

Backtesting/Formationserkennung

Topics



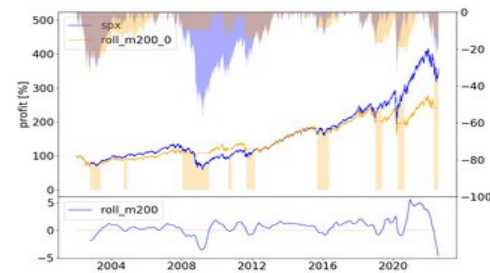
Backtesting/Formationserkennung

Topics

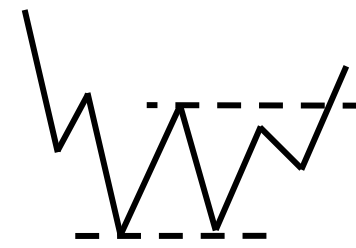
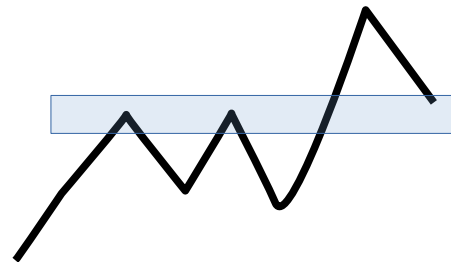
Software

```
df_EntrySignal["Entry1"] = np.where((
    (direction*df_sel_Index[calc_on] > direction*ta.SMA(df_sel_Index[calc_on], timeperiod = timeperiod)) # close > sma
    & (direction*df_sel_Index[calc_on].shift(1) < direction*ta.SMA(df_sel_Index[calc_on], timeperiod = timeperiod).shift(1)) # close_last < sma
), 1, 0)
```

Backtest/Filter



Formationen und aktuelle Beispiele



Disclaimer

Haftungsausschuss

Trading strategies are not a guarantee of success. The strategies provided are based on observations, research and experience. While trading strategies may help improve the success of your trading, they cannot guarantee it.

You should always do your own research, consider your own risk tolerance, and be aware of all the risks associated with trading. Trading strategies are not a substitute for financial advice. You should always seek the advice of a qualified financial advisor before making any trading decisions.

No strategy can protect you from losses. It is important to be aware of the risks associated with trading and understand the potential for losses when using trading strategies. Trading strategies may increase the potential for losses as well as profits.

Backtesting

Daten

Daten:

US Aktien von yahoo/stockcharts/investing

S&P 500 und Dow Jones

download mit python

Date,Open,High,Low,Close,Volume

2021-06-09,125.91,126.44,125.23,125.83,56877900

2021-06-10,125.72,126.88,124.65,124.82,71186400

2021-06-11,125.24,126.14,124.81,126.05,53522400

2021-06-14,126.51,129.21,125.77,129.15,96906500

.....

Daten pre-processing:

jedes Universum (z.B. Dow Jones) erhält weitere Daten:

Indikatoren: SMA, MACD....., letztes 200 Tagehoch,

relative Stärke, RRG, Volumen, Divergenzen, Marktbreite

Open

High

Low

Close

Volume

SMA10, 20, 50, 100, 200, 400

.....

Backtest:

python/numba

(alternativen: backtrader oder vectorbt)



Backtesting

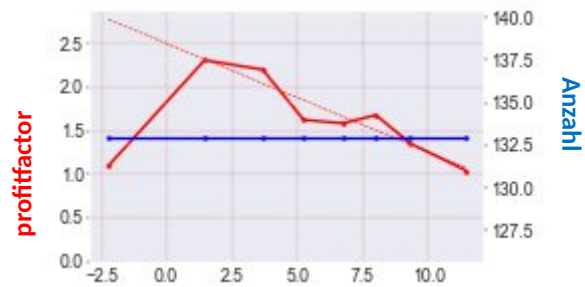
Filtertechnik

Filtern:
python/pandas

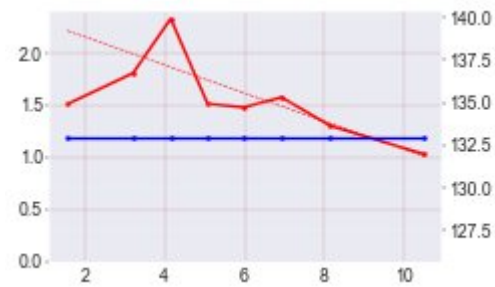
1000 Signale



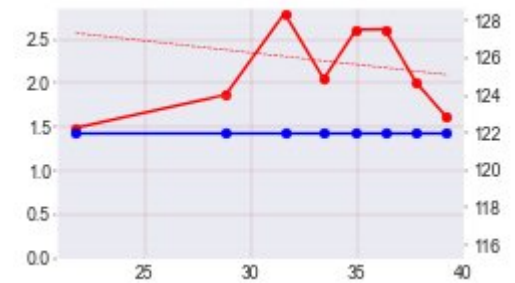
500 Signale



SPX abst sma200 atr50



abst sma200 atr50



RSI14

Backtesting

Walking forward

Walking Forward:
python/pandas



optimiert
kompletter
Zeitraum

walking forward



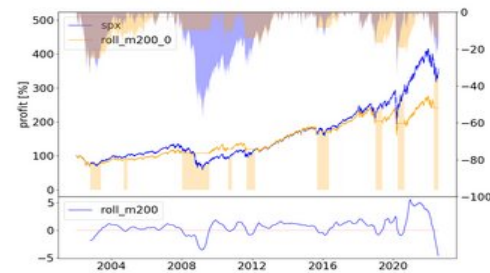
Backtesting/Formationserkennung

Topics

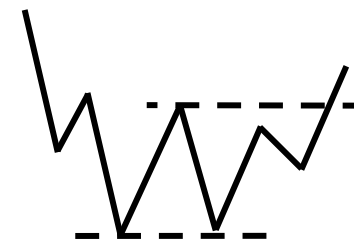
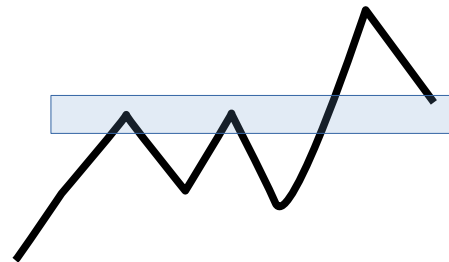
Software

```
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    & (direction*df_sel_Index[calc_on].shift(1) < direction*ta.SMA(df_sel_Index[calc_on], timeperiod = timeperiod).shift(1)) # close_last < sma
), 1, 0)
```

Backtest/Filter



Formationen



Handelssignal: Candlestick



SL=73.33, Stop-Buy=80.56

Risiko = 7.23 Euro

Risiko: 14 Aktien * 7.23 Euro = 101 Euro

Invest: 14 Aktien * 80.56 = 1128 Euro

Verkauf: 14 Aktien * 96 = 1344 Euro

Gewinn: 1344 - 1128 = 216 Euro

Profitfaktor = Summe Gewinne / Summe Verluste

Multiple Entries

Mehrere gleichzeitige Positionen



Relative Stärke

Sort by momentum 200d	Symbol	Name
1	XLE	Energy
2	XLV	Health Care
3	XLU	Utilities
4	XLI	Industrial
5	XLP	Consumer Staples
6	XLB	Materials
7	XLF	Financial
8	XLK	Technology
9	XLRE	Real Estate
10	XLY	Consumer Discretionary
11	XLC	Communication Services

Sektoren mit Zusammensetzung:

<https://stockcharts.com/freecharts/sectorsummary.html>

Relative Stärke:

Rangliste Momentum über 144 Tage

Jeden Tag neu berechnen ranking

Einstieg \geq Rang3

Exit \leq Rang5



Relative Stärke

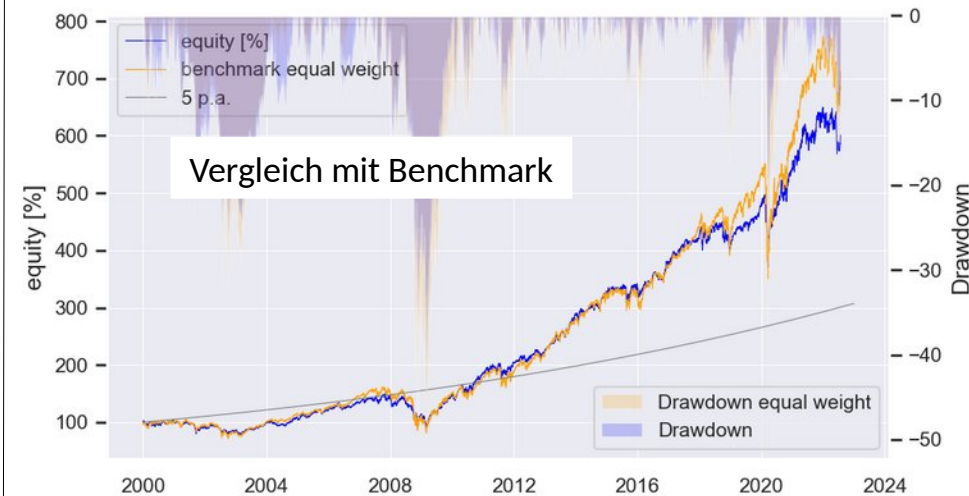
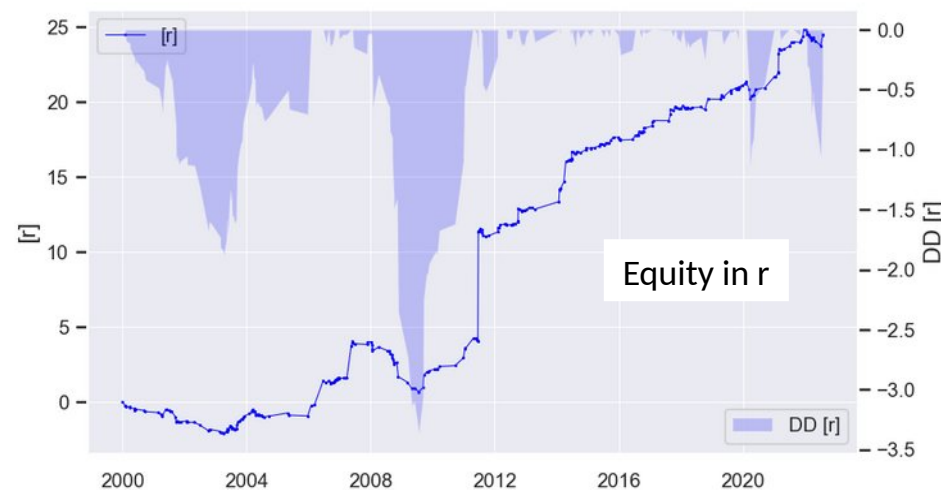
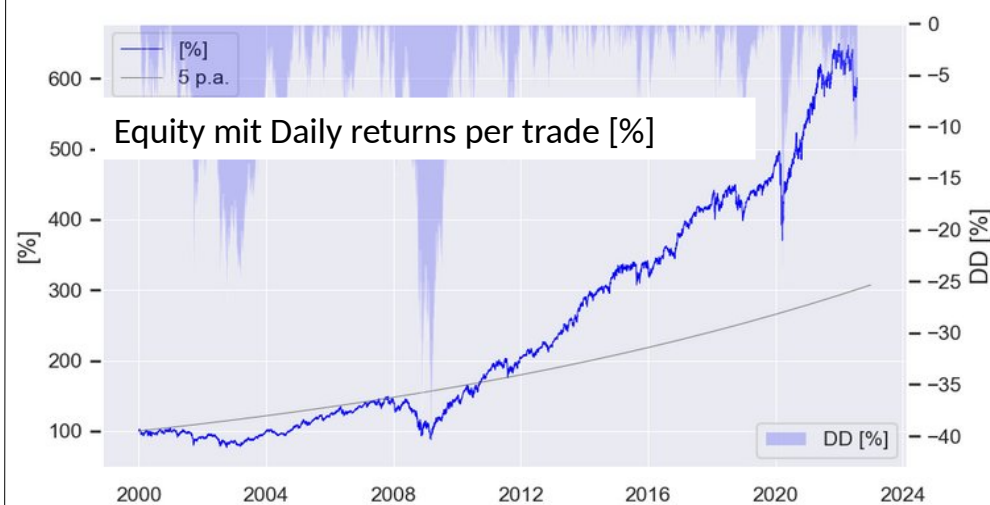
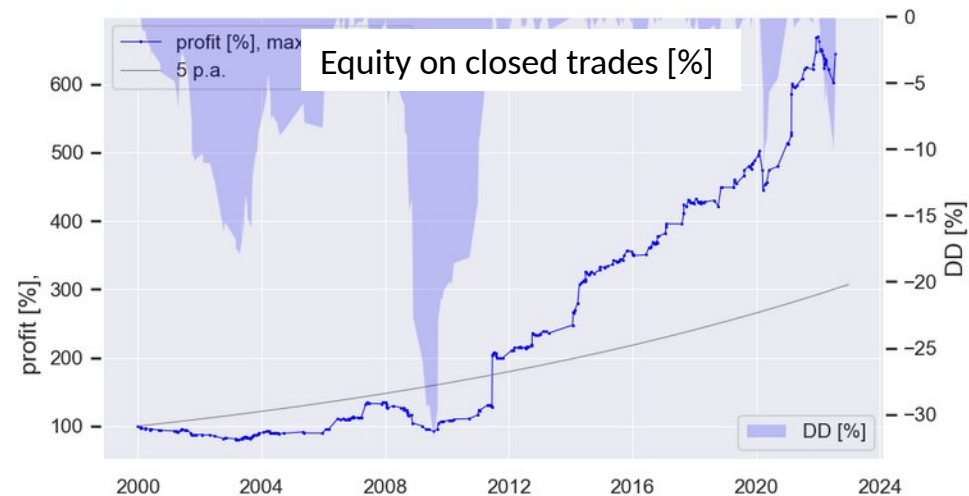
Erstellung der Rangliste



relative Stärke Ranglisten:
www.zuleeg.info/trading/

Relative Stärke

Result Backtest, verschiedene equity Kurve Darstellung

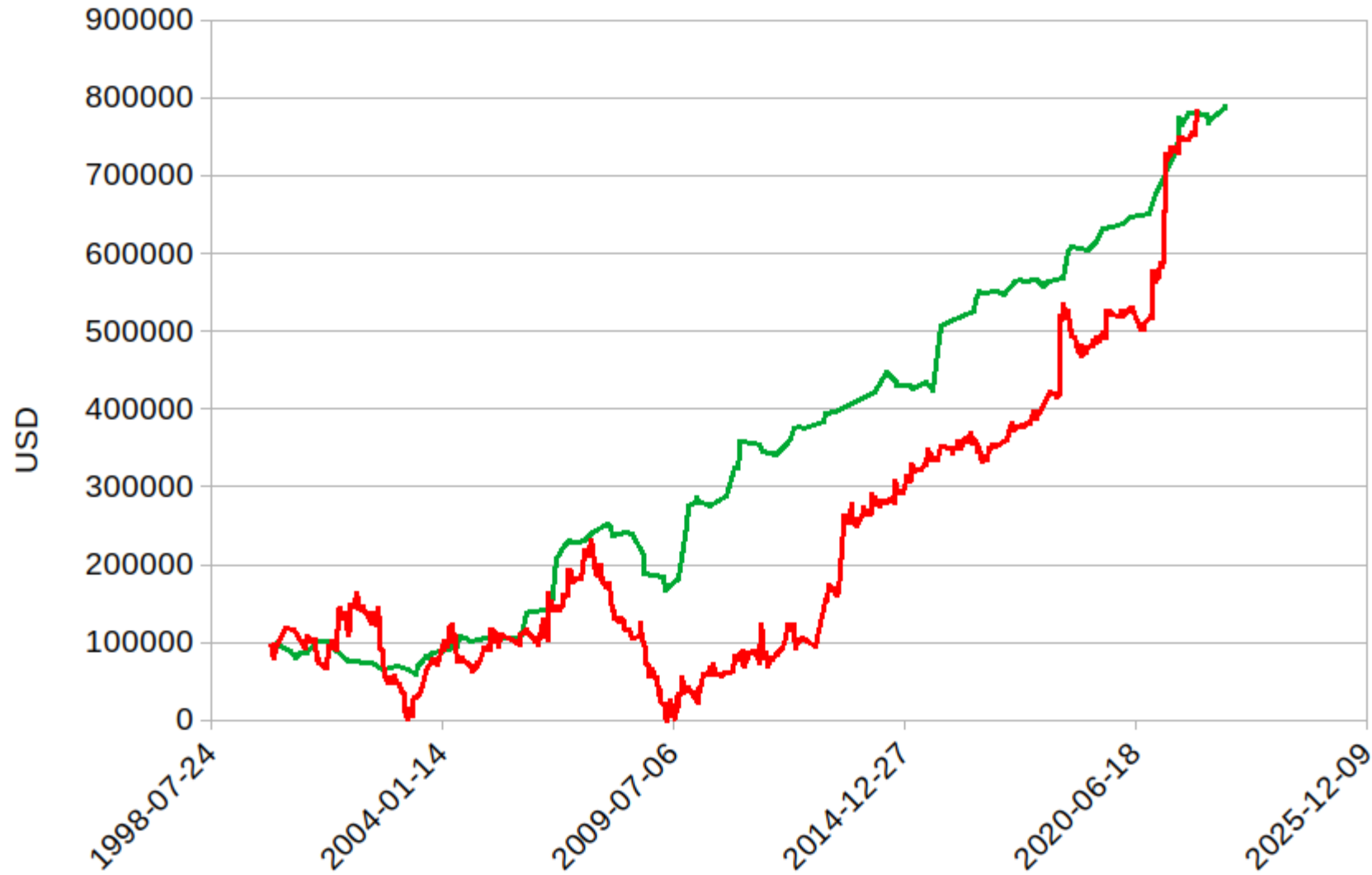


Results	
Name	Relative Stärke MOM200
Daten	11 Sektoren
Zeitraum	2000-01 ... 2022-11
Tradeanzahl	341
Profit [%]	545
maxDD [%]	41 (32 on closed trades)
CAGR [%]	7.8
Trefferquote [%]	53
return/risk (calmar)	0.25
profitfactor	2.77
Profit Buy&Hold [%]	613

Relative Stärke

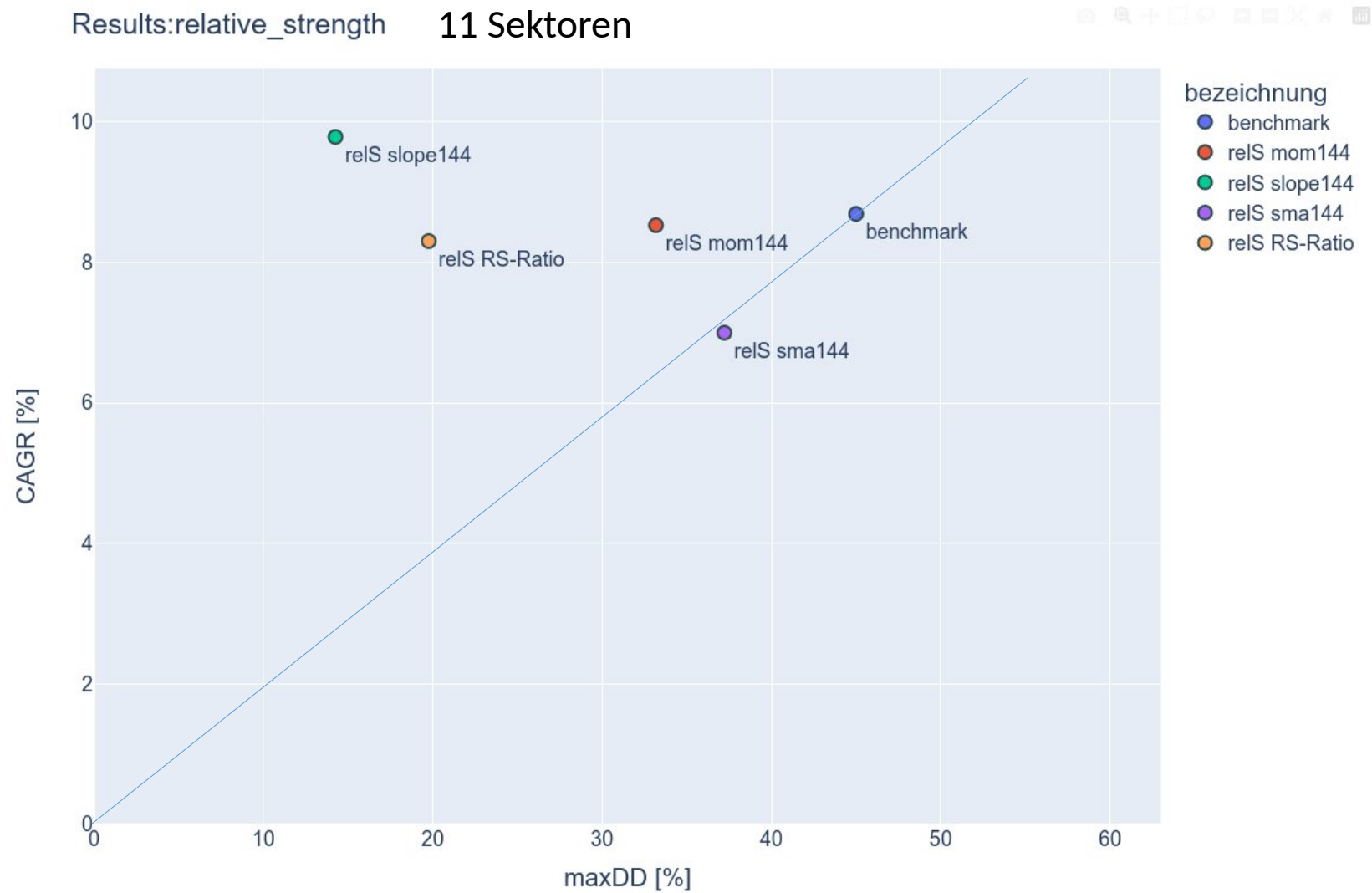
Beurteilung Setup

Theoretische Equitykurven



Relative Stärke

Beurteilung Setup

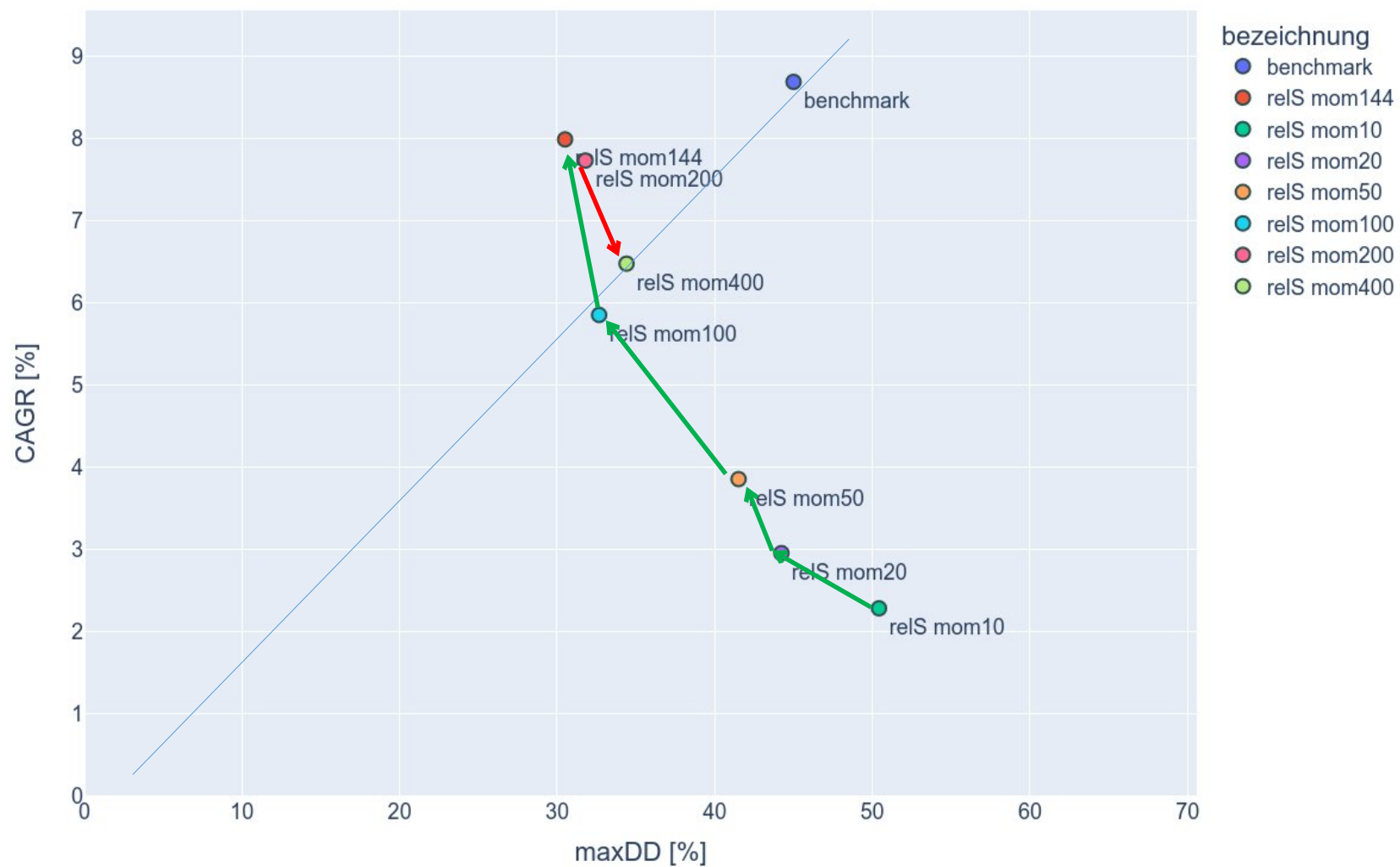


Relative Stärke

Beurteilung Setup

Results: relative_strength

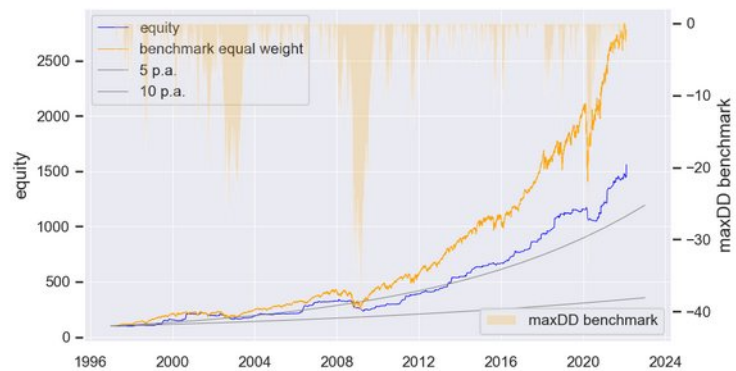
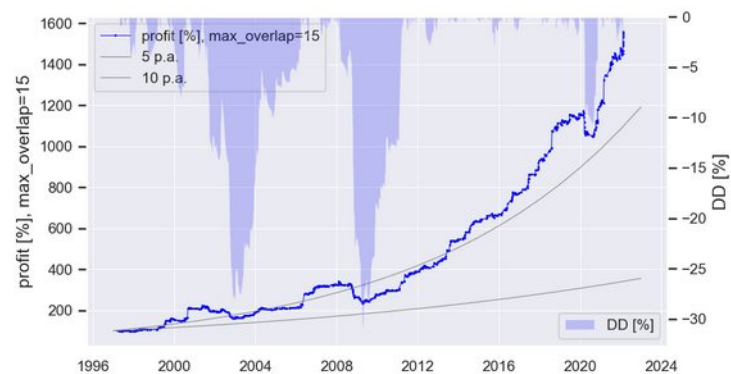
11 Sektoren



Relative Stärke

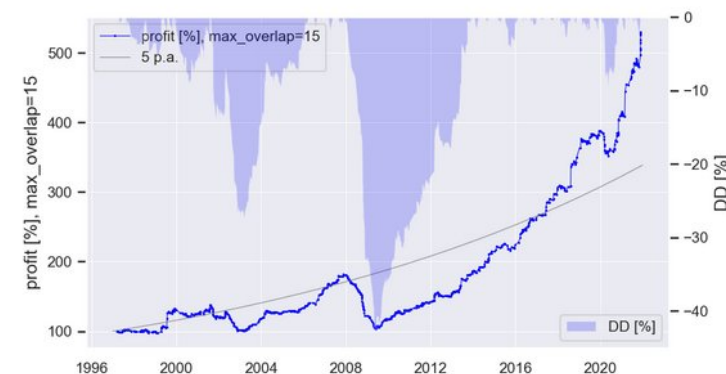
Dow Jones, aktuelle und historische Zusammensetzung, Rang 10/15

DJI 30Aktien akuelle Zusammensetzung



	relative Stärke mom144	Benchmark equal weight
Profit [%]	1459	2655
CAGR [%]	11.4	
maxDD [%]	31	42
Profitfaktor	2.58	

DJI historische Zusammensetzung



	relative Stärke mom144	Benchmark equal weight
Profit [%]	429	854
CAGR [%]	6.1	
maxDD [%]	43	57
Profitfaktor	1.88	

Datenbasis

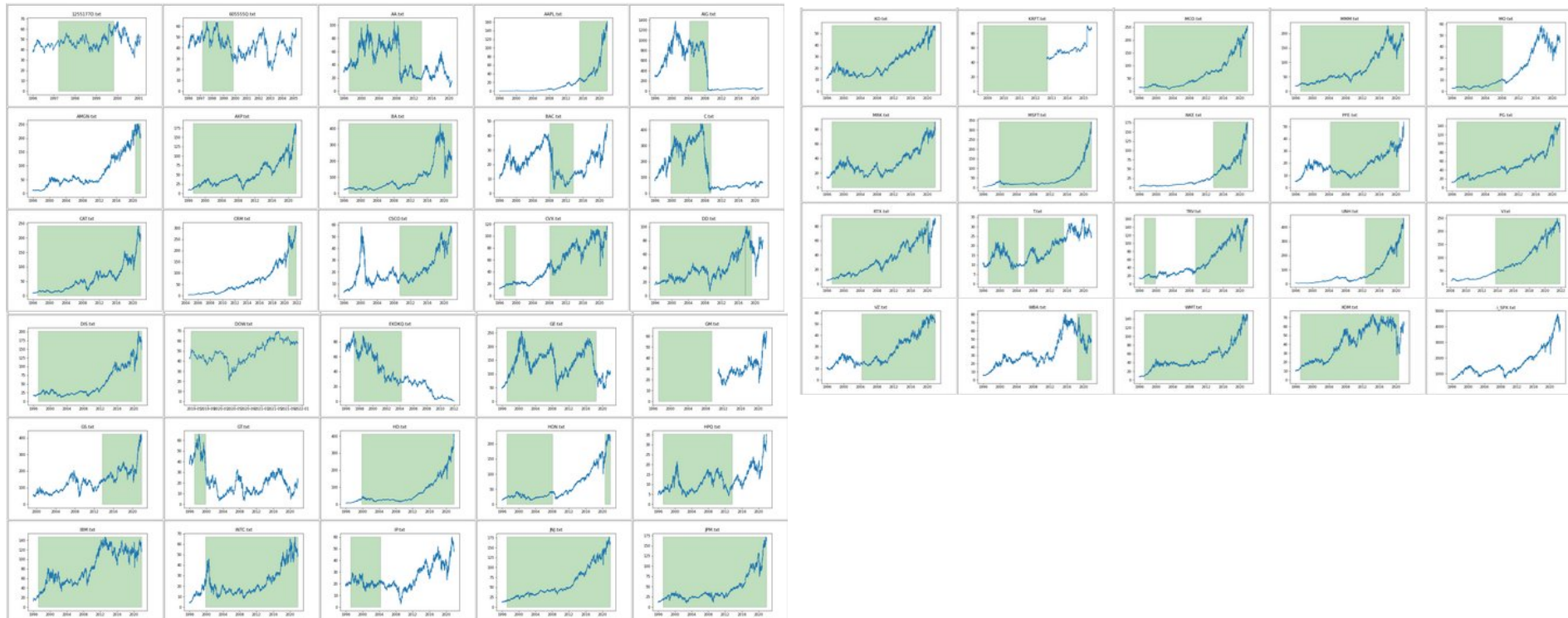
Zeitraum: 17.3.1997 bis heute

Dow Jones (\$indu)

30 Aktien heutiger Stand

49 Aktien historische Zusammensetzung

Zusammengestellt mit wikipedia



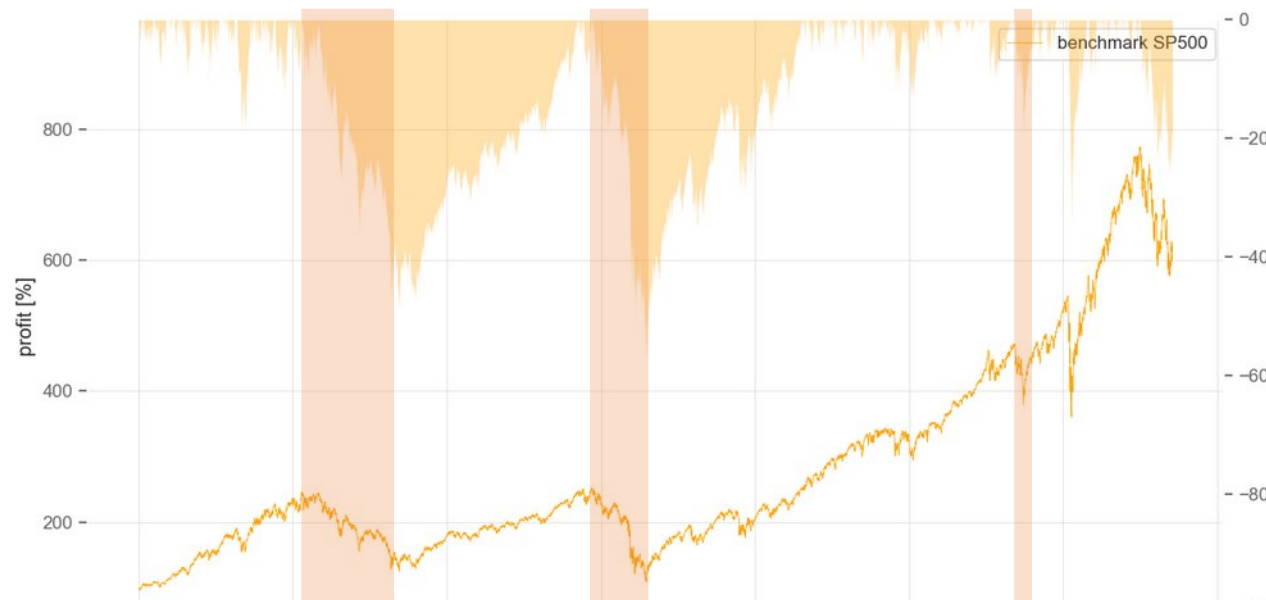
Marktfilter und Handelssetups

Es werden Bereiche rausgeschnitten, um Verlustphasen rauszunehmen und drawdowns zu verkleinern
Es sollte genauso viel oder mehr profit rauskommen, aber vor allem drawdown verkleinert werden

Datenbasis ist der S&P 500 (oder eine Handelsstrategie um schlechte Signale zu filtern)

Ideen für Filter:

<https://stocksoftresearch.com/five-stock-market-indicators/>



Backtesting with python

Question for charGPT:

[ChatGPT \(openai.com\)](https://chatgpt.com)

Message:

download S&P 500 and make a backtest with python with a sma 200 strategy and plot returns of strategy and benchmark

Answer:

```
import yfinance as yf
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
# Download S&P 500 data from Yahoo Finance
sp500 = yf.download('^GSPC', start='2010-01-01', end='2023-05-09')
# Calculate the SMA 200
sma200 = sp500['Close'].rolling(window=200).mean()
# Create a signal based on the SMA 200 crossing
signal = np.where(sp500['Close'] > sma200, 1, 0)
# Calculate daily returns of the strategy and benchmark
sp500_returns = sp500['Close'].pct_change()
strategy_returns = sp500_returns.shift(-1) * signal

# Calculate cumulative returns
cumulative_sp500_returns = (1 + sp500_returns).cumprod() - 1
cumulative_strategy_returns = (1 + strategy_returns).cumprod() - 1

# Plot cumulative returns
plt.figure(figsize=(10, 5))
plt.plot(cumulative_sp500_returns, label='S&P 500')
plt.plot(cumulative_strategy_returns, label='SMA 200 Strategy')
plt.legend()
plt.title('S&P 500 vs. SMA 200 Strategy Cumulative Returns')
plt.xlabel('Date')
plt.ylabel('Cumulative Returns')
plt.show()
```

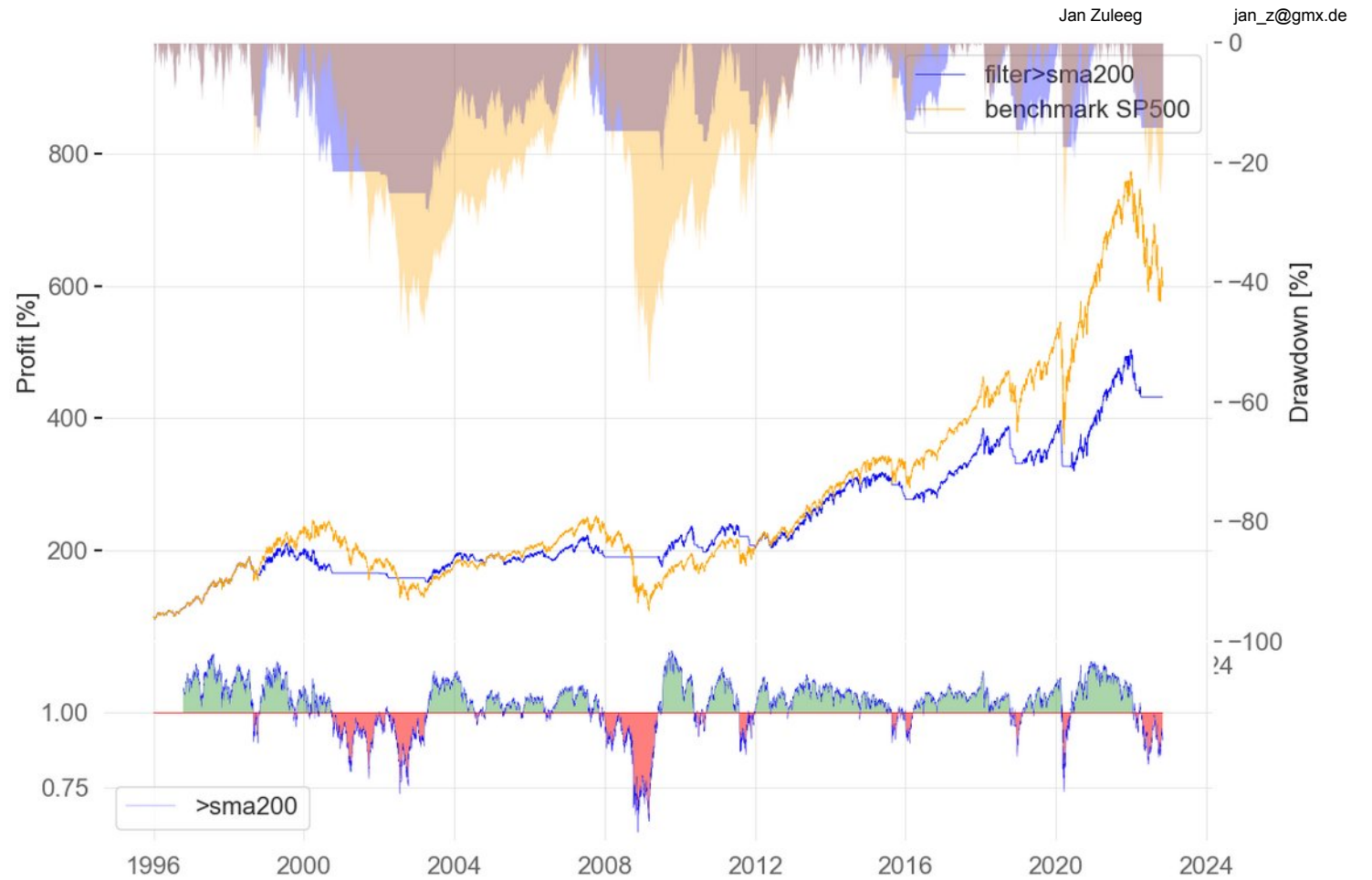
Run it here:

<https://colab.research.google.com/>

Marktfilter

SMA200

Handelslogik:
investiert nur bei
Close \geq sma200

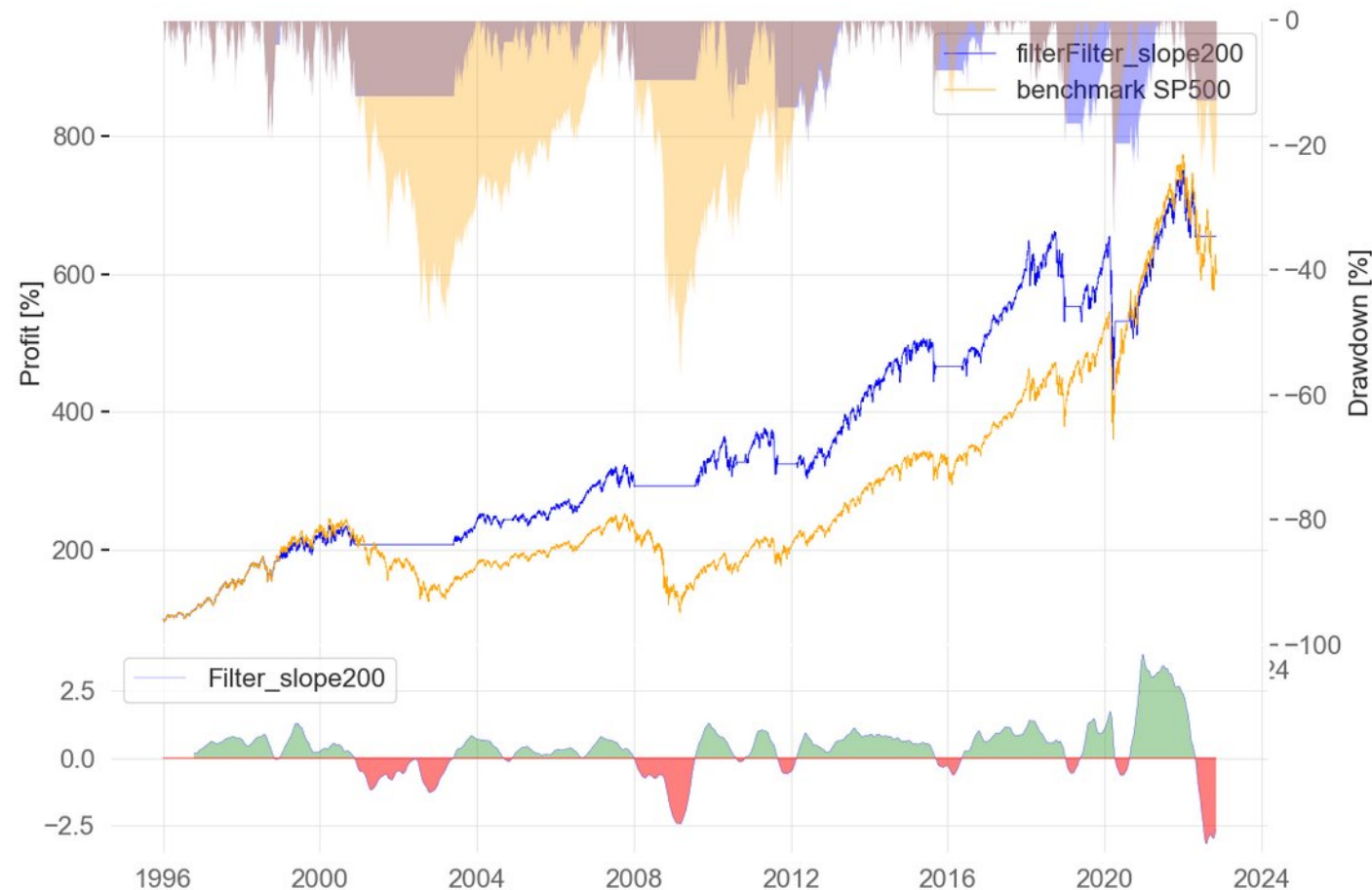


	Benchmark SPX	> SMA200
CAGR [%]	7.1	4.67
maxDD [%]	56.8	20.4
Profit [%]	535.8	332
Anzahl Signale	1	93

Marktfilter

Regression 200 Tage > 0

Handelslogik:
investiert bei:
Steigung der Regressionsgeraden
über 200 Tage ≥ 0

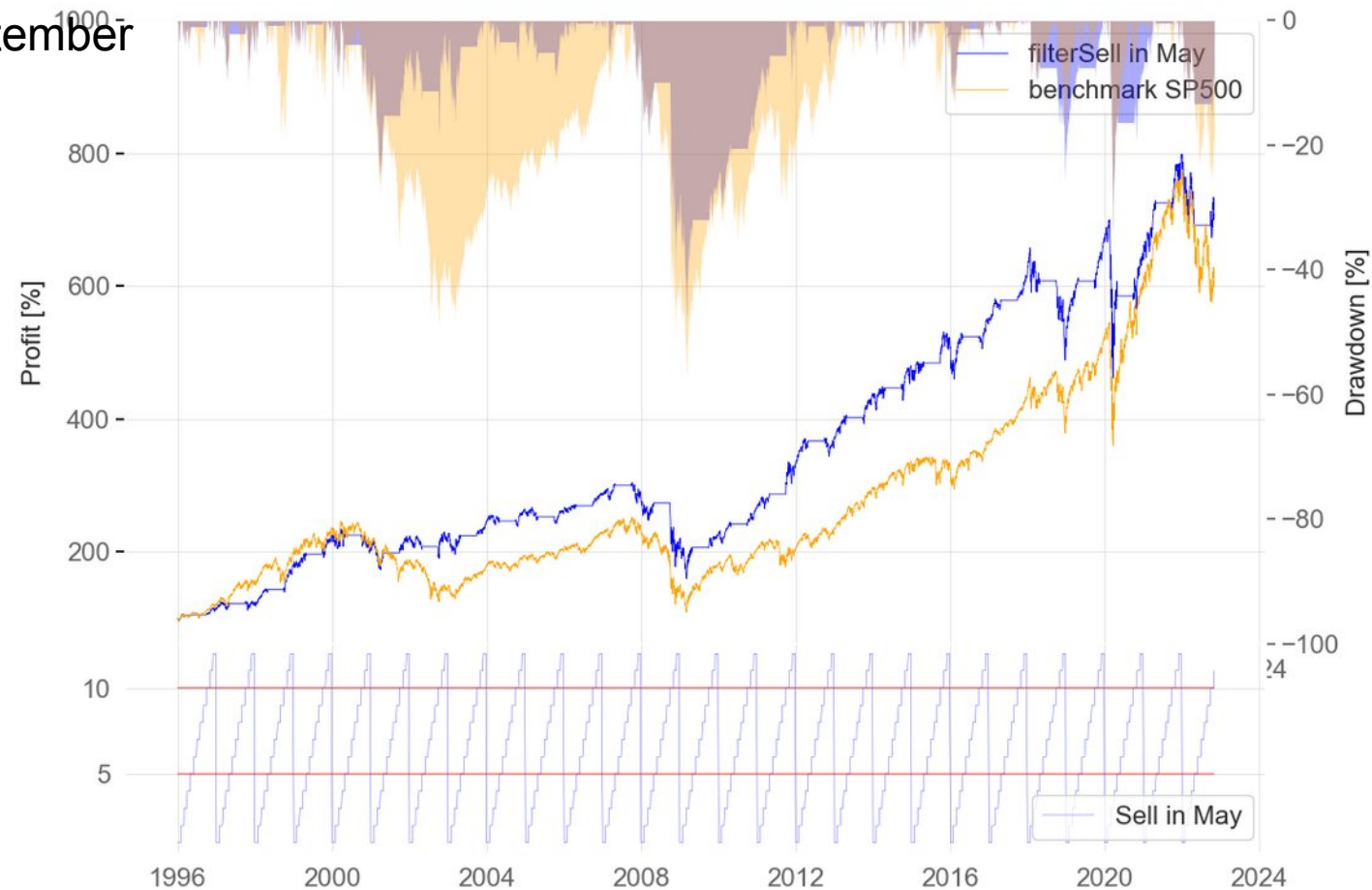


	Benchmark SPX	Regression 200d > 0
CAGR [%]	7.1	7.22
maxDD [%]	56.8	34.7
Profit [%]	535.8	555
Anzahl Signale	1	10

Marktfilter

Sell in May but remember to come back in september

Handelslogik:
investiert bei:
1.10...1.5.



	Benchmark SPX	
CAGR [%]	7.1	7.76
maxDD [%]	56.8	47.5
Profit [%]	535.8	652
Anzahl Signale	1	28

Einstiegssignale

RSI pullback

Handelslogik:

Entry:

RSI5 < 30

RSI5 < RSI5.shift(1)

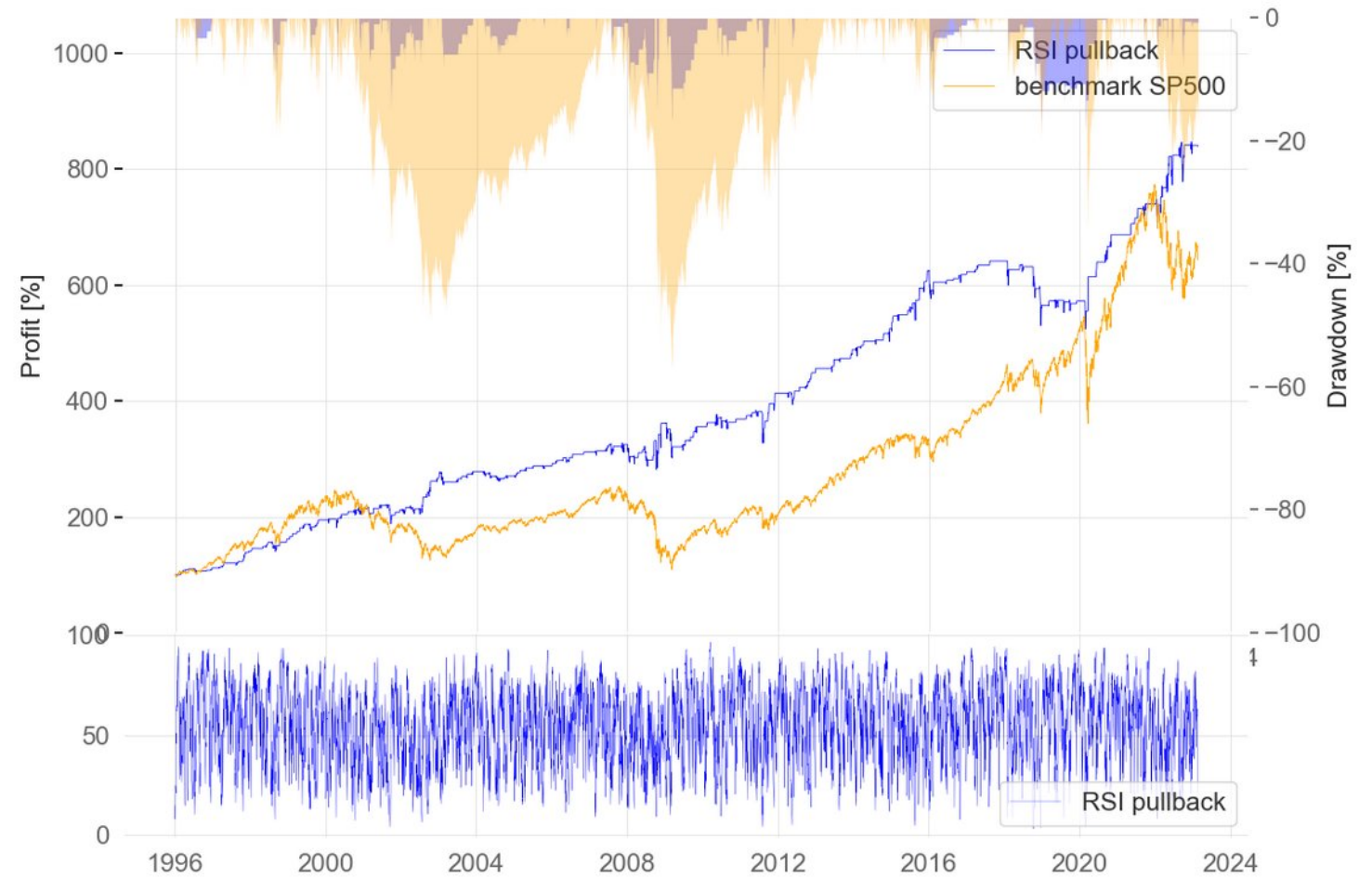
RSI5 < RSI5.shift(2)

RSI5.shift(1) < RSI5.shift(3)

RSI5.shift(2) < RSI5.shift(4)

Exit:

RSI5 > 50



	Benchmark SPX	End of Month
CAGR [%]	7.1	8.13
maxDD [%]	56.8	18.3
Profit [%]	535.8	739
Anzahl Signale	1	201

Einstiegssignale über chatGPT

Collecting News from stocks:

<https://seekingalpha.com/symbol/AXP>

<https://seekingalpha.com/symbol/AXP/news>

Zeitraum: 2021-02...2022-11

Aktien aus dem S&P500

SL=5%, TP=15%

Asking chatGPT:

<https://chat.openai.com/chat>

Openai mit API abgefragt:

from 0 to 100, how positive is the following text for stock AXP:

Credit card trends continue normalizing in February, nearing prepandemic levels

Answer from chatGPT:

I would rate the sentiment of the following text as around **70** out of **100**, which is fairly positive for the stock AXP.

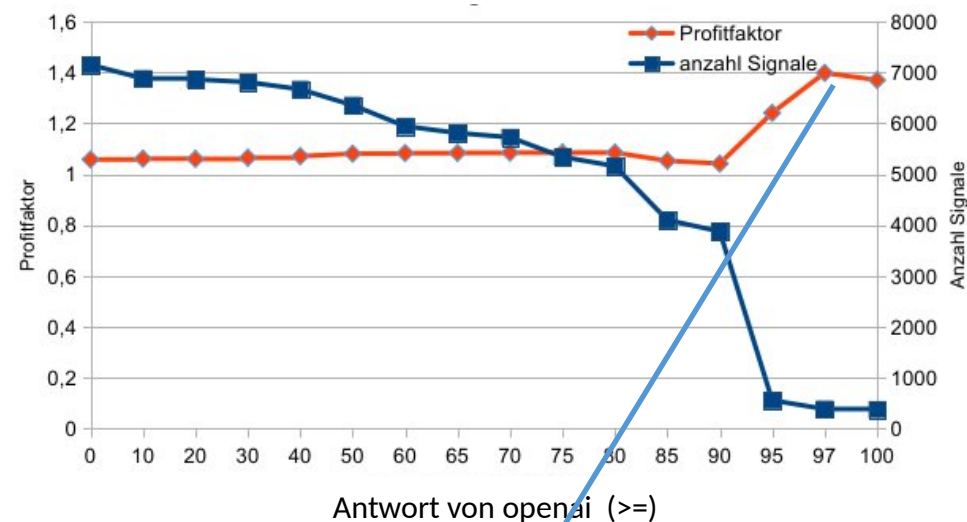
The statement suggests that the credit card trends are normalizing and nearing prepandemic levels, which indicates that there is a potential for increased demand for credit cards and related services, including those provided by AXP. This could be interpreted as a positive sign for the company's financial performance and overall outlook. However, it is important to consider other factors that may impact AXP's stock price, such as competition, regulatory changes, and broader economic conditions.

Einstiegssignale über chatGPT

Handelslogik:

Entry:

chatGPT Antwort $\geq x$
 Haltedauer 40 Tage
 kein sl/tp

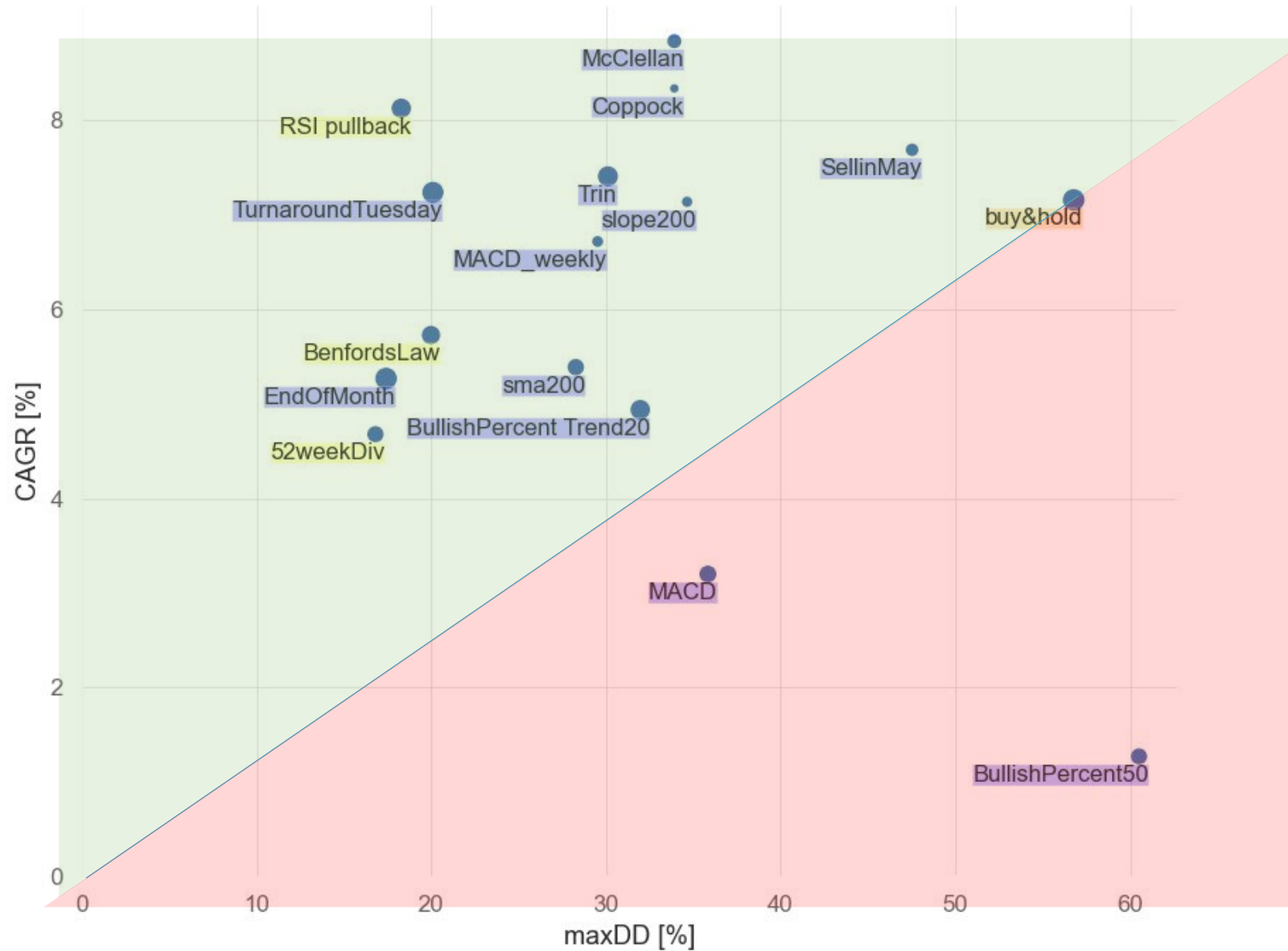


chatGPT Antwort ≥ 97



Marktfilter/Signale

Bewertung



Marktfilter/Signale

setup	Type Strategy	Strategy Name	threshold lt	threshold gt	signals	tq	time in market	pf_r	profit [%]	CAGR [%]	maxDD [%]	risk return	first quote	last quote	chart hist	chart year	status	
0	benchmark	benchmark			1	0.00	100.00	0.000	566.65	7.16	56.78	0.13	1996-01-02	2023-05-08				
2	SetupEndOfMonth_p	filter	EndOfMonth		324	60.19	24.22	1.733	304.99	5.27	17.42	0.3027	1996-01-02	2023-02-22	link	link	off	
3	SetupFilter_BullishPercent_Trend_p	filter	BullishPercent Trend20	0	206	44.17	53.37	1.663	271.13	4.94	31.97	0.1545	1996-01-11	2023-02-22	link	link	off	
4	SetupFilter_BullishPercent_p	filter	BullishPercent50	50	89	36.36	75.12	1.298	41.06	1.27	60.52	0.021	1996-01-11	2023-02-22	link	link	on	
5	SetupFilter_Coppock_p	filter	Coppock above 0	0	4	100.00	80.20	3.000	785.11	8.34	33.92	0.2458	1996-01-02	2023-02-22	link	link	off	
6	SetupFilter_MACD_p	filter	MACD above 0	0	110	38.53	66.00	1.604	135.44	3.2	35.84	0.0892	1996-01-02	2023-02-22	link	link	on	
7	SetupFilter_MACD_weekly_p	filter	MACD weekly above 0	0	14	69.23	73.61	9.831	487.88	6.72	29.53	0.2277	1996-01-02	2023-02-22	link	link	on	
8	SetupFilter_McClellan_p	filter	McClellan	70	-70	46	67.39	57.70	5.470	682.95	8.84	33.92	0.2607	1998-12-02	2023-02-22	link	link	off
9	SetupFilter_SellinMay_p	filter	Sell in May	5	10	28	77.78	58.09	5.273	650.89	7.69	47.53	0.1617	1996-01-02	2023-02-22	link	link	on
10	SetupFilter_TRIN_p	filter	Trin	1.8	0.9	232	65.37	43.49	1.872	598.50	7.41	30.12	0.2458	1996-01-02	2023-02-22	link	link	on
11	SetupFilter_slope200_p	filter	regression slope200	0	11	80.00	73.17	49.129	554.52	7.14	34.65	0.2062	1996-01-02	2023-02-22	link	link	on	
12	SetupFilter_sma200_p	filter	>sma200	1	96	22.11	72.87	2.738	317.92	5.39	28.28	0.1907	1996-01-02	2023-02-22	link	link	on	
15	Setup_TurnaroundTuesday_p	filter	TurnaroundTuesday		298	63.76	12.62	2.048	569.99	7.24	20.1	0.36	1996-01-02	2023-02-22	link	link	off	

setup	Type Strategy	Strategy Name	threshold lt	threshold gt	signals	tq	time in market	pf_r	profit [%]	CAGR [%]	maxDD [%]	risk return	first quote	last quote	chart hist	chart year	status
0	benchmark	benchmark			1	0.00	100.00	0.000	566.65	7.16	56.78	0.13	1996-01-02	2023-05-08			
1	SetupBenford_p	signal	BenfordsLaw	40	159	62.26	35.65	2.516	356.11	5.73	19.99	0.2868	1996-01-02	2023-02-22	link		
13	Setup_52weekDiv_p	signal	52weekDiv		92	72.83	6.81	3.136	247.78	4.68	16.81	0.2788	1996-01-02	2023-02-22	link		
14	Setup_RSI_p	signal	RSI pullback		201	78.00	16.67	3.021	738.92	8.13	18.29	0.4444	1996-01-02	2023-02-22	link	link	on

www.zuleeg.info/trading/

Marktfilter
Marktsignale

Marktfilter/Signale

Setups/Filter Kombinieren:

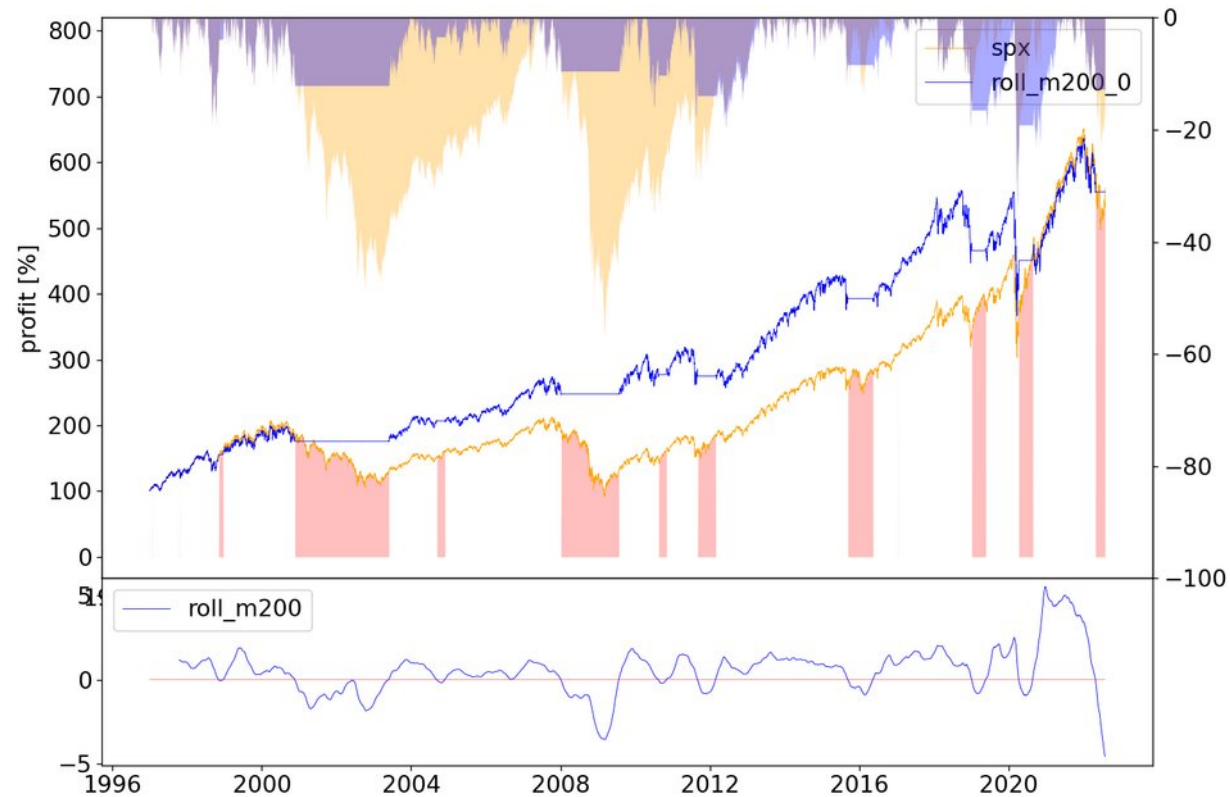
- Mehrere Setups nacheinander

- Mehrere Setups gleichzeitig (Dr. Vassil Lolov, Portfolio von Handelsstrategien für faule Trader)

<https://www.vtad.de/rgt/portfolio-von-handelsstrategien-fuer-faule-trader/>

Marktfilter

Regression 200 Tage > 0

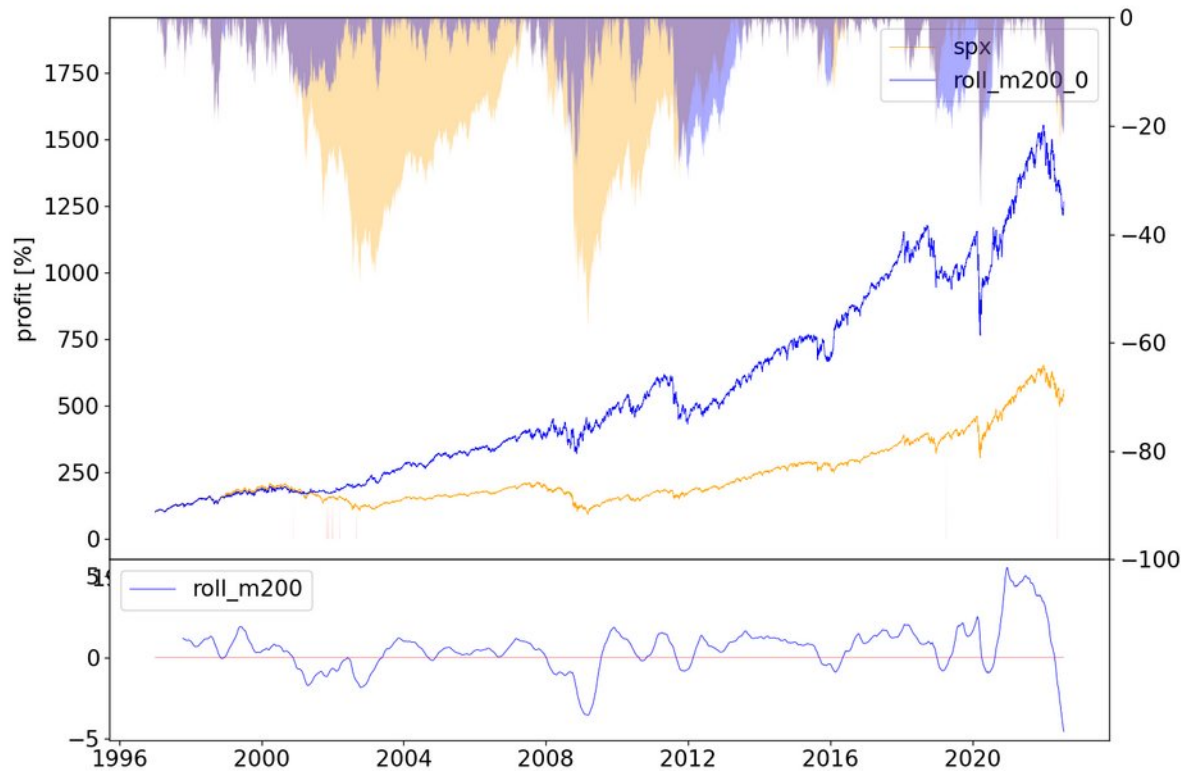


Handelslogik:
investiert bei:
Steigung der Regression 200 Tage ≥ 0

	Benchmark SPX	Regression 200d > 0
CAGR [%]	7.1	7.22
maxDD [%]	56.8	34.7
Profit [%]	535.8	555
Anzahl Signale	1	10

Marktfilter

Regression 200 Tage > 0 + XAU

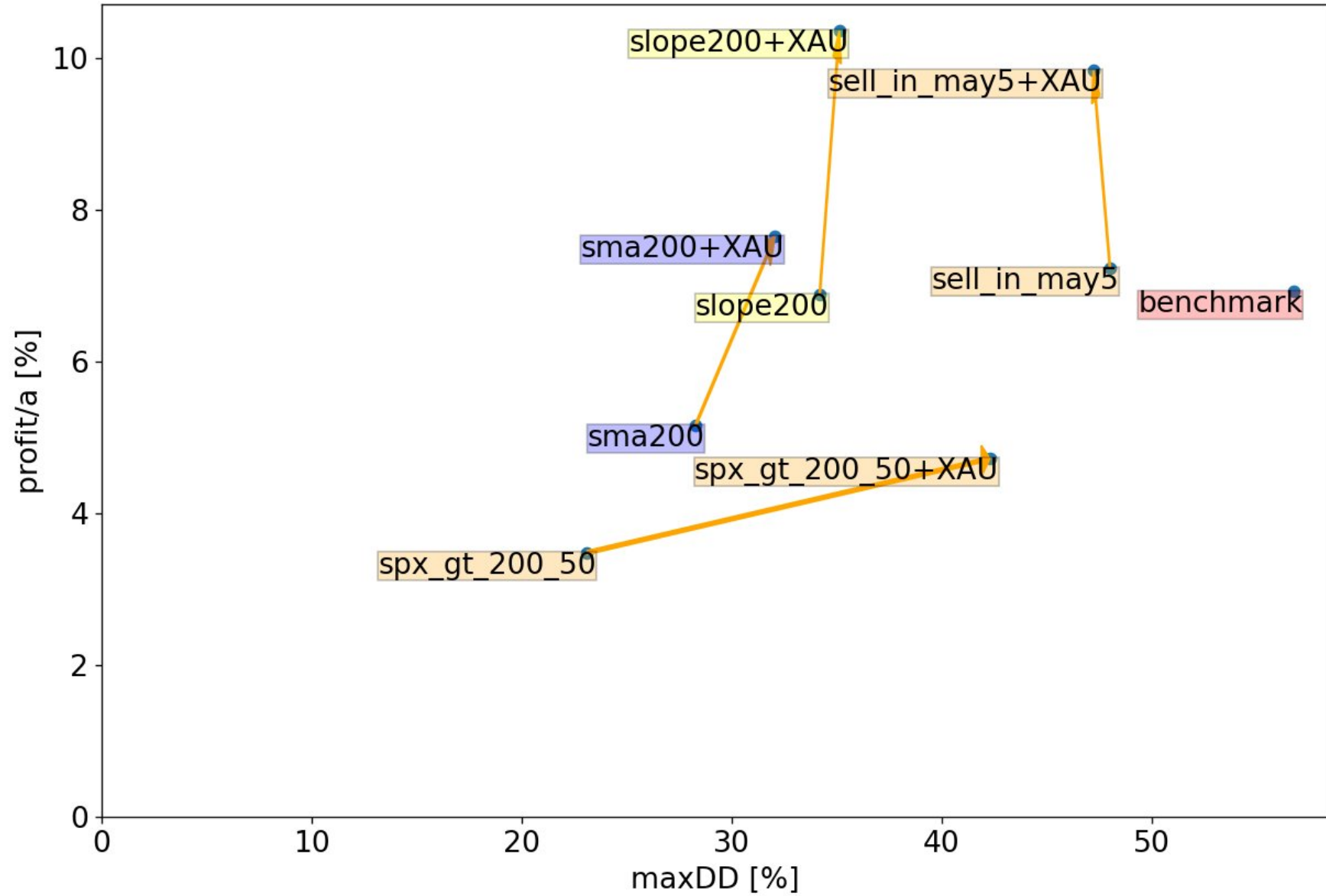


Handelslogik:
 investiert bei:
 SPX: Steigung der Regression
 200 Tage ≥ 0
 XAU: falls SPX nicht investiert

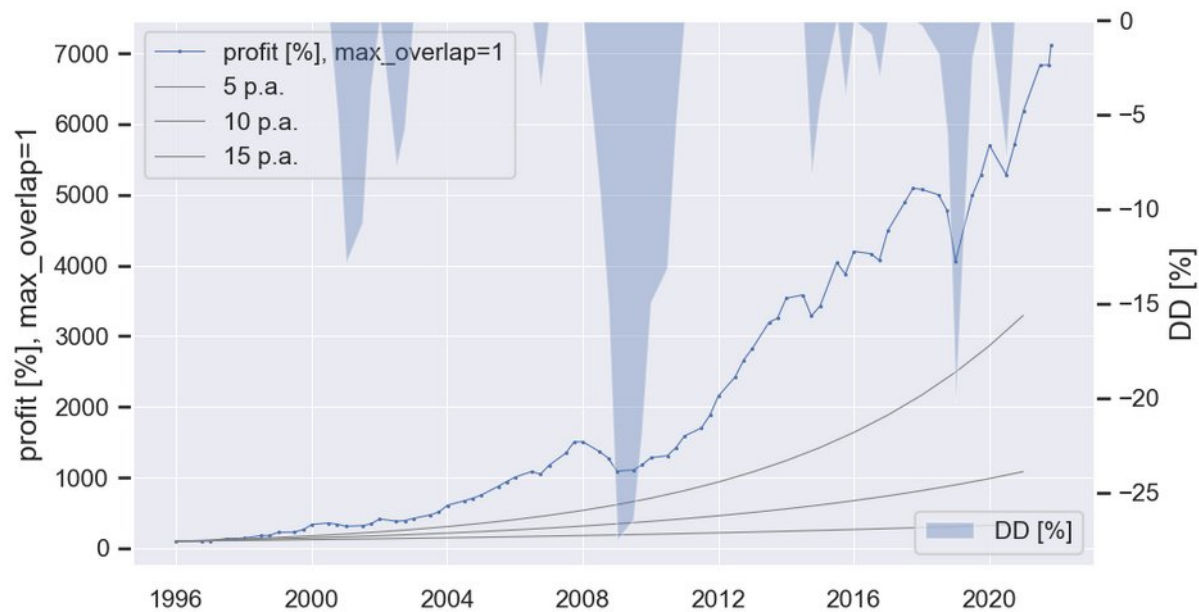
	Benchmark SPX	Regression 200d > 0	XAU wenn !SPX
CAGR [%]	7.1	7.22	10.4
maxDD [%]	56.8	34.7	35.1
Profit [%]	535.8	555	1266
Anzahl Signale	1	10	20

Marktfilter

Filter + XAU



ETF-Hamster



Results	
Name	ETF-Hamster
Signale	77
Profit [%]	7018.85
maxDD [%]	27.53 (48.9 mit dRt)
CAGR [%]	18.3
return/risk	0.66 (0.37)
profitfactor	5.9
return/risk [r]	17,4
Profit Buy&Hold [%]	ca. 950

Handelslogik:

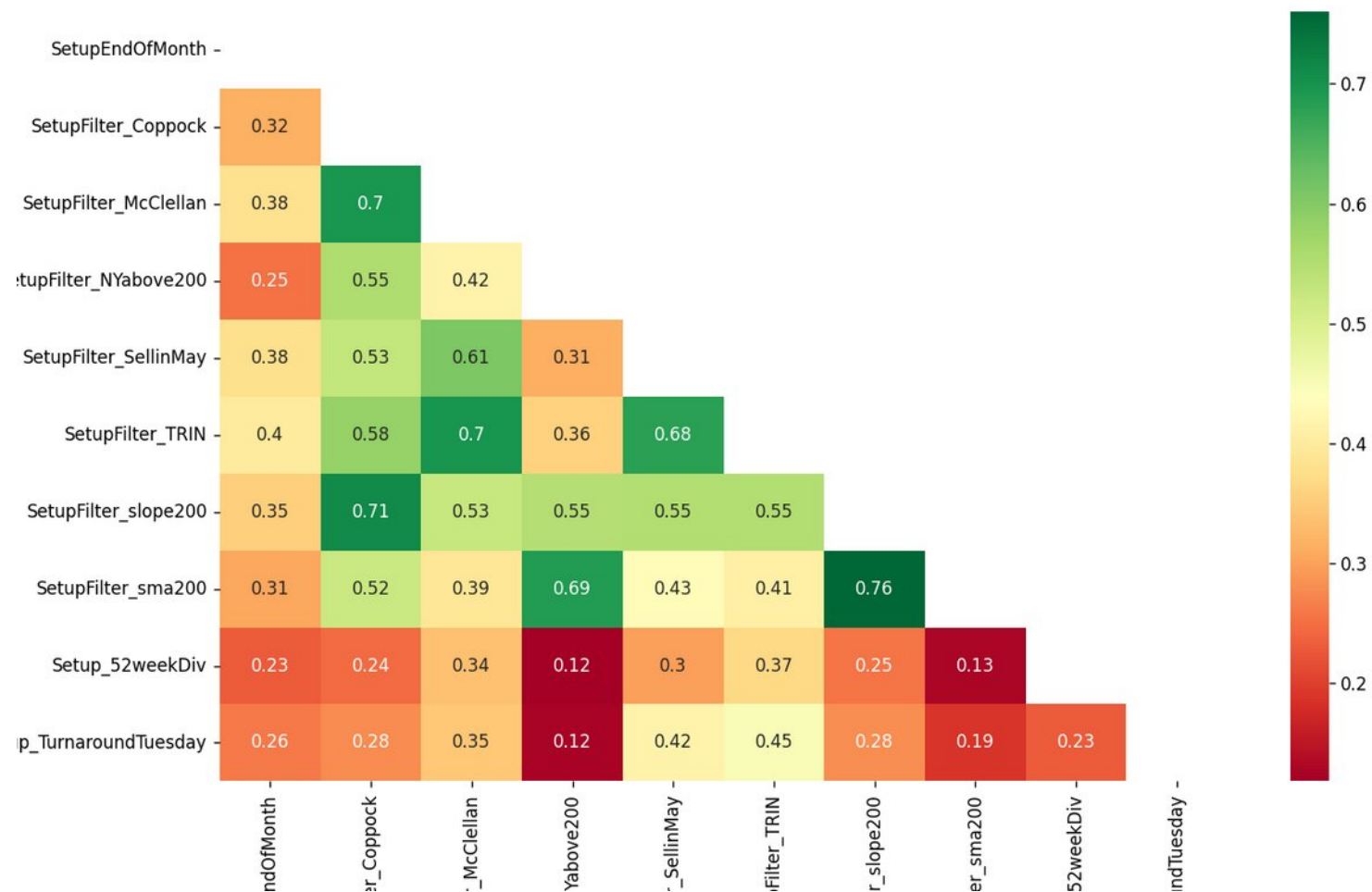
1.1. - 1.7. MDAX

1.7. - 1.10. Gold

1.10. - 1.1. DAX

Marktfilter/Signale

Korrelationen



Marktfilter/Signale

SetupEndOfMonth

SetupFilter_TRE

SetupFilter_slope200

SetupFilter_McClellan

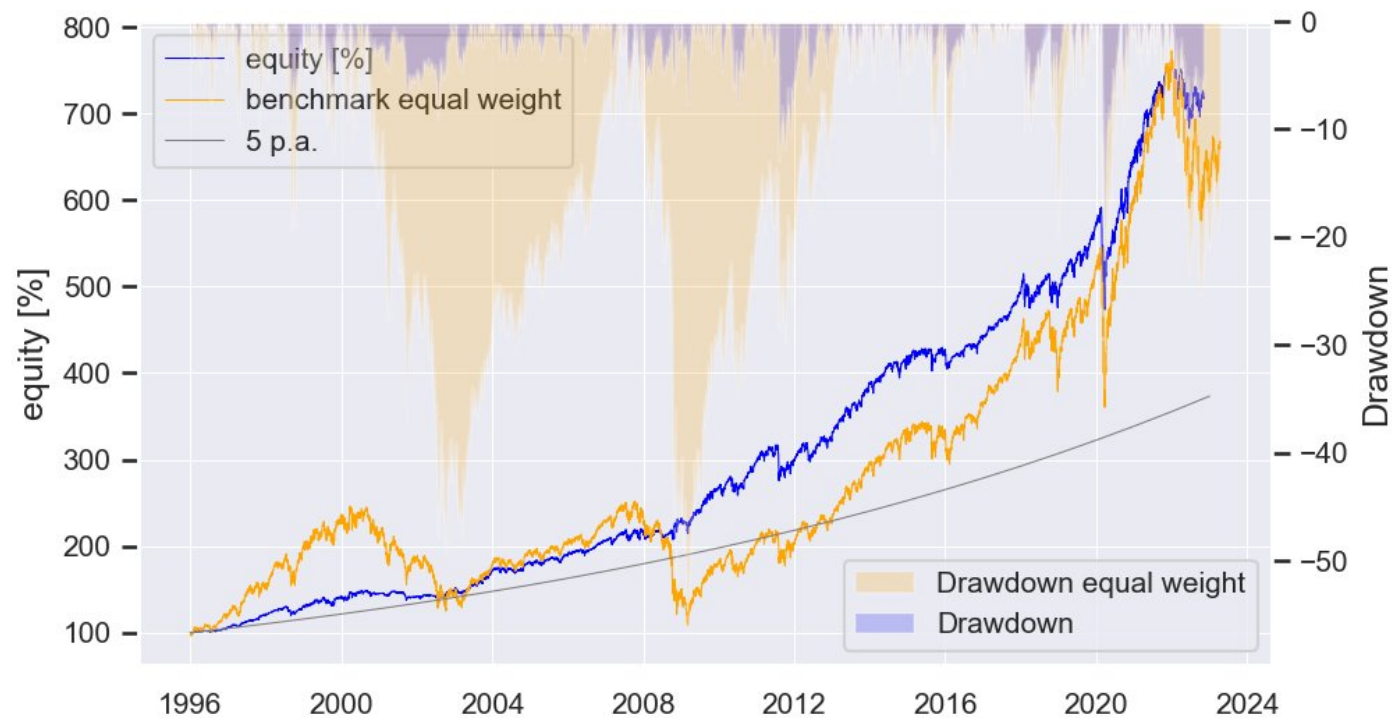
SetupFilter_MACD_weekly

SetupFilter_Coppock]

Setup_RSI

Setup_TurnaroundTuesday

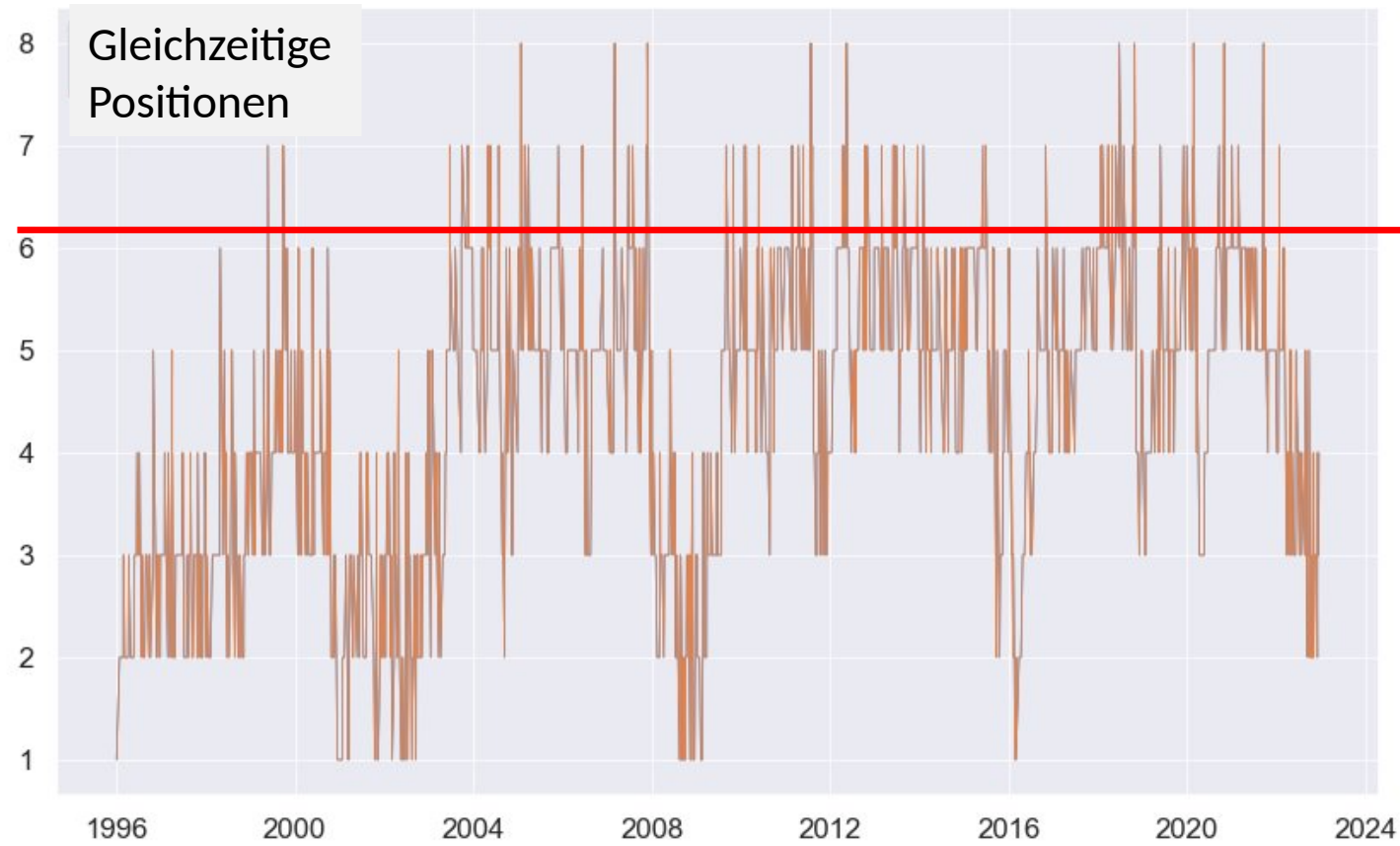
Setup_52weekDiv



Results	
Name	9-Filter/Setups
Signale	1238
Profit [%]	574
maxDD [%]	17
CAGR [%]	6.7
profitfactor	2.9
Underlying	SPX
Profit Buy&Hold [%]	535.8

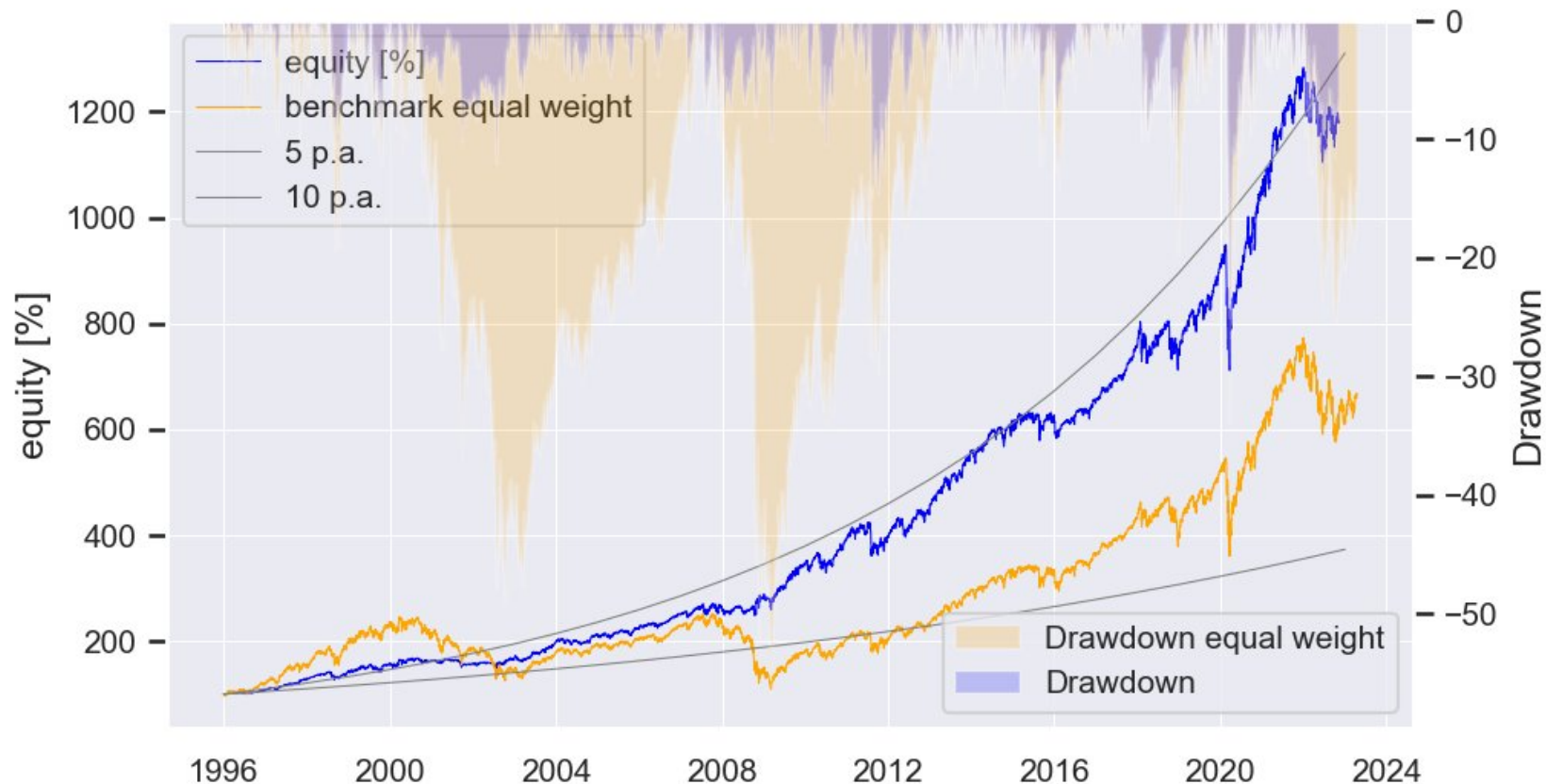
Marktfilter/Signale

Anzahl gleichzeitige Positionen



Marktfilter/Signale

Nur 6 gleichzeitige Positionen erlaubt



Results	
Name	9-Filter/Setups
Signale	1197
Profit [%]	1090
maxDD [%]	20
CAGR [%]	8.9
profitfactor	2.88
Underlying	SPX
Profit Buy&Hold [%]	535.8

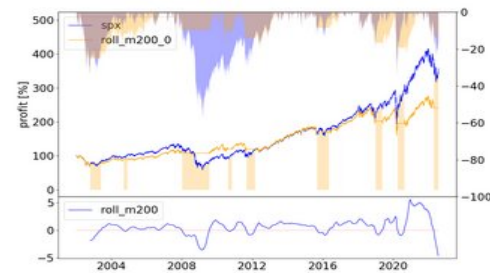
Backtesting/Formationserkennung

Topics

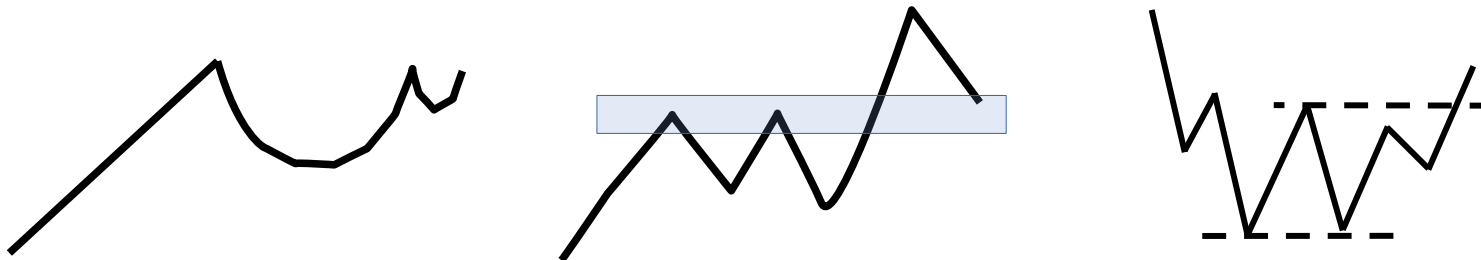
Software

```
df_EntrySignal["Entry1"] = np.where((
    (direction*df_sel_Index[calc_on] > direction*ta.SMA(df_sel_Index[calc_on], timeperiod = timeperiod)) # close > sma
    & (direction*df_sel_Index[calc_on].shift(1) < direction*ta.SMA(df_sel_Index[calc_on], timeperiod = timeperiod).shift(1)) # close_last < sma
), 1, 0)
```

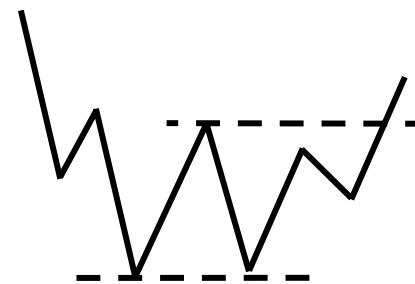
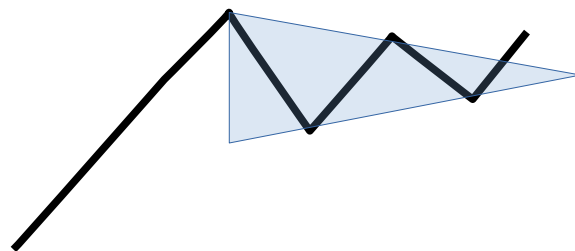
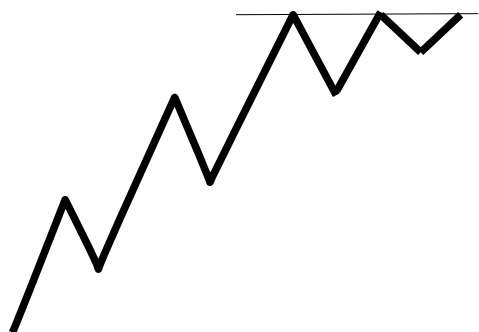
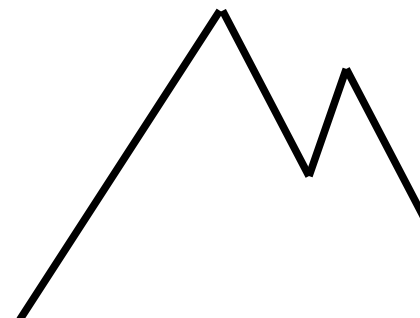
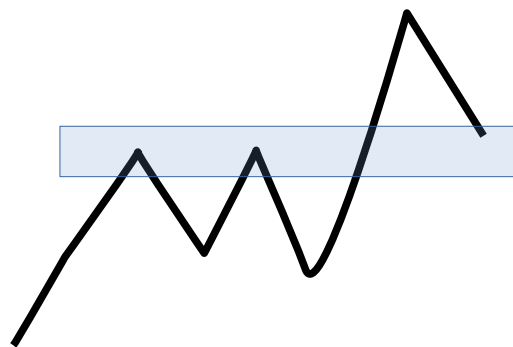
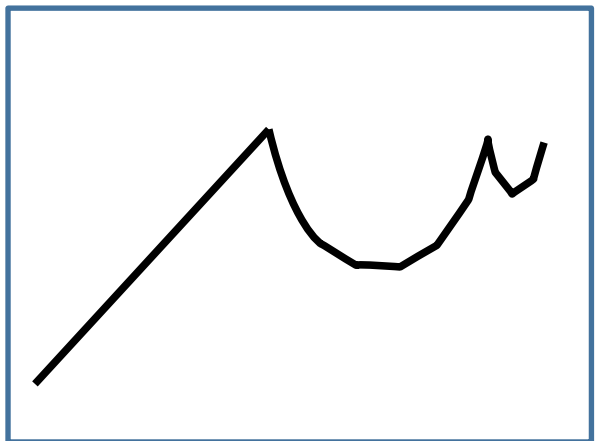
Backtest/Filter



Formationen



Formationserkennung

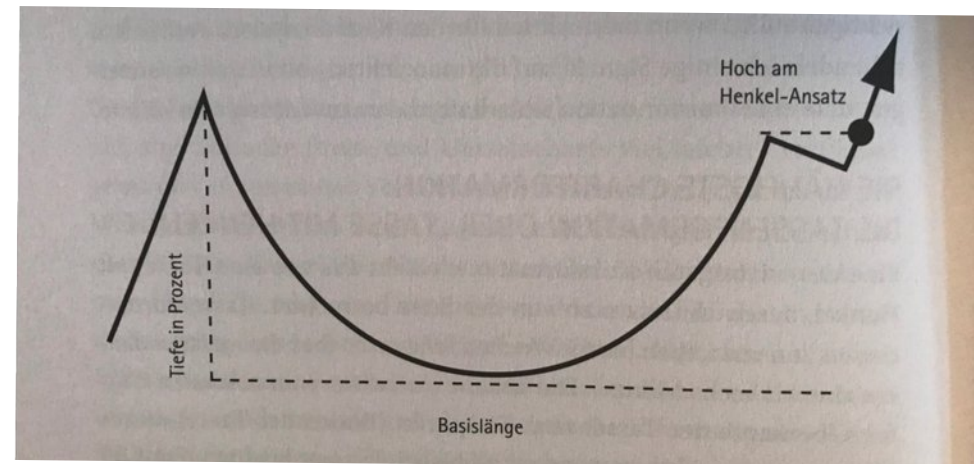


Formationserkennung

Tasse-Henkel



C	Current quarterly earnings
A	Annual earnings growth
N	New products
S	Supply and demand
L	Leader oder laggard
I	Institutional sponsorship
M	Market direction



Formationserkennung

Tasse-Henkel Formation: WCG (Wellcare Health Plans)



200 Tage Hoch = 400 Tage Hoch
50 Tage Hoch < 200 Tage Hoch

Formationserkennung

Tasse-Henkel Formation: WCG (Wellcare Health Plans)



200 Tage Hoch = 400 Tage Hoch
 50 Tage Hoch < 200 Tage Hoch

Tasse gefüllt $\geq 75\%$
 Henkel Retracement $\leq 75\%$
 Henkel Länge ≥ 8 Tage
 Tasse Länge ≤ 200

Formationserkennung

Tasse-Henkel Formation: WCG (Wellcare Health Plans)



SL: tiefster Kurs Henkel , mindestens $2 \cdot \text{atr}(21)$

TP: entry + Tassentiefe

Entry: Ausbruch Henkel (High), next open

Exit: Close > TP , next open

Zusatzinfos:

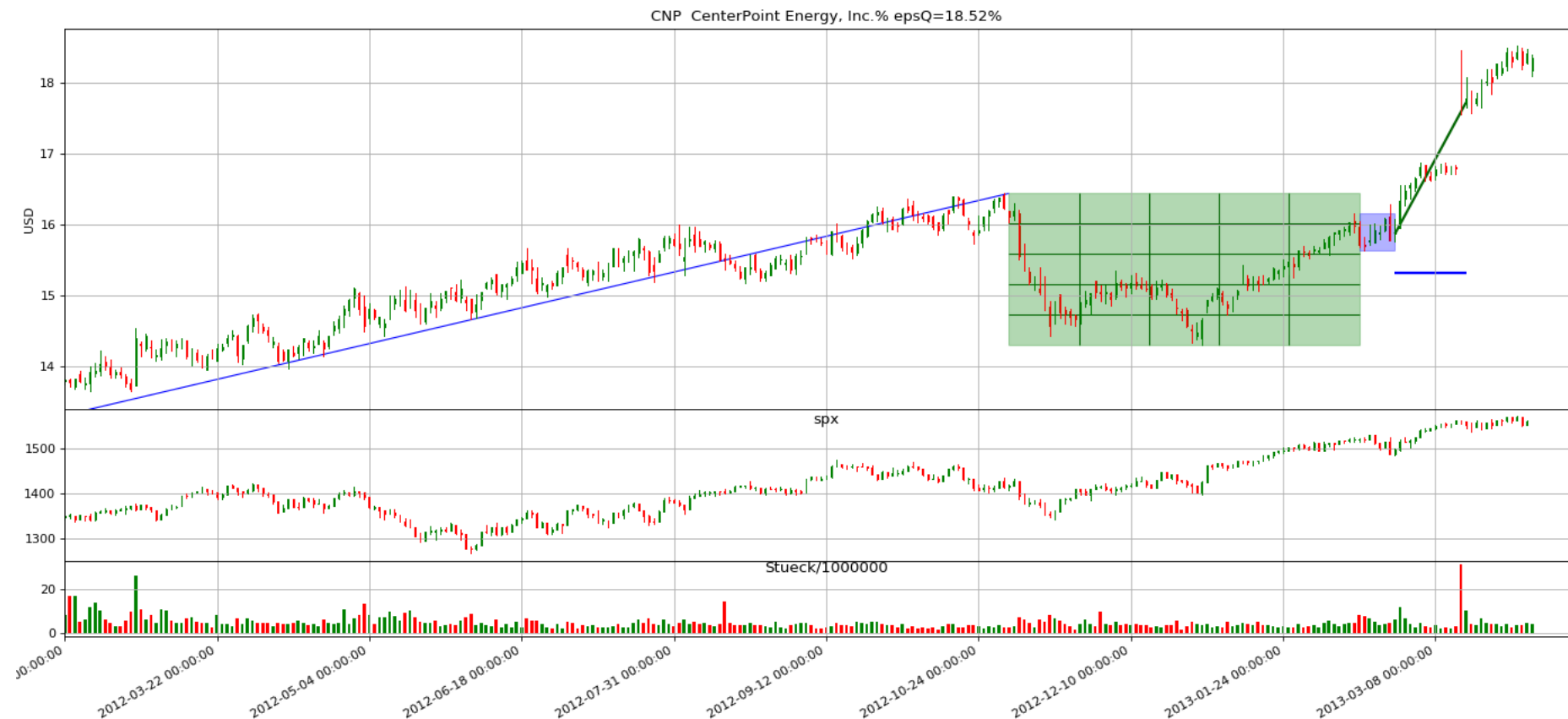
Vorgeschichte (2-fache Tassenlänge):

Steigung, Retracement

Volumen: Tasse Teil1, Tasse Teil2, Henkel

Formationserkennung

Tasse-Henkel



SL: tiefster Kurs Henkel, mindestens $2 \cdot \text{atr}(21)$

TP: open + Tassentiefe

Entry: Ausbruch Henkel (High), next open

Exit: Close > TP, next open

Ergebnis in r (Risiko)

Formationserkennung

Backtest Tasse-Henkel

Daten:

Kursdaten EOD ab 1.1.2000: stockcharts.com, yahoo.com

S&P 500

Fundamental: finviz (aktuell) und stockpup.com historisch

Mustererkennung/Signale:

Python, pandas

Backtest:

Python Moduk Backtrader (backtrader.com)

Mehrere Symbole warden parallel gerechnet

Mehrere Trades pro Symbol erlaubt

Filtern/Optimierung

Formationserkennung

Backtest Tasse-Henkel - Ergebnisse

Tasse-Henkel als Signalgeber

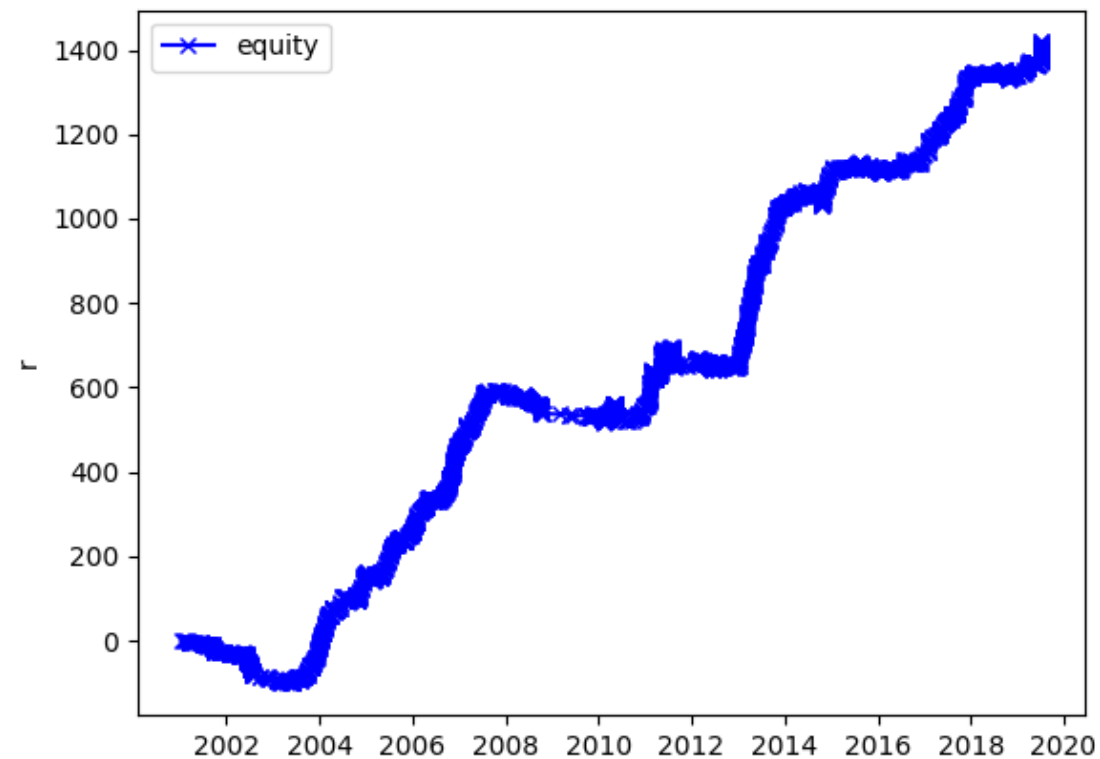
S&P 500, aktuelle Zusammensetzung seit 1.1.2000

Profitfaktor: 2,15

2197 Trades

43% Trefferquote

Durchschnittl. Dauer: 75 Tage



Aufteilen der Daten:

In-sample 2/3

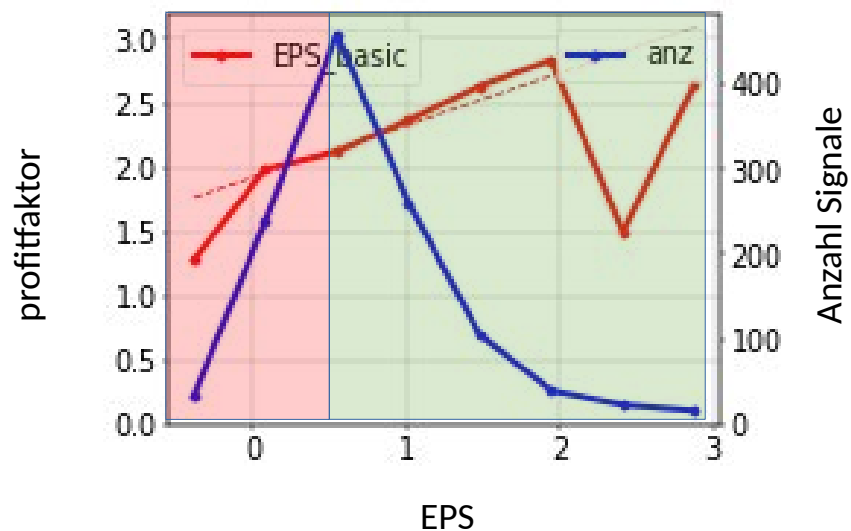
1464 trades

Out-of-sample 1/3

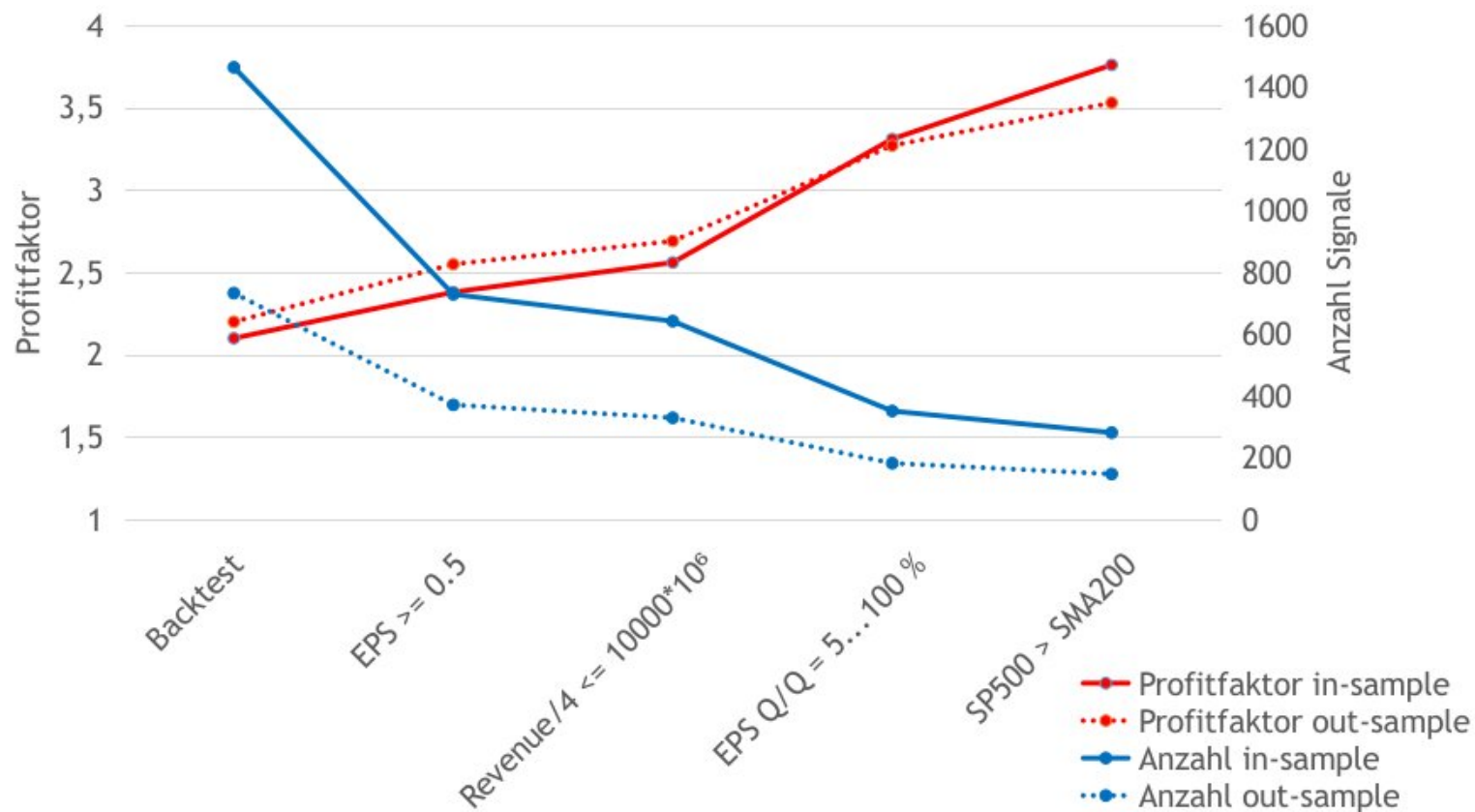
733 trades

Formationserkennung

Backtest Tasse-Henkel - Optimierung



EPS \geq 0.5
 Profitfaktor steigt
 von 2,15 auf 2,38



Formationserkennung

Backtest Tasse-Henkel – Fundamentaldaten von finviz

ADBE [NASDAQ]
Adobe Inc.
 Technology | Application Software | USA

Index	S&P 500	P/E	54.41	EPS (ttm)	5.42	Insider Own	0.10%
Market Cap	144.56B	Forward P/E	30.24	EPS next Y	9.75	Insider Trans	-15.23%
Income	2.68B	PEG	2.36	EPS next Q	1.97	Inst Own	89.70%
Sales	10.10B	P/S	14.31	EPS this Y	65.00%	Inst Trans	-0.04%
Book/sh	20.37	P/B	14.47	EPS next Y	24.80%	ROA	14.50%
Cash/sh	7.10	P/C	41.55	EPS next 5Y	23.10%	ROE	27.90%
Dividend	-	P/FCF	37.55	EPS past 5Y	58.10%	ROI	20.90%
Dividend %	-	Quick Ratio	0.70	Sales past 5Y	17.40%	Gross Margin	85.60%
Employees	21357	Current Ratio	0.70	Sales Q/Q	25.00%	Oper. Margin	28.50%
Optionable	Yes	Debt/Eq	0.42	EPS Q/Q	-7.40%	Profit Margin	26.20%
Shortable	Yes	LT Debt/Eq	0.10	Earnings	Sep 17 AMC	Payout	0.00%
Recom	2.00	SMA20	-3.66%	SMA50	-1.07%	SMA200	10.20%

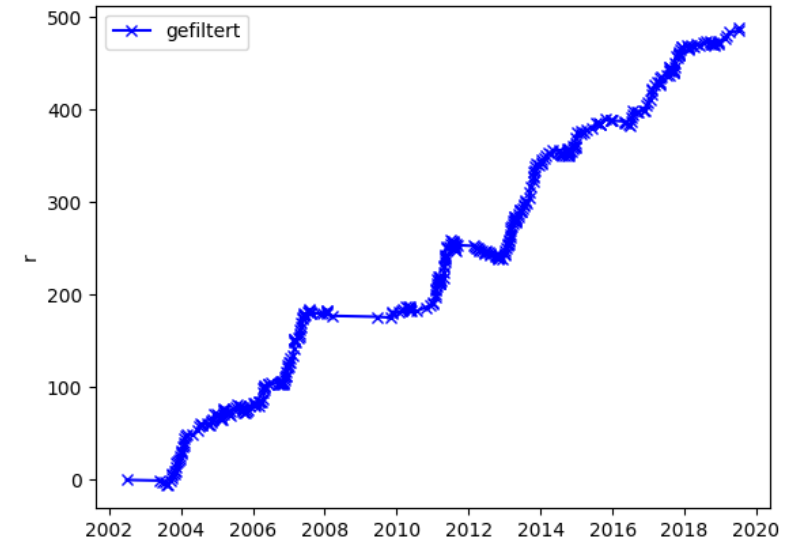
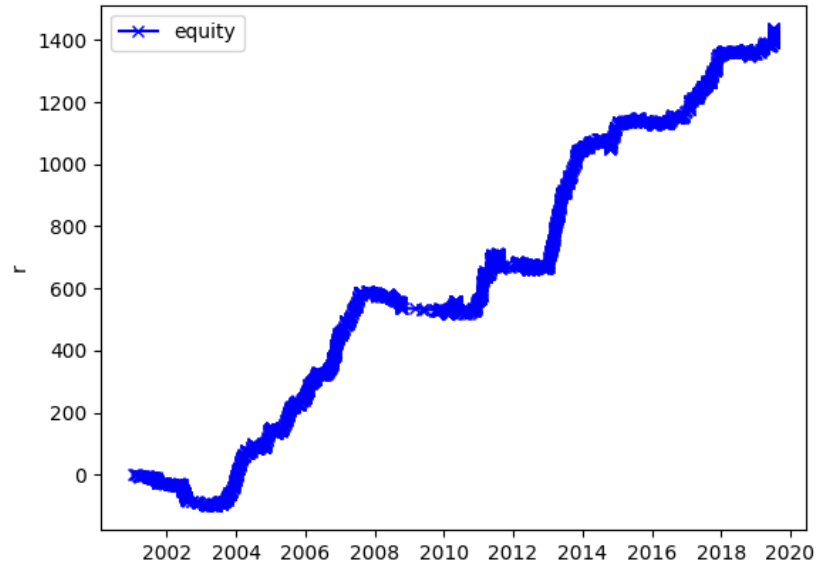
Revenue/4 <= 10000*10⁶

EPS >= 0.5

EPS Q/Q = 5...100 %

Formationserkennung

Backtest Tasse-Henkel – Optimierung

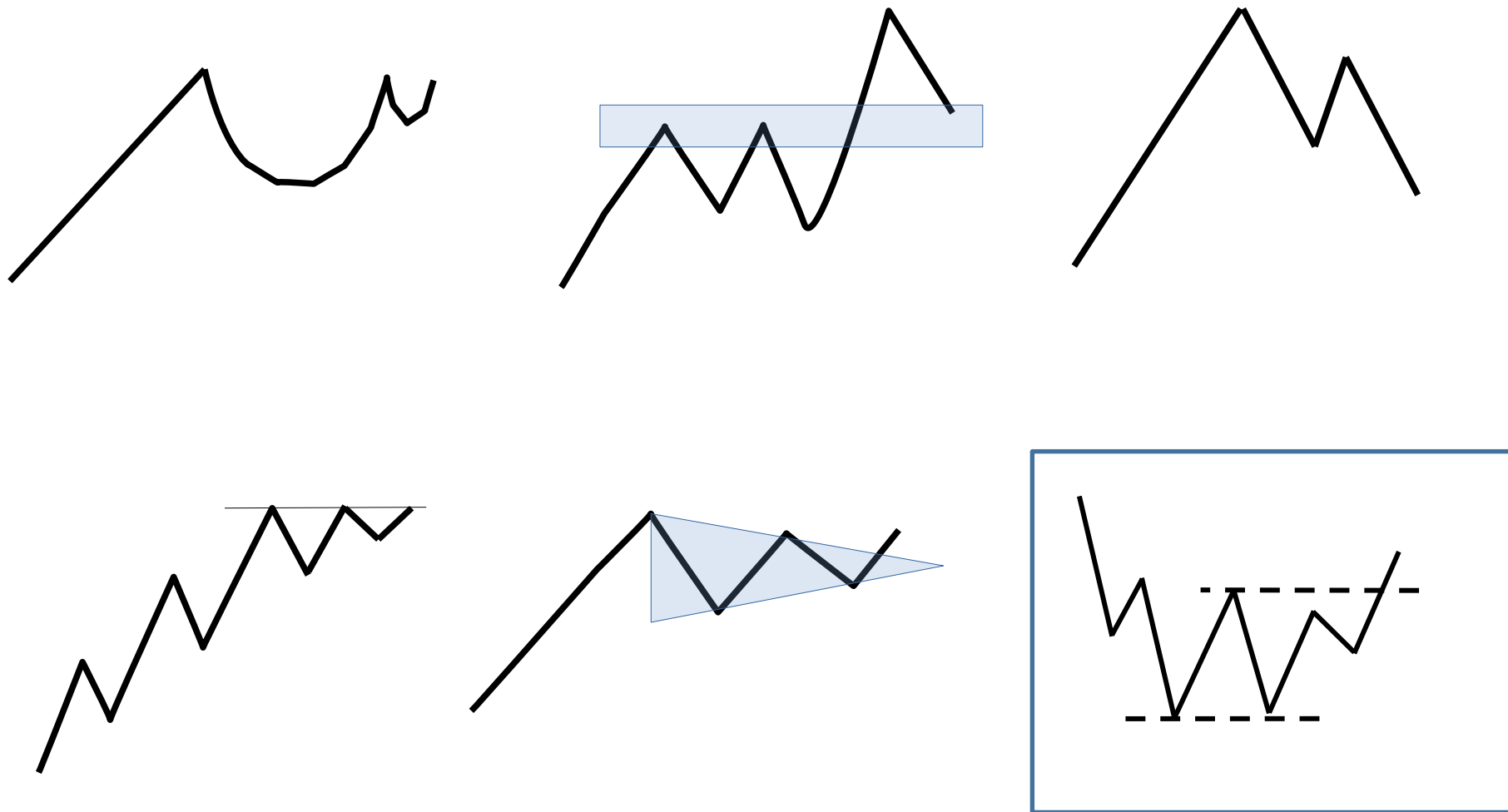


Profitfaktor: 2,15
2197 Trades (ca. 2 pro Woche)
43% Trefferquote

Profitfaktor: 3,46
421 Trades (ca. 2 pro Monat)
52 % Trefferquote

Formationserkennung

DoppelBottom

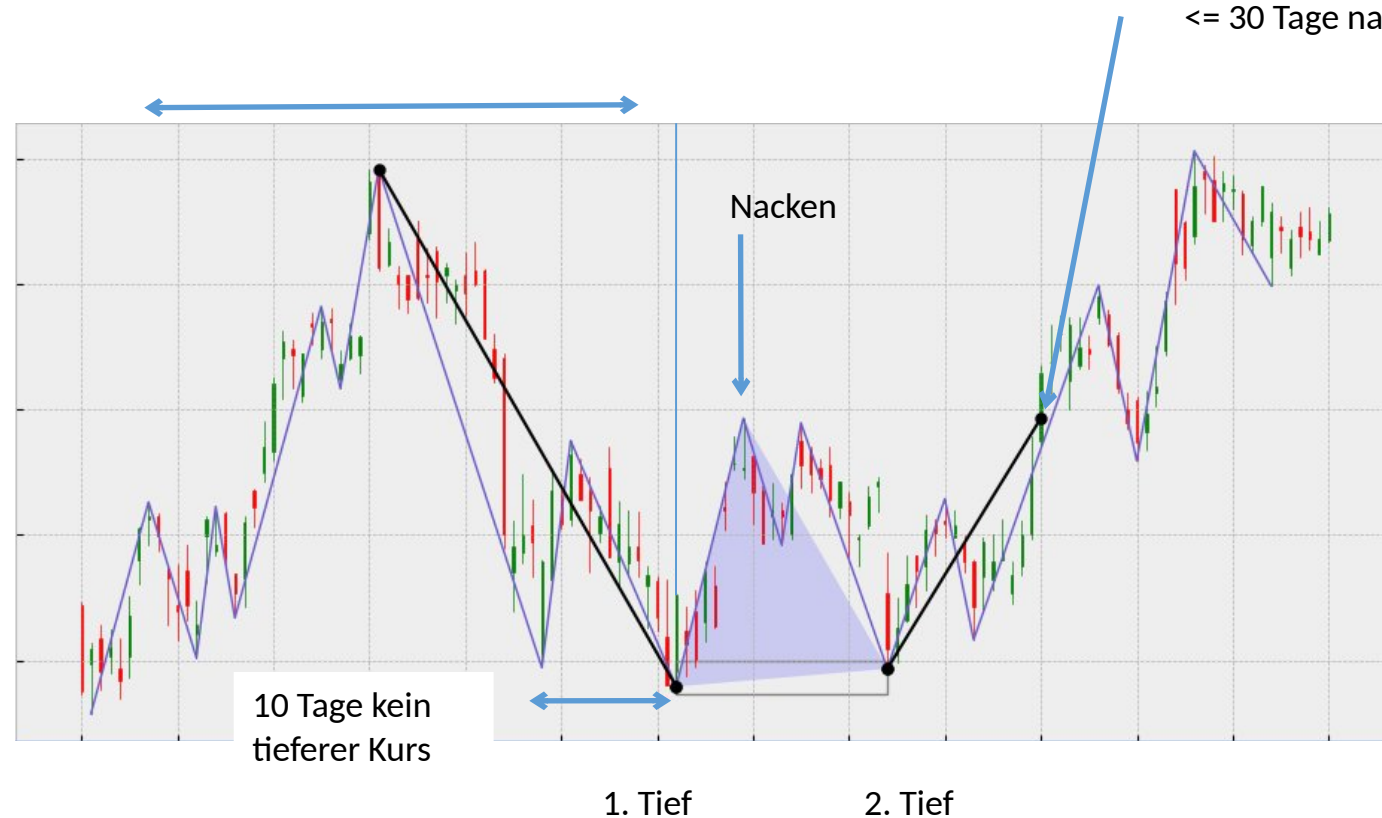


DoppelBottom

Patternrecognition

Höchster Kurs in den letzten 100
Tagen
Abwärtstrend davor

Breakout
≤ 30 Tage nach Tief2

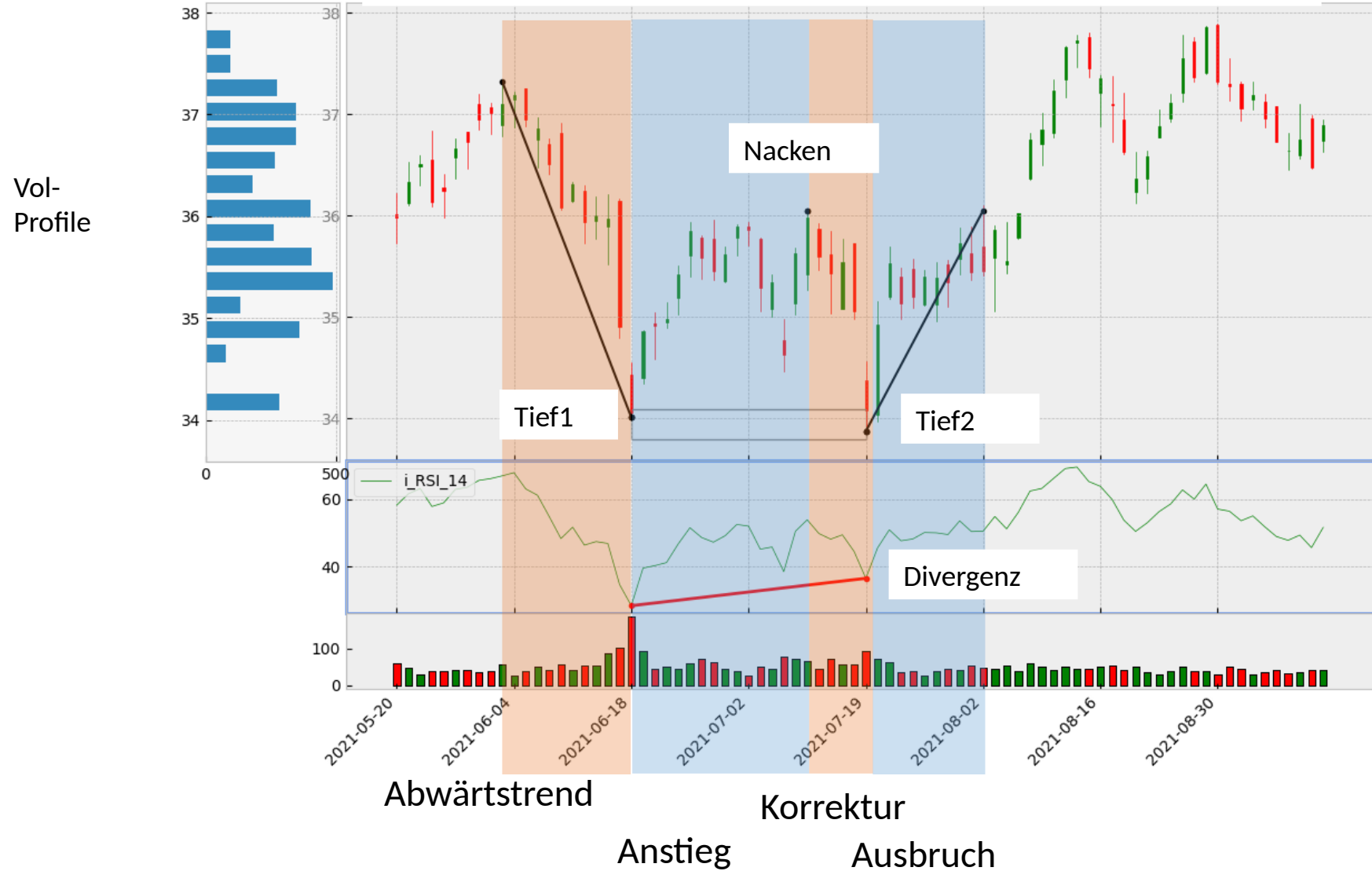


Regeln und Erkennung:

- neues Tief in den letzten 8 Tagen (=Tief2, nicht Close)
- aktuelles Tief auf Tief im 7-Kerzen ZigZag
- ± 0.5 ATR50 Bereich
- 2 Tiefs in 0.5 ATR50 Abstand in den letzten 50 Tagen
- vor 1. Tief 10 Tage keine tieferen Kurse
- Nach Tief2 warten bis Ausbruch

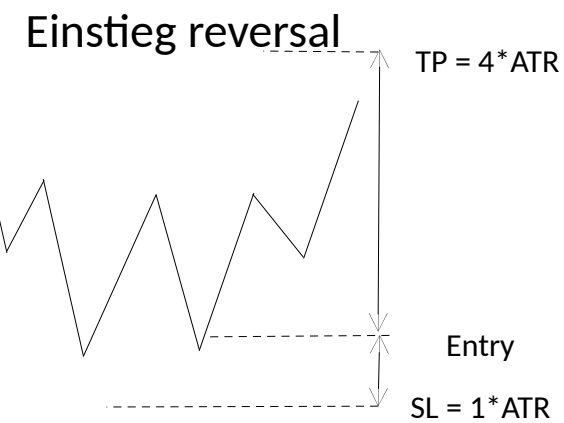
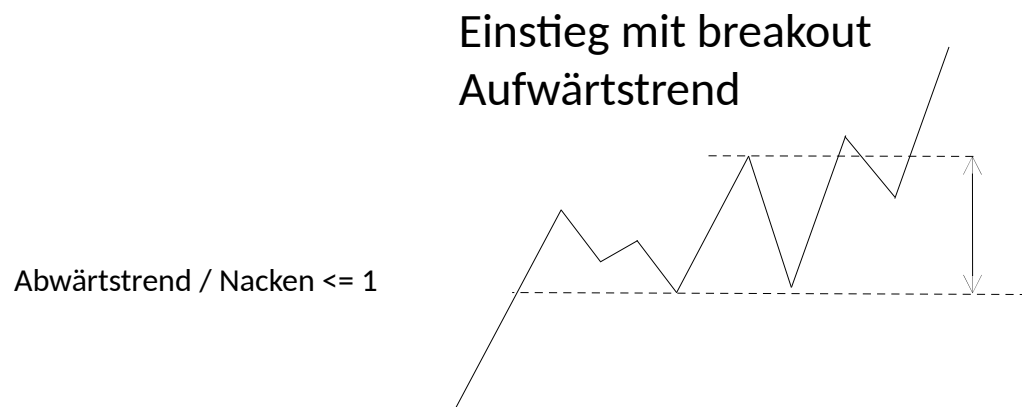
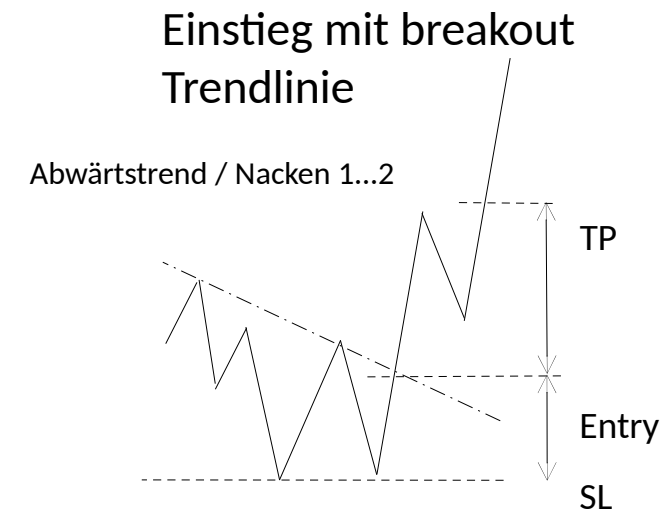
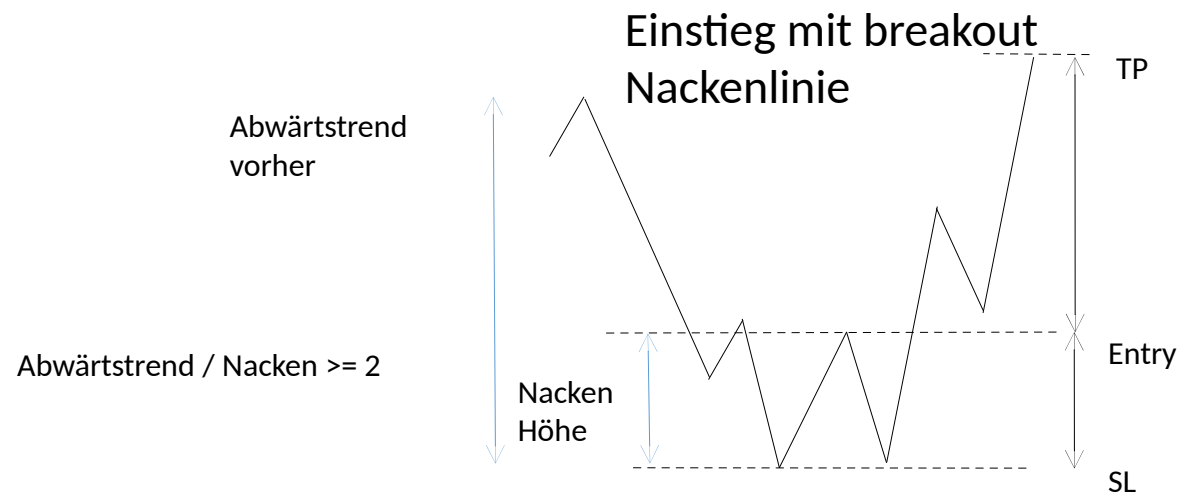
DoppelBottom

Chartdarstellung



DoppelBottom

4 possible Setups



DoppelBottom

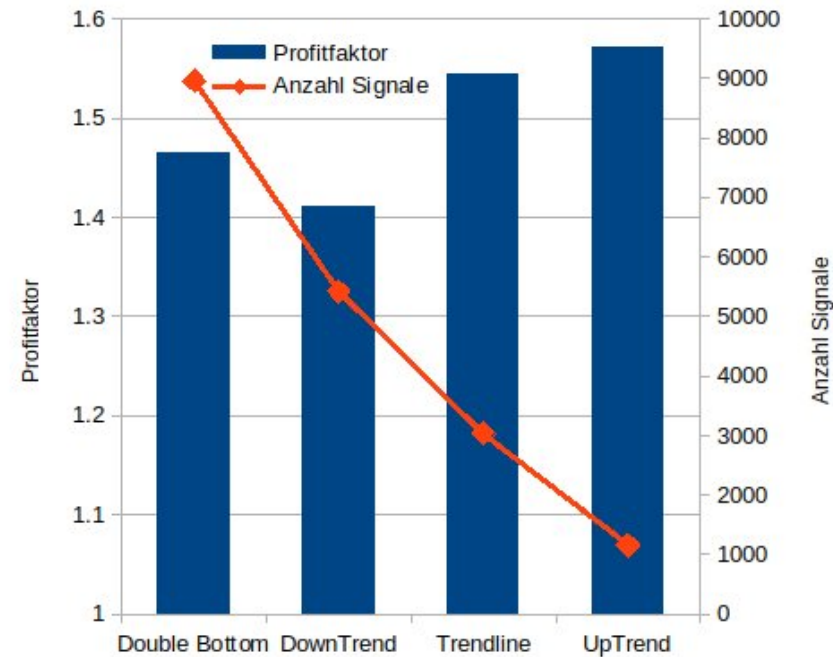
3 Setups



Backtest mit S&P500 Aktien
Historische Zusammensetzung
1996-2022

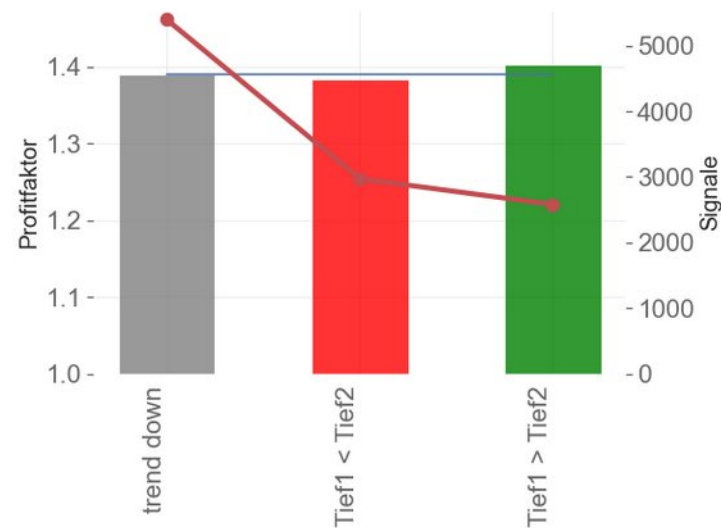
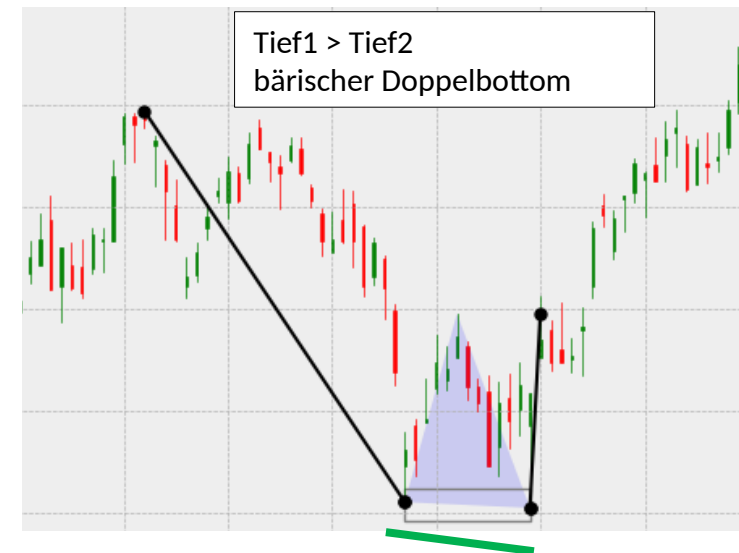
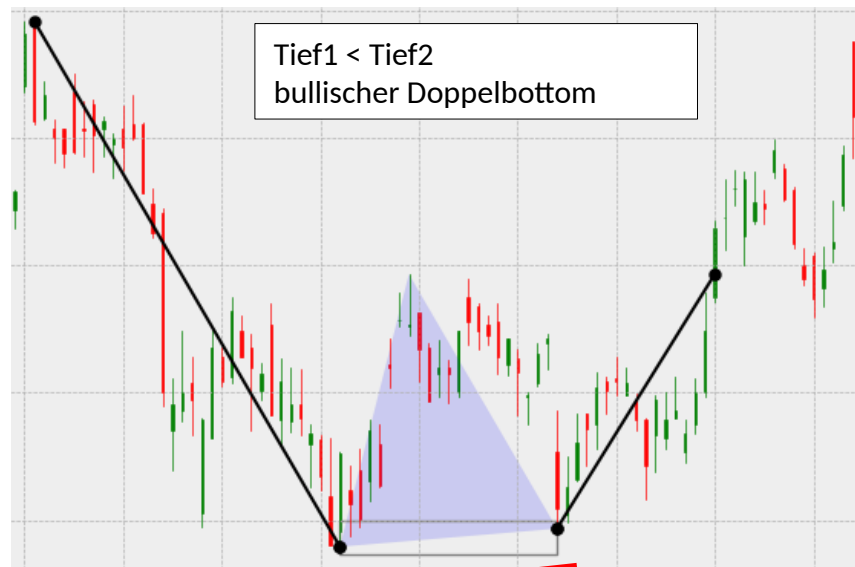
Anzahl Signale: 9018

Profitfaktor: 1.48



DoppelBottom

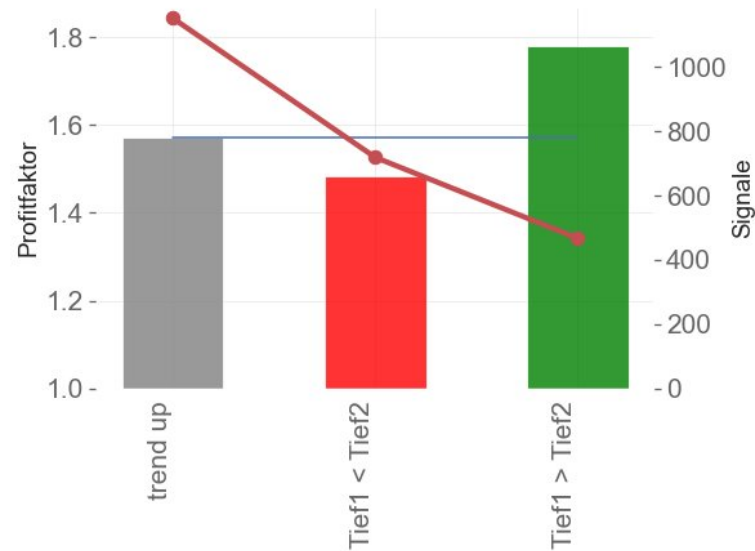
Bullisches und Bärisches Setup im Downtrend



	pf	Signale	tq
trend down	1.389	5398	45.1
Tief1 < Tief2	1.384	2972	45.0
Tief1 > Tief2	1.403	2580	45.4

DoppelBottom

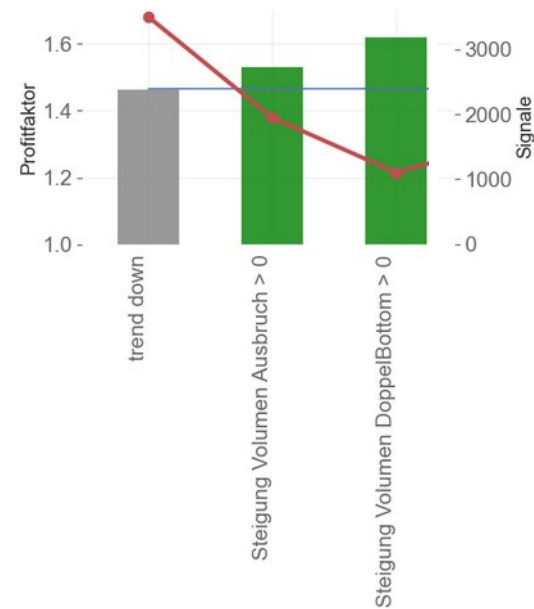
Bullisches und Bärisches Setup im Uptrend



	pf	Signale	tq
trend up	1.571	1152	48.9
Tief1 < Tief2	1.483	719	48.3
Tief1 > Tief2	1.779	467	50.5

DoppelBottom

Volumen im Downtrend



filter	pf	Signale	tq
trend down	1.467	3506	46.8
Steigung Volumen Ausbruch > 0	1.532	1952	47.7
Steigung Volumen DoppelBottom > 0	1.624	1107	49.1

Volumen sollte überall ansteigen

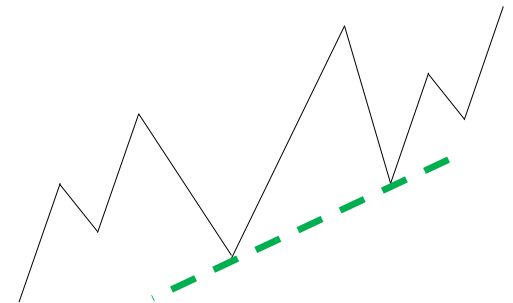
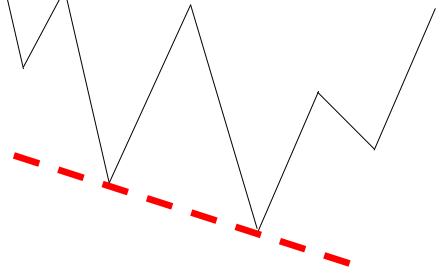
DoppelBottom

Divergenzen

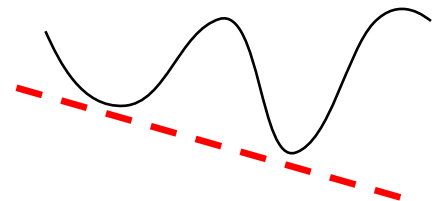
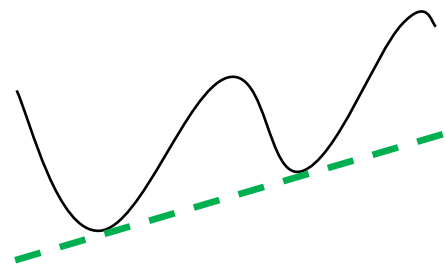
Bullische reguläre
Divergenz

Bullische versteckter
Divergenz

Kurs

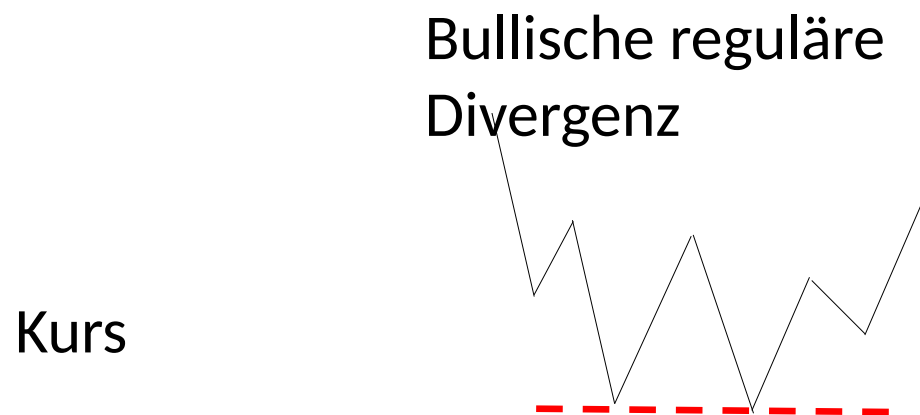


Indikator



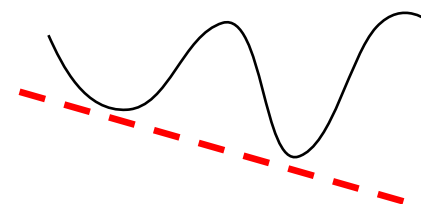
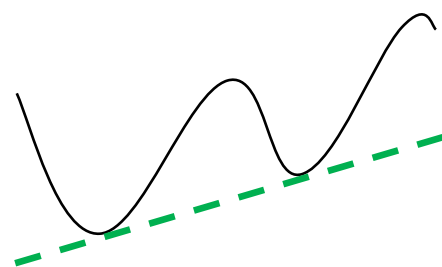
DoppelBottom

Divergenzen



Indikatoren:

- RSI14
- RSI5
- MACD Histogramm
- OBV

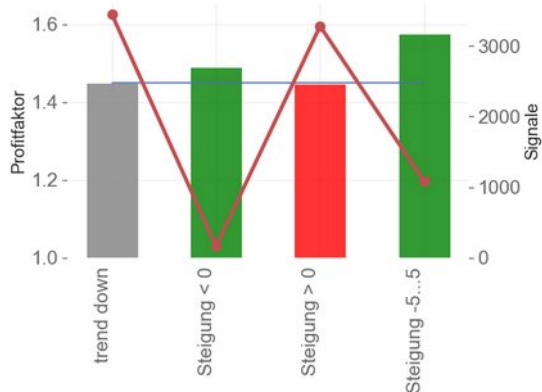


DoppelBottom

Divergenz im RSI14



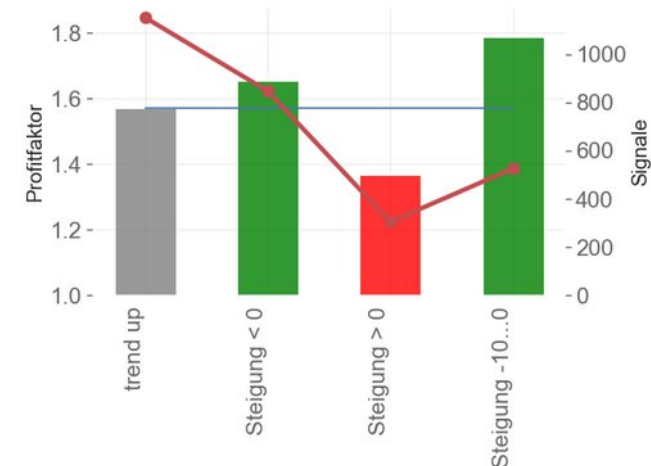
filter	pf	Signale	tq
trend down	1.449	3443	46.4
Steigung < 0	1.491	164	48.8
Steigung > 0	1.447	3279	46.3
Steigung -5...5	1.576	1084	48.6



reguläre Divergenz:
Steigung -5...5



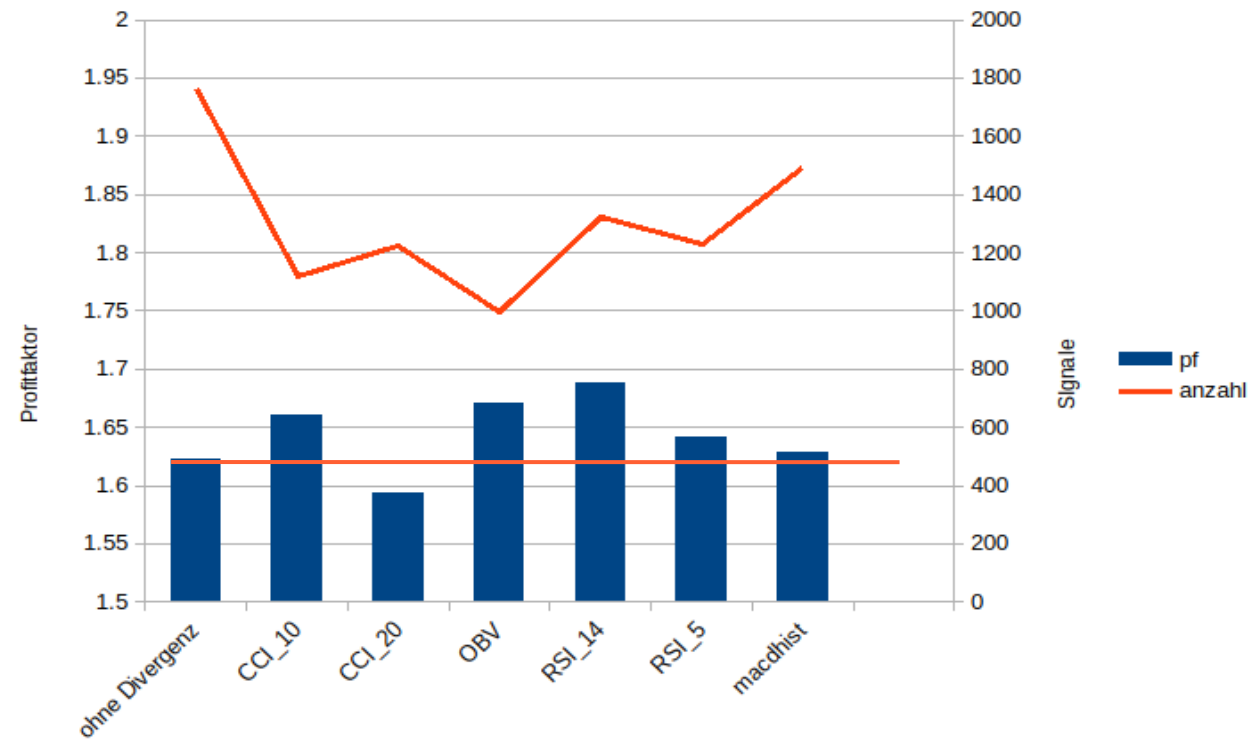
filter	pf	Signale	tq
trend up	1.571	1152	48.9
Steigung < 0	1.653	847	50.1
Steigung > 0	1.366	305	45.6
Steigung -10...0	1.788	526	51.3



versteckte Divergenz:
Steigung -10...0

DoppelBottom

Divergenz mit verschiedenen Indikatoren



DoppelBottom

aktuelle DoppelBottoms:

<http://zuleeg.info/trading/relStrength/index.html>

Formationserkennung

Aktuelle Beispiele (12.7.2023)

Formationserkennung

Aktuelle Beispiele (12.7.2023)



Formationserkennung

Aktuelle Beispiele (12.7.2023)



Formationserkennung

Aktuelle Beispiele (12.7.2023)



Formationserkennung

Aktuelle Beispiele (12.7.2023)



Formationserkennung

Aktuelle Beispiele (12.7.2023)



Formationserkennung

Aktuelle Beispiele (12.7.2023)



Formationserkennung

Aktuelle Beispiele (12.7.2023)



Formationserkennung

Aktuelle Beispiele (12.7.2023)



Formationserkennung

Aktuelle Beispiele (12.7.2023)



Backtesting/Formationserkennung

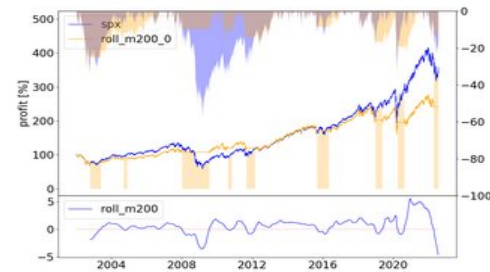
Topics

Software

```
df_EntrySignal["Entry1"] = np.where((
    (direction*df_sel_Index[calc_on] > direction*ta.SMA(df_sel_Index[calc_on], timeperiod = timeperiod)) # close > sma
    & (direction*df_sel_Index[calc_on].shift(1) < direction*ta.SMA(df_sel_Index[calc_on], timeperiod = timeperiod).shift(1)) # close_last < sma
), 1, 0)
```

Backtest/Filter

Signale



Formationen

