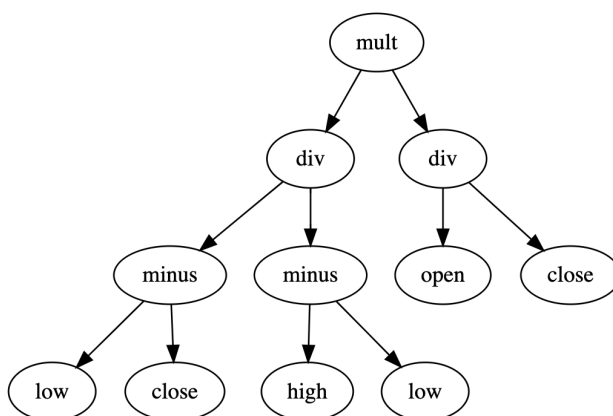
HangukQuant<sup>1, 2\*</sup>

<https://hangukquant.substack.com>

1 2 3

## ALPHA

`mult(div(minus(low,close),minus(high,low)),div(open,close))`



---

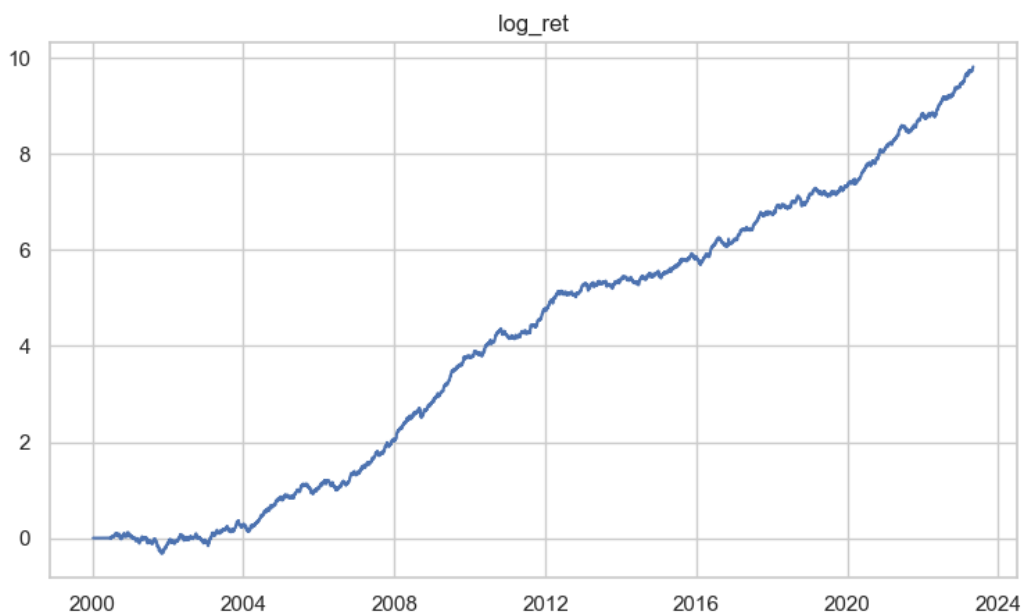
<sup>1\*</sup>**1:** [hangukquant@gmail.com](mailto:hangukquant@gmail.com), [hangukquant.substack.com](https://hangukquant.substack.com)

<sup>2\*</sup>**2:** DISCLAIMER: the contents of this work are not intended as investment, legal, tax or any other advice, and is for informational purposes only. It is illegal to make unauthorized copies, forward to an unauthorized user or to post this article electronically without express written consent by HangukQuant.

<sup>3\*</sup>**2:** DISCLAIMER: None of the information contained here or on [hangukquant.substack.com](https://hangukquant.substack.com) or its affiliated platforms constitutes an offer (or solicitation of an offer) to buy or sell any currency, product or financial instrument, to make any investment, or to participate in any particular trading strategy, or a recommendation for any security or any third party. Trading involves real risks of loss and the author is not responsible for any related loss. Past performance is not indicative of future performance; material enclosed herein is for educational purposes only. There is absolutely no warranty or guarantee implied with this product. I provide no guarantee that it will be functional, destructive or constructive in any sense of the word. Use at your own risk. Trading is a risky operation.

All statistics, graphs and commentary shown use cost/friction-less assumptions and are for statistical purposes only. In practice, you will encounter *highly variable costs and results may deviate significantly from expectations*. Realized transaction costs for traders vary significantly in the execution techniques and market conditions, such as slippage, usage of passive orders, positional inertia, higher frequency order book information, position netting, choice of asset universe, timing and constraint optimization - we present frictionless results to admit comparability of performance.

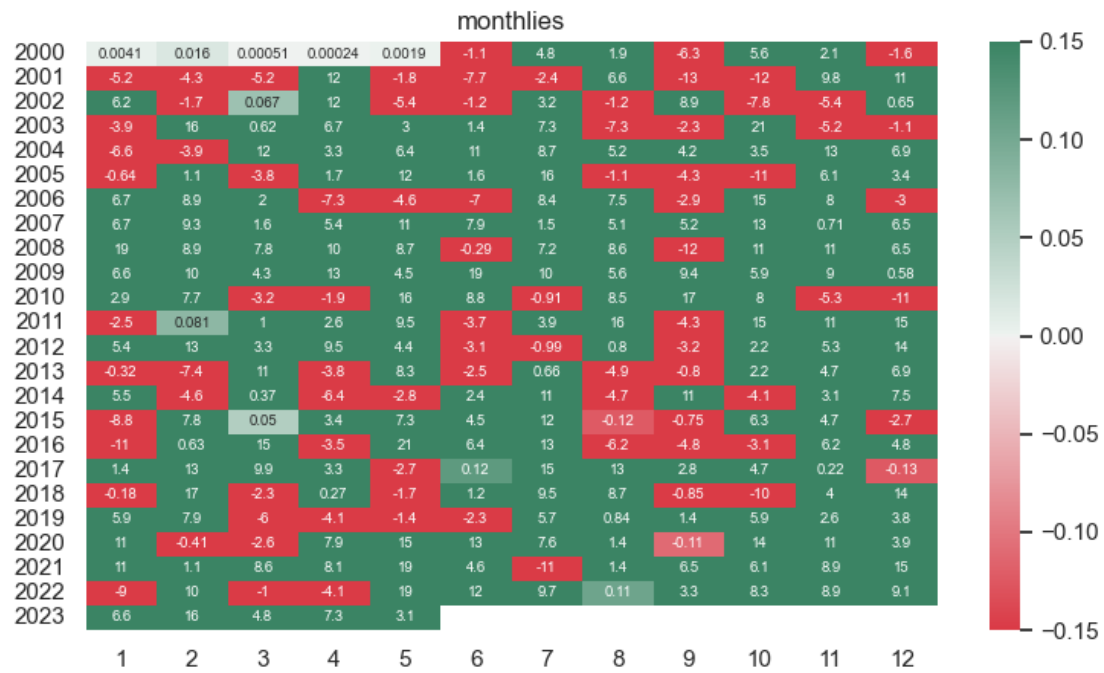
## 1 Returns



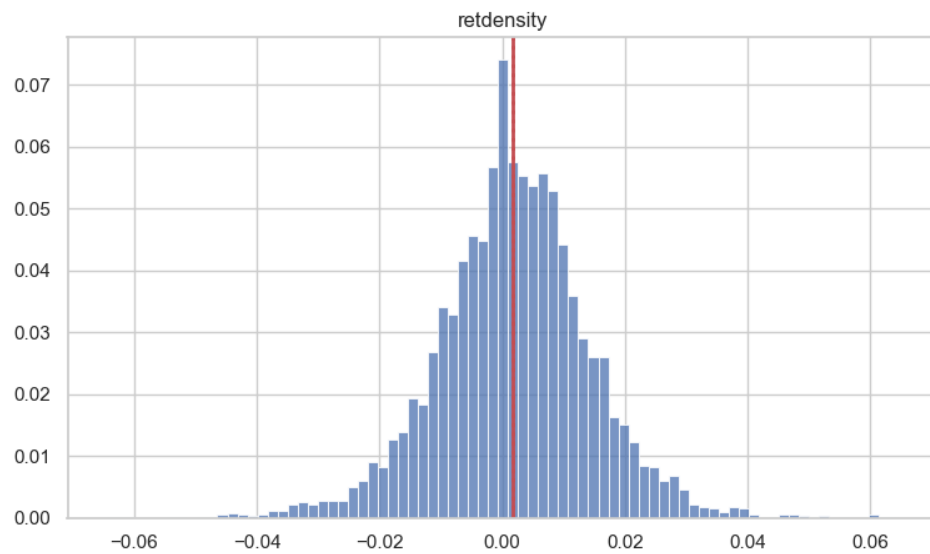
### 1.1 Performance Metrics

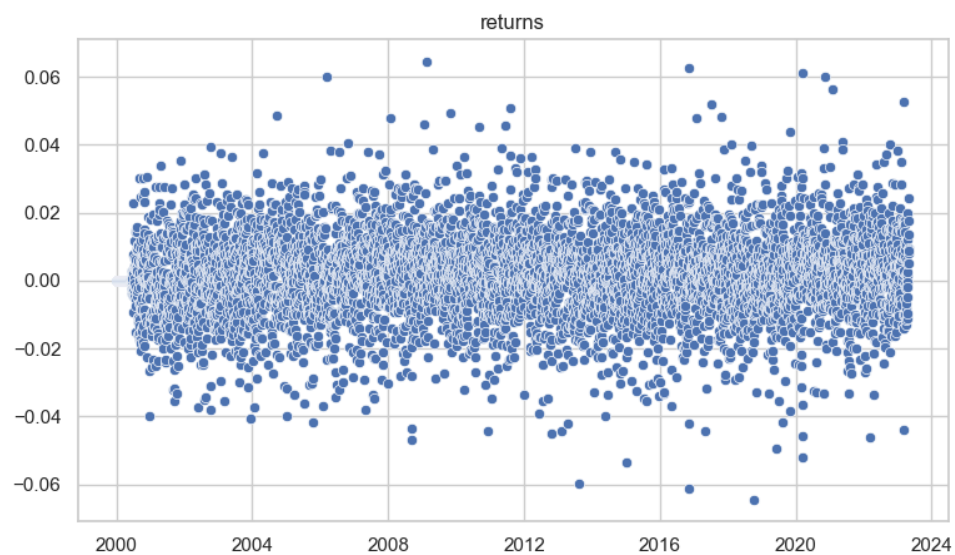
<b>sortino:</b>	3.329	<b>sharpe:</b>	2.206	<b>mean ret:</b>	0.444
<b>median ret:</b>	0.436	<b>stdev ret:</b>	0.201	<b>var ret:</b>	0.041
<b>skew ret:</b>	-0.081	<b>kurt exc:</b>	1.621	<b>cagr:</b>	0.527
<b>omega(0):</b>	1.445	<b>VaR95:</b>	-0.033	<b>cVaR95:</b>	-0.04
<b>gain to pain:</b>	2.889	<b>directionality:</b>	-0.011		

## 1.2 Seasonals

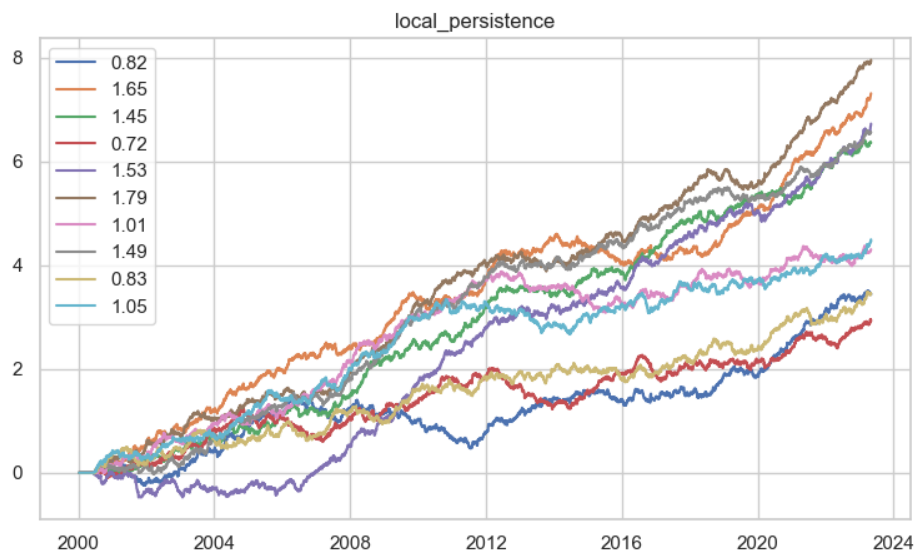


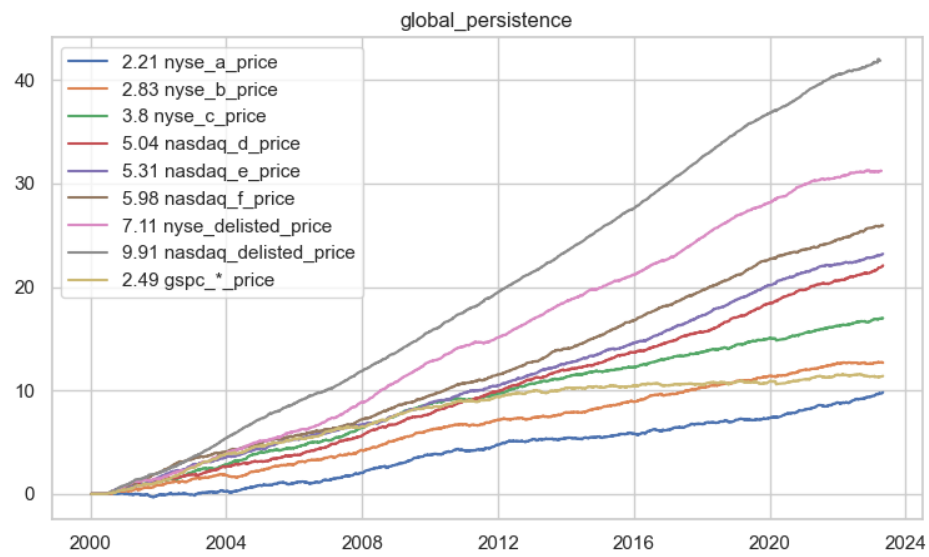
## 1.3 Density





## 1.4 Persistence





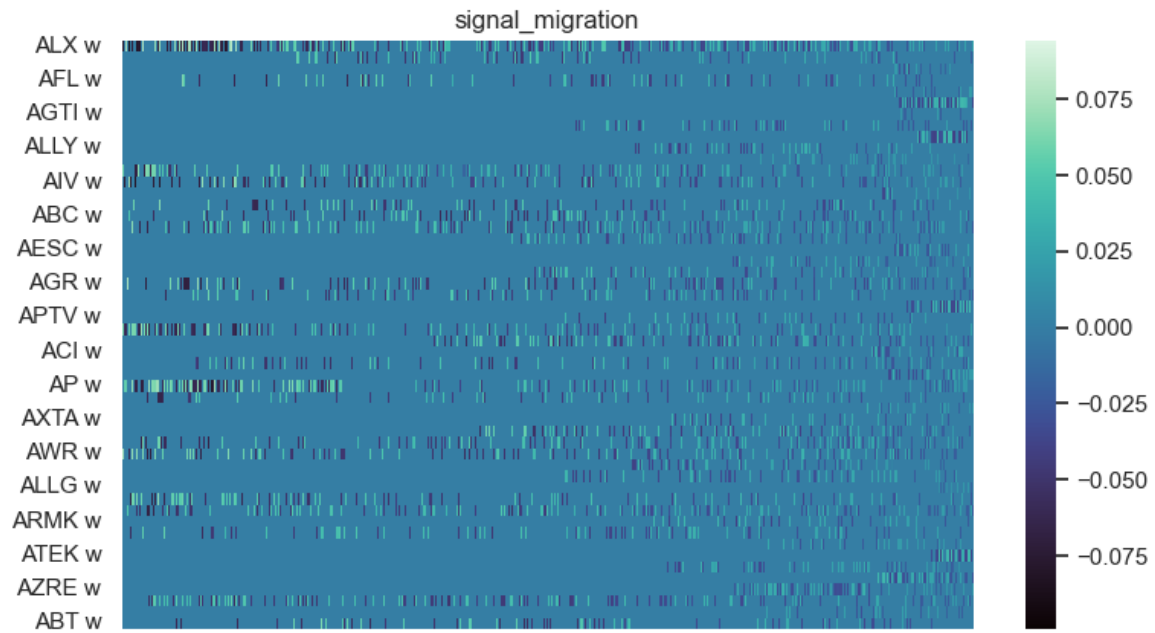
## 1.5 Monte Carlo Permutation Hypothesis Tests

**timer p:** 0.01   **picker p:** 0.01

**trader p1:** 0.01

## 2 Signals

### 2.1 Migration



### 2.2 Participation

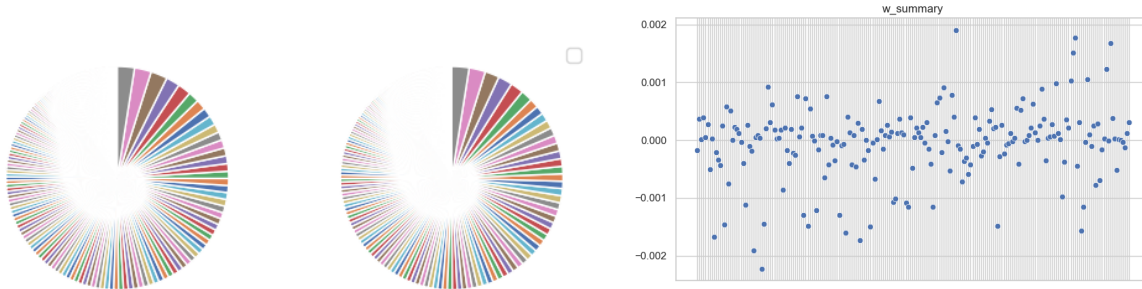


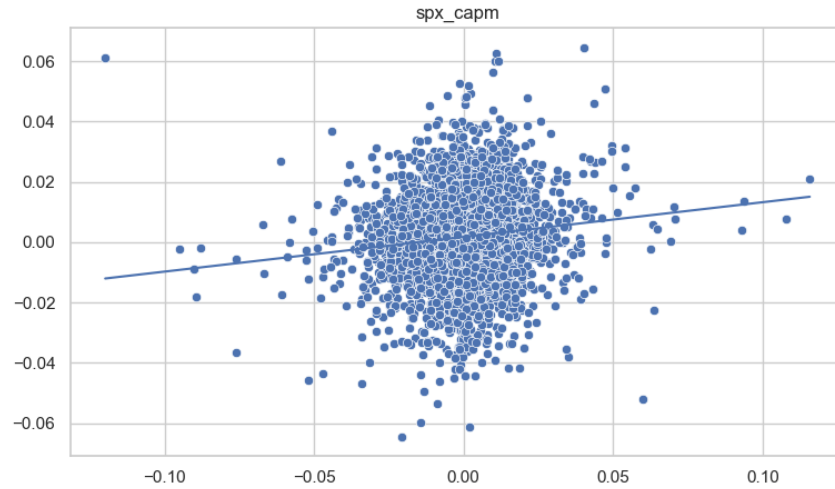
Table 1:  $r \sim \alpha + \beta spx + \epsilon$

<b>Dep. Variable:</b>	y	<b>R-squared:</b>	0.013
<b>Model:</b>	OLS	<b>Adj. R-squared:</b>	0.013
<b>Method:</b>	Least Squares	<b>F-statistic:</b>	75.93
<b>Date:</b>	Sat, 06 Jan 2024	<b>Prob (F-statistic):</b>	3.77e-18
<b>Time:</b>	02:39:42	<b>Log-Likelihood:</b>	17342.
<b>No. Observations:</b>	5865	<b>AIC:</b>	-3.468e+04
<b>Df Residuals:</b>	5863	<b>BIC:</b>	-3.467e+04
<b>Df Model:</b>	1		
<b>Covariance Type:</b>	nonrobust		

	coef	std err	t	P> t	[0.025	0.975]
<b>Intercept</b>	0.0017	0.000	10.499	0.000	0.001	0.002
<b>x</b>	0.1150	0.013	8.714	0.000	0.089	0.141

### 3 Factor Model

#### 3.1 GSPC MARKET



## 4 Popular Metrics

