How To Make Money Investing

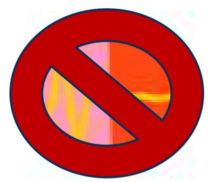

PORTFOLIO
MANAGEMENT
RESEARCH
the journal of
PORTFOLIO
management
QUANTITATIVE STRATEGIES:
FACTOR INVESTING
8TH EDITION
volume 49 number 2
JANUARY 2023
jpm.pm-research.com
Trends and Cycles
of Style Factors in the
20th and 21st Centuries
BlackRock.
Andrew Ang

Factor Based Investing

Style factors

Value

Stocks discounted relative to their fundamentals



Minimum volatility

Stable, lower-risk stocks

Momentum

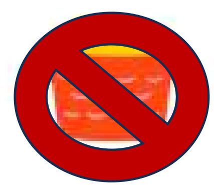
Stocks with upward price trends

Quality

Financially healthy companies

Size

Smaller, high-growth companies



Carry

Income incentive to hold riskier securities

Value & Momentum Are Factors That Work All The Time
However, There Is A Problem With <u>Value</u> Investing

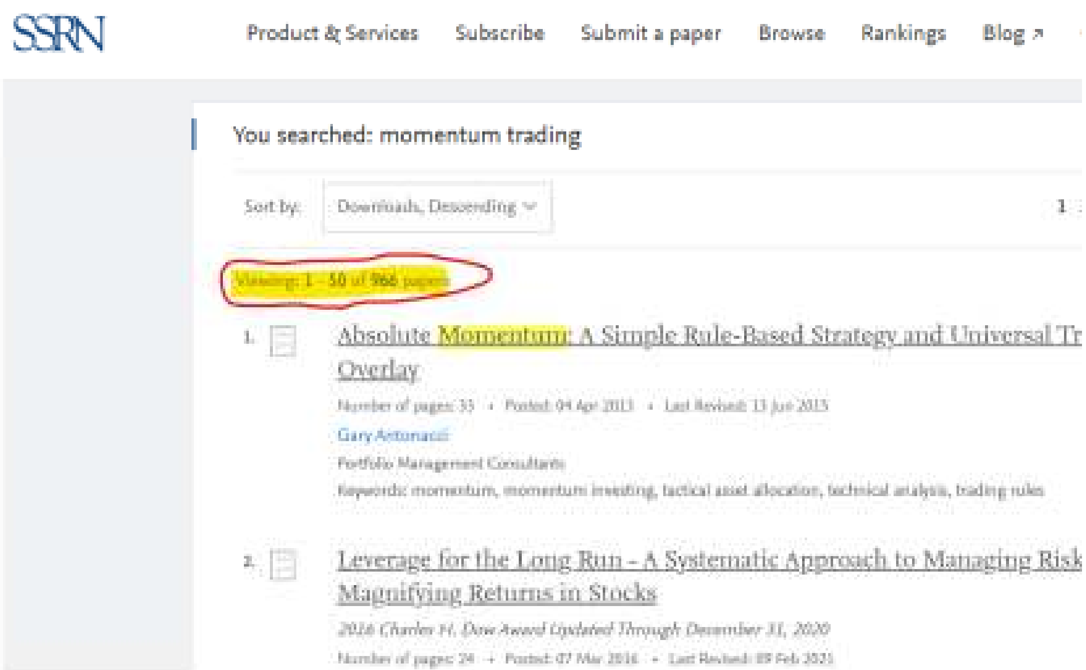
The Problem With
Value Investing?

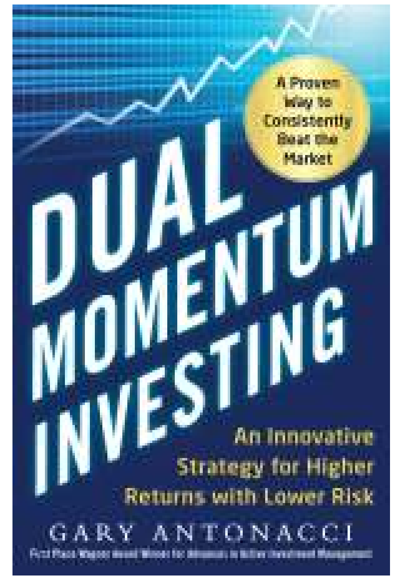
Nothing is cheap any more

- Charlie Munger
  Berkshire Hathaway Vice Chair
- Ben Graham
  father of Value Investing


LIVE
YAPSS
Journal
Journal
What happened is that low-hanging fruit eventually went away as the aftermath of The Great Depression went away.
Source: Daily Journal AGM 2023


So What's ?
MOMENTUM


SSRN
Product & Services
Subscribe
Submit a paper
Browse
Rankings
Blog ↗
You searched: momentum trading
Sort by:
Downloads, Descending
Viewing: 1 - 50 of 966 papers
1. Absolute Momentum: A Simple Rule-Based Strategy and Universal Tr
Overlay
Number of pages: 33 • Posted: 04 Apr 2013 • Last Revised: 13 Jun 2015
Gary Antonacci
Portfolio Management Consultants
Keywords: momentum, momentum investing, tactical asset allocation, technical analysis, trading rules
2. Leverage for the Long Run - A Systematic Approach to Managing Risk
Magnifying Returns in Stocks
2016 Charles H. Dow Award Updated Through December 31, 2020
Number of pages: 24 • Posted: 07 Mar 2016 • Last Revised: 09 Feb 2021


A Proven Way to Consistently Beat the Market
DUAL MOMENTUM INVESTING
An Innovative Strategy for Higher Returns with Lower Risk
GARY ANTONACCI

Single Momentum Strategy

When the instrument has positive Annual Momentum, stay invested

If the instrument loses positive Annual Momentum, go to cash or t-bills

If the instrument regains positive Annual Momentum again, re-invest fully

Annual Momentum = Price Today – Price One Year Ago

Rinse and repeat

Project Details

Data

API:
https://pypi.org/project/yfinance/

Search projects

Help Sponsors Log in Register

yfinance 0.2.30

`pip install yfinance`

Latest version

Released: Sep 24, 2023

Download market data from Yahoo! Finance API

Navigation

- Project description
- Release history
- Download files

Project links

- Homepage

Project description

Download market data from Yahoo! Finance's API

*** IMPORTANT LEGAL DISCLAIMER ***

Yahoo!, Y!Finance, and Yahoo! finance are registered trademarks of Yahoo, Inc.

yfinance is **not** affiliated, endorsed, or vetted by Yahoo, Inc. It's an open-source tool that uses Yahoo's publicly available APIs, and is intended for research and educational purposes.

You should refer to Yahoo!'s terms of use (here, here, and here) for details on your rights to use the actual data

Project Details

Software

Water, Water Everywhere and Not A Drop To Drink

- **Backtrader** – Not supported since 2018 and doesn't work
- **VectorBTPro** – Too complex to install, and I can't learn it in 24h
- **Backtesting.py** – Didn't install properly and not supported currently
- **Roll-Your-Own** and just did an import with the Y.Finance API

Exploratory Data Analysis

Date	Open	High	Low	Close \
1993-01-29 00:00:00-05:00	24.959123	24.959123	24.834948	24.941383
1993-02-01 00:00:00-05:00	24.959134	25.118788	24.959134	25.118788
1993-02-02 00:00:00-05:00	25.101059	25.189755	25.047841	25.172016
1993-02-03 00:00:00-05:00	25.207475	25.455825	25.189736	25.438086
1993-02-04 00:00:00-05:00	25.526786	25.597743	25.242958	25.544525
...	...	...	...	...
2023-09-26 00:00:00-04:00	429.089996	429.820007	425.019989	425.880005
2023-09-27 00:00:00-04:00	427.089996	427.670013	422.290009	426.049988
2023-09-28 00:00:00-04:00	425.480011	430.250000	424.869995	428.519989
2023-09-29 00:00:00-04:00	431.670013	431.850006	425.910004	427.480011
2023-10-02 00:00:00-04:00	426.619995	428.600006	424.459991	427.309998

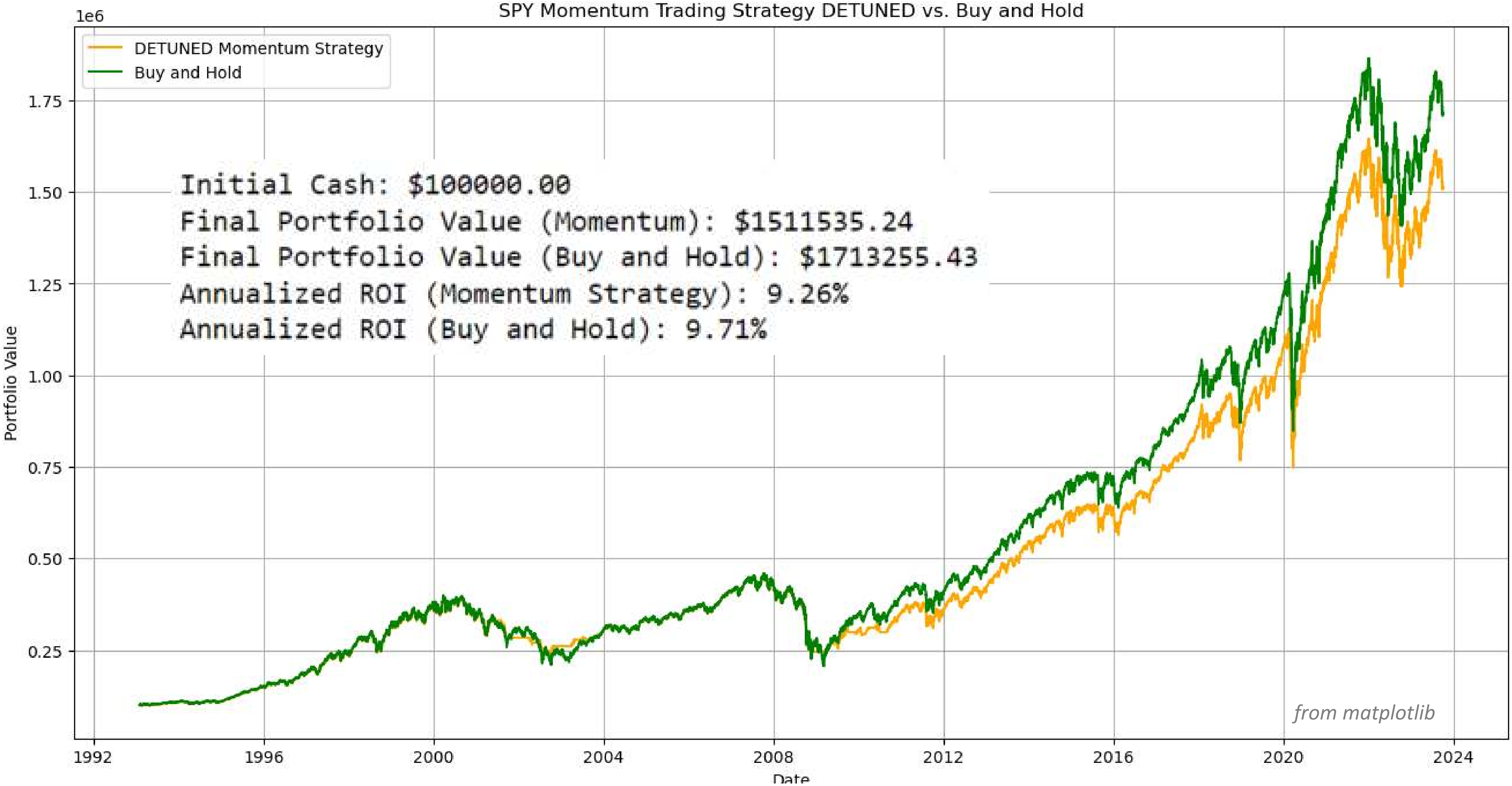
Date	Volume	Dividends	Stock Splits	Capital Gains
1993-01-29 00:00:00-05:00	1003200	0.0	0.0	0.0
1993-02-01 00:00:00-05:00	480500	0.0	0.0	0.0
1993-02-02 00:00:00-05:00	201300	0.0	0.0	0.0
1993-02-03 00:00:00-05:00	529400	0.0	0.0	0.0
1993-02-04 00:00:00-05:00	531500	0.0	0.0	0.0
...	...	...	...	...
2023-09-26 00:00:00-04:00	96168400	0.0	0.0	0.0
2023-09-27 00:00:00-04:00	104705800	0.0	0.0	0.0
2023-09-28 00:00:00-04:00	92258300	0.0	0.0	0.0
2023-09-29 00:00:00-04:00	115078500	0.0	0.0	0.0
2023-10-02 00:00:00-04:00	83649100	0.0	0.0	0.0

[7724 rows x 8 columns]

No duplicates


SURELY A RESPONSE WILL COME
I JUST HAVE TO WAIT PATIENTLY...

Final Output



Statsmodels Regression Analysis

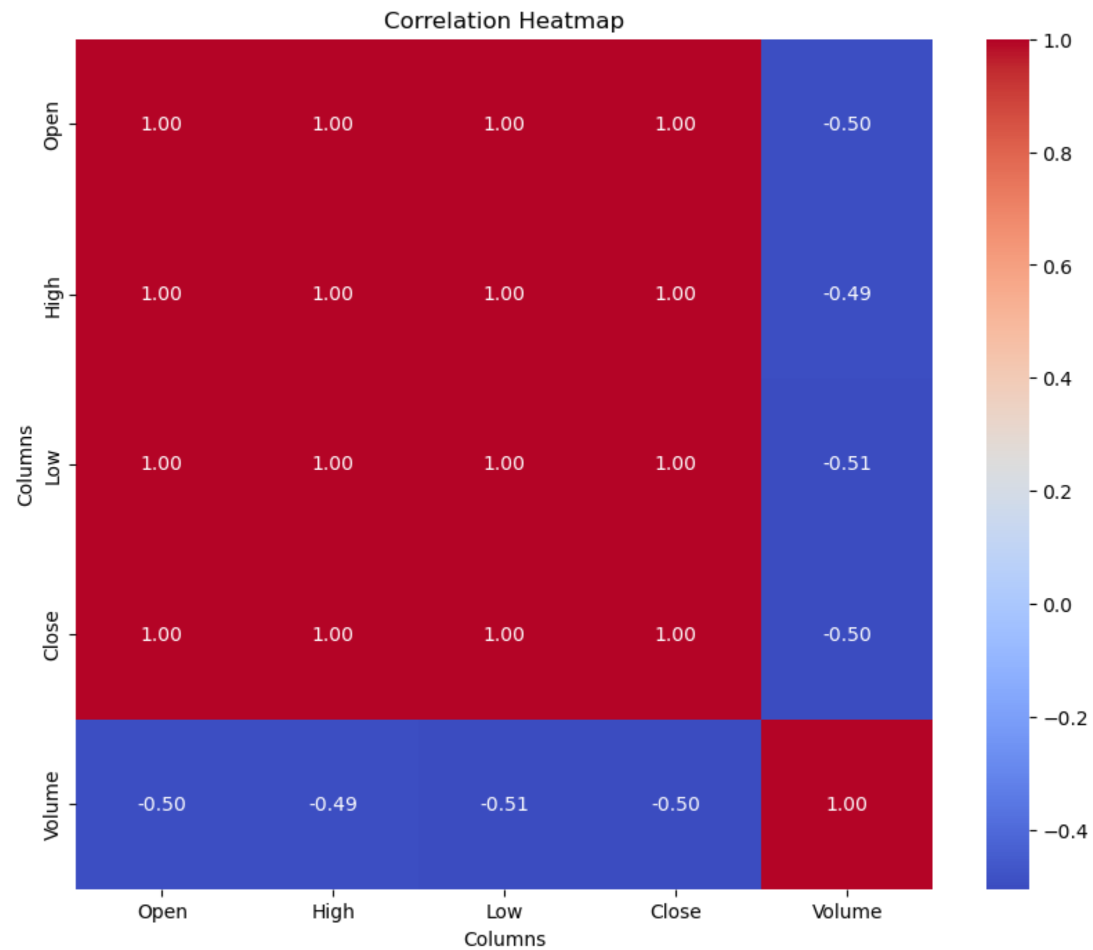
```
                            OLS Regression Results
==============================================================================
Dep. Variable:               Momentum   R-squared:                       0.856
Model:                            OLS   Adj. R-squared:                  0.856
Method:                 Least Squares   F-statistic:                 4.574e+04
Date:                Mon, 02 Oct 2023   Prob (F-statistic):               0.00
Time:                        18:26:20   Log-Likelihood:                 31366.
No. Observations:                7722   AIC:                        -6.273e+04
Df Residuals:                    7720   BIC:                        -6.271e+04
Df Model:                           1
Covariance Type:            nonrobust
================================================================================
                   coef    std err          t      P>|t|      [0.025      0.975]
--------------------------------------------------------------------------------
const          3.77e-05   4.74e-05      0.795      0.427   -5.53e-05       0.000
Buy_and_Hold     0.8557      0.004    213.868      0.000       0.848       0.864
==============================================================================
Omnibus:                     2782.916   Durbin-Watson:                   2.159
Prob(Omnibus):                  0.000   Jarque-Bera (JB):           361508.496
Skew:                          -0.683   Prob(JB):                         0.00
Kurtosis:                      36.492   Cond. No.                         84.4
==============================================================================

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly
```

Statsmodels Regression Analysis

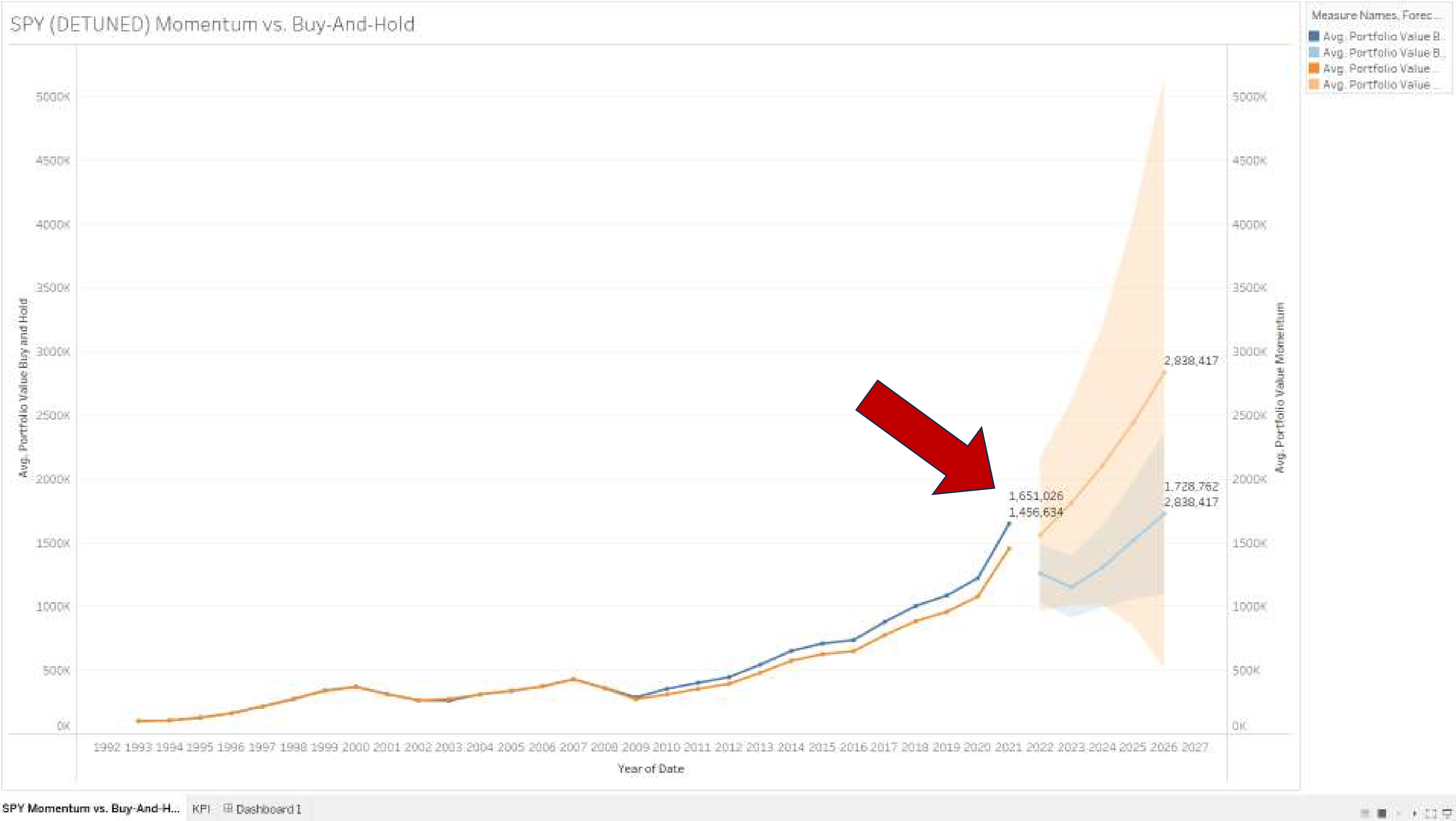
When the **R-squared (R^2) is very high**, it indicates that that the independent variable(s) in your model are doing a good job of explaining the variability in the dependent variable.

A **high F-statistic** typically indicates that the independent variables, as a group, are **statistically significant in explaining the variation in the dependent variable**. In the context of linear regression, a high F-statistic suggests that the model as a whole is a good fit for the data.

Heatmap



Correlation Heatmap
Open
High
Low
Close
Volume
Columns
1.00
1.00
1.00
1.00
-0.50
1.00
1.00
1.00
1.00
-0.49
1.00
1.00
1.00
1.00
-0.51
1.00
1.00
1.00
1.00
-0.50
-0.50
-0.49
-0.51
-0.50
1.00
Open
High
Low
Close
Volume
Columns
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
−0.4



SPY (DETUNED) Momentum vs. Buy-And-Hold
Measure Names, Forec...
Avg. Portfolio Value B...
Avg. Portfolio Value B...
Avg. Portfolio Value ...
Avg. Portfolio Value ...
Avg. Portfolio Value Buy and Hold
Avg. Portfolio Value Momentum
5000K
4500K
4000K
3500K
3000K
2500K
2000K
1500K
1000K
500K
0K
2,838,417
1,651,026
1,456,634
1,728,762
2,838,417
1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027
Year of Date
SPY Momentum vs. Buy-And-H...
KPI
Dashboard 1

Single Momentum Strategy

Portfolio Value Per Year

						Date						
2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
03,688	448,690	546,150	654,236	711,854	738,795	880,931	1,005,838	1,088,012	1,224,735	1,651,026	1,605,048	1,678,343
56,157	395,861	481,846	577,205	628,040	651,808	777,209	887,409	959,908	1,080,533	1,456,633	1,416,068	1,480,733

SPY (DETUNED) Momentum vs. Buy-And-Hold