Analysis 16b 27.2.2024 v 1.0 Thomas Nickel

Topics:

- The Workflow GBPJPY H1 form the StrategyLab
- Try to improve this GBPJPY H1 Workflow
- Try EURJPY H1-Workflow
- Try GBPJPY M15-Workflow

Inhalt

-1 Disclaimer:	
0 Introduction	4
1 Q86 GBPJPY H1 (Check this workflow in 2024 again)	7
A Strategy Generation	8
B Filter OOS1	9
C Filter OOS2	
D Filter EURJPY	
E Filter USDJPY-Filter	
RT3a Sys-Permutation-Test (1000)	
RT3b Sys-Permutation-Test (300)	
RT3c Sys-Permutation-Test (1.8) (300)	
RT3c Sys-Permutation-Test (1.7) (300)	
RT3c Sys-Permutation-Test (1.6) (1000)	
R1: Rand Trades Order	
R2:Rand history data by tick	
R3: Modified randomize history data by tick	
R4: Randomize OHLC history data, max price change 40% of ATR	
R5: Randomize Parameter	
R6 WFA-Matrix	
CombinationTest B+C+D+E	
Overview	
2 Workflow-Analysis of Workflow GBPJPY – StrategyLab Workflow	
Walkflow-Analysis without Robustnesstests	
1 Walkflow-Analysis without Robustnesstest and 5000 Generated Strategies	
Walkflow-Analysis with Robustnesstests 5000 Strategies	
Check every Filter of the Workflow	
The Looptest	
2 OOS1 Filter	
3 OOS1+OOS2 Filter	
4 OOS1+OO2+EURJPY	
5 OOS1+OO2+EURJPY+USDJPY	
6 OOS1+OO2+EURJPY+USDJPY+Robust	
7 OOS1+OO2+EURJPY+USDJPY+WFa	
8 OOS1+OO2+EURJPY+USDJPY+WFb	
9 OOS1+OO2+EURJPY+USDJPY+WFc	

	10 OOS1+OO2+EURJPY+USDJPY+WFd	26
	11 OOS1+OO2+EURJPY+USDJPY+SysParameterA	27
	12 OOS1+OO2+EURJPY+USDJPY+SysParameterB	28
	13 OOS1+OO2+EURJPY+USDJPY+SysParameterC	29
	14 OOS1+OO2+EURJPY+USDJPY+SysParameterD	29
	15 OOS1+OO2+EURJPY+USDJPY+SysParameterE	30
l	Result Overview	31
3 Q86	6 GBPJPY H1 Some Additional Tests	32
Int	the Loop-Robustness Stability Tests I	32
Ca	librate Q86er Workflow with Winner Strategies	34
I	R1:	64
l	R2:	66
I	R6 WFA-Matrix	68
I	R8 WalkForward-Optimaziation	69
Appe	ndix	72
Q9	9 GBPJPY M15	72
	Settings for the generation period	72
-	The settings for the Endtest period	74
,	Walkflow-Analysis without Robustnesstest. (only OOS1-Test)	74
,	Walkflow-Analysis with Robustnesstest	75
-	The Result:	77
Q1	.00 EURJPY H1	78
,	Walkflow-Analysis without Robustnesstest	78
,	Walkflow-Analysis with Robustnesstest	78

-1 Disclaimer:

All information including workflow settings and example strategies shared in this document is intended solely for the purpose of studying topics related to the usage of StrategyQuant software and is in no way intended as a specific investment or trading recommendation. The Document writer is not an investment advisers or brokers.

If specific financial products, commodities, shares, forex or options are mentioned on this document, it is always and only for the informational purposes.

The document writer is not responsible for the specific decisions of individual users.

0 Introduction

How have I always gone about finding profitable strategies?

We have built a workflow or copied it from somewhere and would like to use it to generate strategies and then use them on a demo account. Of course, a workflow not only includes generation but also extensive robustness testing. We use the workflow to generate many strategies and then run them on a demo account. We select only the best strategies at regular intervals and trade them on a real account. Strategies that reach the maximum drawdown are immediately deactivated and no longer used.

The way I described it here, it may or may not work. In my opinion this is pure gambling. It all depends on how good the workflow is. It could also be that a workflow we use is bad, but we still make profits. It could be that the market is right somehow and we are still making profits.

I would like to take a closer look at the entire process of strategy generation and use. I would like to examine the workflow used and see how profitable it is in different situations. In my opinion, a workflow is only profitable if it survives a workflow analysis. For example I examined a workflow by moving it into the past X times and see how profitable it is.

But some readers will now say that the whole thing is far too complicated. The strategies that don't work are filtered out on the demo account, so that in the end only the most profitable ones end up on the real account.

That's true, but "filtering the bad strategies out" doesn't work. You can only filter it out if you use special tests. We don't have such tests and I don't know how they should work.

I only use the strategies on a real account once I have done a workflow analysis for a walkflow and this is also successful for the current market phase.

Unfortunately, only one workflow has so far passed this test.

The secret of a profitabel workflow

There is a secret that I would like to tell you. This secret is very important if you want to build a functioning and therefore profitable workflow. It's not the currency pair or the trial period. It's also not a special robustness test that I have to do with special settings. There is also no special composition of the building blocks. Or determines trading times.

The secret is the generator. Yes, exactly I mean the **"BUILD STRATEGIES"** module. The module must be good. When generating it, it must produce more profitable strategies than bad ones. If this is not the case, then the workflow will not be successful. To build such a profitable module you need a lot of Forex knowledge. Of course you can also just try it out. And test the whole thing with a workflow analysis. Of course that's a lot of work.

History of this Document:

In this analysis, I will review the Workflow Q86 for GBPJPY on the H1 timeframe for the second time. I previously conducted an analysis for this workflow two years ago. (Q86 GBPJPY H1 Analyse Thomas Nickel V1.4 2.12.2022). You can download this document under https://c.gmx.net/@329881123612003410/AXjh2A75Rm-xTLKwpAVWSA.

I would also like to point out my homepage https://monitortool.jimdofree.com/

Now it is two years later. Many things have happened. I have improved the toolbox for the workflow analysis. The workflow generation process is 10 times faster, and we have more accurate results in the overview. Additionally, I implemented a graphical result view as an additional feature.

Target of this Document:

Why am I actually writing this document here? Of course I didn't find the Golden Grail. The Workflow Q86 GBPUSD H1 is very good. This will be seen in the analyses here. However, it has a small problem. At the moment (Actual date 7.3.2024), the system is in a sideways phase.

I'm looking for people who would like to work to improve this workflow. If anyone has any ideas about what filters or rules I could add to the workflow to improve it, I would be very grateful. I would then use the ideas to improve the setting and do a workflow analysis. Then you can accurately predict whether the workflow is profitable. Or whether the whole thing is over-optimized. Maybe someone would like to join in. Or someone can just try out a few filters and see how it affects the current market phase. If someone finds something good, we could collect ideas and improve the workflow.

This is just a suggestion from me.

Of course, you can also just read it, generate strategies and enjoy the profits. Improve the workflow and not share the knowledge.

But that's not how we reach our goal.

I have been working with StrategyQuantX for over 10 years. The whole matter is simply too complicated. We can only move forward if we work together.

The workflows of this Document

I put all Workflows of this document in the GMX-Drive

https://c.gmx.net/@329881123612003410/AXjh2A75Rm-xTLKwpAVWSA.

What I'm looking for:

Looking for people who take the information out of this document and make some improvements of this workflow. In this document are some Analysis of the different Filters of this Workflow. You can take this information and combine this to make an improved workflow. Make some backtests and optimize the workflow so that the workflow works for the current market situation. Send me your results to tnickel@gmx.de. I will use this information for new Walkflow-Analysis.

What is in this Document?

In **Chapter1** I checked each individual step of the workflow for the generation period January 1, 2009-August 31, 2018. Here I generated over 50,000 strategies. I tested the individual filters. I found out that the filters and robustness tests used essentially work (SQ 4.138). (At this point I would like to thank the developers from the SQX team, they have worked very hard. This finally seems to be running stable). The filters all work differently. With this large strategy set you can make quite good, statistically relevant statements.

In **Chapter2** I did a walkflow-analysis for the workflow. I examined each individual filter step in more detail here. The reader can see exactly how efficient the individual filter steps are.

In **Chapter3** I did some stability tests for the different filters. I want to see how stable the results of the different filters are. In the last part of Chapter3 I found out some interesting things about the Robustnesstests.

In the **Appendix** I added an additional Workflow-Analysis for the modified GBPJPY M15 strategy workflow. You can see the difference between a working and a not working workflow. I did a second Workflow Analysis for the Workflow GBPJPY H1 with a different currency pair EURJPY H1. But this analysis fails too.

Conclusion

We analysed the GBPJPY H1 workflow and showed that it essentially works like this. You can make money with it. I hope many users here in the forum have already earned a lot of money with this?

But be careful: I would like to point out the disclaimer again at this point. This is not intended to be a call to use real accounts. I am not responsible for any losses.

You can't just take a workflow and generate strategies. The two workflow analyses in the appendix showed us that this doesn't work. We simply modified the working workflow a little. Once the currency pair was exchanged from GBPJPY to EURJPY and once the time frame was changed from H1 to M15. Both attempts ended in losses.

This shows you once again how difficult it is to find a working workflow.

I would like to point out again that the "working workflow GBPJPY H1" is in a sideways phase. It's going to be a bit difficult to make money at the moment.

1 Q86 GBPJPY H1 (Check this workflow in 2024 again)

I traded the Strategies from this workflow GBPJPY from the StrategyLab since Okt 2021 on some demo and life accounts.

https://strategyquant.com/shared/gbpusd-strategylab-workflow/

Recently there have been some new findings regarding robustness tests. I tried to check this strategy generation with different Robustnesstests.



Abbildung 1: After I generated strategies with this workflow I installed this Strategies on Demoaccount. This is the tradingresult on the Demoaccount for Q86 GBPJPY H1. The Equity curve is from one year Trading on demo account. The Equity looks nice.

The Q86 GBPJPY H1 portfolio has been running quite successfully for over 3 years. See the following graphic.



Abbildung 2: This Portfolio contains 39 Strategies at the moment. The Strategies are running on demo account. I trade the best strategies on real account.

I have generated this Portfolio 2021. If we take a closer look, the performance of this portfolio looks in the beginning better as in actual time period.

The reason can be that the market condition has changed? It is possible that a generated portfolio running with best performance only a limited time. I have to recalibrate the portfolio from time to time. But I don't did this recalibration in the past.

At first we have to recheck the Q86 GBPJPY H1 workflow.

4. OOS 1 Retest	[0]
\sim	
5. OOS 2 Retest	[0]
\sim	κ.
6. EURJPY Retest	[0]
\sim	ŧ
7. USDJPY Retest	[0]
\sim	8
8. Skluz Retest	[0]
\sim	÷
9. MC Param Retest	TO1

Abbildung 3: Der Workflow Q86 contains two OOS Tests and two additional currency test. The MC Param-Test filter out all the generated strategies. I think the parameter of the MC Param Test are too hard. Or I have generated too few Strategies?

I would also like to note that this q86 workflow was created with a much older version of SQX. I think it was still version 4.X.old Version 4.138 includes much better robustness testing. I think you could get a lot of performance out of the Q86 workflow with these.

I won't do a complete workflow analysis with Q86 because in this first step, this is very timeconsuming. But I would still like to use this new knowledge from this workflow to take a look at other workflows.

A Strategy Generation

In the first Step we need some Strategies. I generated overnight 20980 strategies without filtering. I use only the Build Strategy Setting.

Backtest data settings						
Symbol	GBPJPY_M1_UTCPI	~	Timeframe	H1	~	
Start day	2009.01.01		End day	2018.08.31	m	Reset dates
Available from	2003.08.04		to	2023.12.21		

Left value	<>=	Right value	
Avg. Trades Per Month	> ~	2	×
Profit factor	> ~	1.3	×
Ret/DD Ratio	> ~	5	×

Abbildung 4: Some Settings for the Generation. This is a very simple Setting. But this Setting was very effective.

In the first step, I would like to assess the quality of the generated strategies without a robustness filter. To do this, I left the computer running overnight and generated 20,800 strategies.

To see whether these strategies are good, you have to do a final test and then create a portfolio from them. If the equity curve in the portfolio looks good, then the settings for generating the strategies are good. Unfortunately, you cannot build a portfolio from 20800 strategies. For this you would need a super-fast computer. With my 7850X I can create a maximum of 5000 strategies in the foreseeable future. So when analysing strategy quantities > 5000, I will always build a portfolio with a maximum size of 5000 strategies. A series of tests has shown that the results of these smaller portfolios still have good significance.

I made a backtest of one year and build a portfolio of 500, 1000, 2000,.... 5000 Strategies.

I compared the results in a table.

Strategy Name		F Note	F	Symbol (Pe	THÉ	Net profit (Port.	Profit facto_	Ret/DD Rati	Mini equity cha	# of trad_
Merged portfolio	0	500, 134 Euro/Strategy	-0	Partfolio	H	\$ 67 181.13	1.1	0.86	1	19049
Merged portfolio(1)	0	500,	τ	Portfolio	H	\$ 67 181.13	1.1	0.86	1	19049
Merged portfolio(2)	0	1000, 112 Euro/Strategy	C	Portfolio	H	\$ 112 103.64	1.08	0.21	1	39150
Merged portfolio(3)	0	2000, 131 Euro	3	Portfolio	H	\$ 263 333 53	1.09	0.88	1	77940
Merged portfolio(4)	0	3000, 136 Euro	Ċ	Portfolio	H	\$ 409 248 19	1.1	0.93	1	116468
Merged portfolio(5)	0	4000, 134 Euro	0	Portfolio	H	\$ 539 957.25	31.8	0.92	1	154378
Merged portfolio(6)	0	5000, 137 Euro/Strategy	C	Portfolio	H	\$ 686 757.63	1.1	0.95	3	192373

I will calculate an average Profit per Strategy out of my Merged portfolios. This value represents an approximation because I cannot form a complete portfolio from the 20,800 strategies.

⇒ 134+112+131+136+134+137=784/6=130 Euro/per Strategy Profit.

The average Profit per Strategy is 130 Euro per year. The Equity of the Portfolio looks good.

Fazit: We yield 130 Euro per Strategy if we make an easy endtest without any additional filter.

The Result looks good. But I know this is only one Time Period.

In order to evaluate the strategy generation well, we would have to do a complete walkflow analysis. But we're not doing that now. I only check all the filters used at this one time period.

We use for the Endtest only one year of data.

Start day	2021.04.09	誧	End day	2022.04.09	韴
ailable from	2002 02 04		to	2022 12:21	12

Abbildung 5: The Endtest is from 9.4.21-9.4.22

130 Euro/per Strategy is the Challenge

B Filter OOS1

	Avg. Trades Per Month	>	~	2	×
 Image: A second s	Profit factor	>	~	1	×
	Ret/DD Ratio	>	~	5	×

Abbildung 6: The Filter OOS is very simple.

14350 Strategies passed OOS1-Filter

Result:

Strategy Name	F Note	F Symbol (Po	T. Net profit (Port.	Profit facto	RevOD Rat	n Mini equity cha	# of trad
Merged portfolio	5000, 903 Euro	C Pertfolio	H. \$1316933.5	1.23	2.1	1	193756
Margad portfolio(1)	500, 279 euro	C Purtfolio	H \$ 139 968.09	1,21	1.87	1	19322
Merged portfolio(2)	1000.307 Euro	C Pertfelio	H \$ 307 556	1.23	2.03	1	39068
Merged portfolio(3)	2000.317 Euro	C Portfolio	H \$ 635 177.25	1.24	2.17	1	77954

Abbildung 7: 14350 Strategies are too much for a Portfolio, so I generated some small portfolios and calculated an average value for the profit per strategy.

303+279+307+317/4=301 Euro/Strategy Profit

 \Rightarrow This Filter works fine and won the challenge.

C Filter OOS2

	Left value	0=	Right value	
	Avg. Trades Per Month	× ×	2	ж
~	Profit factor	> ~	1.1	ж
	Ret/DD Ratio	> ~	5	×

Abbildung 8: The Filter OOS2 has Profit factor > 1.1 as the only condition.

5745 Strategies passed this OOS2-Filter

Merged portfolio	500.211 Euro	Ū.	Portlolio	14.1	\$ 105 625.25	1,15	139		19419
Merged portfolio(t)	2000, 201 Euro	0	Portfolio	15	\$ 403 795.31	1.15	1.96	1	77830
 Marged portfolio(2) 	5745.215.Euro	10	Portfolio	+1	\$ 1 235 105	1.16	1.40	1	221759

Abbildung 9: The Profit is 215 Euro. Merged portfolio2 contains all Strategies.

⇒ **215 Euro**/Strategy Profit. This filter works fine and won the challenge.

D Filter EURJPY

	Left value	<>=	Right value	
	Avg. Trades Per Month	> ~	2	×
~	Profit factor	> ~	1.1	х
	Ret/DD Ratio	> ~	5	ж

2076 Strategies passed this EURJPY-Filter

Merged portfolio	0	500,213 Euro	¢	Portfalio	H_	\$ 106 852.41	1.16	1.37	1
Merged portfolio(1)	0	2076.231 Euro	(c	Portfolio	н.,	\$ 479 610.91	1.18	1.55	1

Abbildung 10: The Filter EURJPY yield a profit of 231Euro/Strategy.

231 Euro/Strategy won the challenge

E Filter USDJPY-Filter

Left value	<>=	Right value	
Avg. Trades Per Month	> ~	2	×
Profit factor	> ~	1	×
Ret/DD Ratio	> ~	5	×

5853 Strategies left

	the second	and the second se	the second se			
Merged portfolio 0	5853, 180 Eur/Strategy	C Portfolia	H \$ 1 056 061.25	1.16	1.3	

⇒ 180Euro/Strategy => passed challenge

RT3a Sys-Permutation-Test (1000)

tungs	Fittering			
Maximu	m tests:	1.000	U.	
		you cao limit th	te number of optimizations, and this limit i	the duration of this
		cross check		
Value di	itribution (%)	roza checii from original value	ar	
Value de	itribution (%)	from original value	a: +	
Value de Up: Down:	abibution (%)	from original value	0: + +	

-	% of Profitable Opt	imizations >	30	- +			
	Average profit (in \$) of all optimiz	ations is	>\$ 0	- +		
-	Uniform distributio	n - less than	5	- +	changes fr	om positive	to negative
-	Best Optimization	profit < 2		+ StDe	ev of averag	e profit	
Syste	m Parameters Per	mutation cor	ndition	5			

Abbildung 11: The condition "Best Optimization profit <2" is a very hard condition.

The test is done with ticksimulation.

Only one Strategy of 424 Strategies passed this test.

Fitne	Symbol (IS)	TimeFrame (IS)	Net profit (IS)	Mini equity cha	# of trad	Profit facto	Sharpe Rati	R Expectan	Annual % R.,	Stability (IS)
0.53	GBPJPY_M1_UTCPlux02	H1.	\$1 101.24		63	1.43	1.14	0.21	11.01 %	0.71

But the Equitycurve of this Strategy looks very good.



Abbildung 12: This is the Portfolio of the Endtest of "RT3a Sys-Permutation-Test (1000)"-Robustnessfilter. It looks good. In this case, the Portfolio contains only one Strategy.

RT3b Sys-Permutation-Test (300)

Use Permutation Test for N=300

Selected-Timeframe

Best Optimization profit <2

Up/down 50%

 \Rightarrow The Result is in the overview table.

RT3c Sys-Permutation-Test (1.8) (300)

Use Permutation Test for N=300

Selected-Timeframe

Best Optimization profit <1.8

Up/down 50%

 \Rightarrow The Result is in the overview table.

RT3c Sys-Permutation-Test (1.7) (300)

Use Permutation Test for N=300

Selected-Timeframe

Best Optimaziation profit <1.7

Up/down 50%

 \Rightarrow The Result is in the overview table.

RT3c Sys-Permutation-Test (1.6) (1000)

Use Permutation Test for N=1000

Selected-Timeframe

Best Optimaziation profit <1.6

Up/down 50%

I will make some different Robustnesstests on this datarange

Backtest data settings Symbol	GBPIPY M1 UTCPL	0	Timéframe	н	U.				
Start day Available from	2009.01.01 2003.08.04	M	End day to	2021.04.09 2023.12.21		Reset dates			
Test parameters Precision	Selected timeframe	only (faste 👻	Commisions & swap	No commission	n No swap	0			
Spread	5 -+ pips		Slippage	$ 1\rangle = +$	pips	Min. distance	0	- +	pip

Abbildung 13: the following robustnesstests will be made on this datarange.

 \Rightarrow The Result is in the overview table.

R1: Rand Trades Order

Selected Timeframe

Monte Carlo trades manipulation	2 tests with 200 simulations
Use Name	Default
Randomize trades order, with mithod Resampling	Method Resampli 🛩
Randomly skip trades, with probability 10 %	

 \Rightarrow The Result is in the overview table.

R2:Rand history data by tick

Selected Timeframe

tting	s Filtering						
Nut	nber of simulations	200	- +	Use Full sample			
0	B Backtest precision	Selected timeframe	e only (fa	starst)			
Use	Name				Default		
	Randomize history data (by tick), with probability	20 % up	/ 20 % down and max pri	Probability up 🕲	20	
O.	Modified randomize histo	ry data (by tick), with m	nax chang	e 40 % of tick price chang	Max up change @	10	-
\Box	Randomize OHLC history	data, may price change	e 10 % of a	ATR(14) and probabilities (Probability down @	20	127
	Randomize min distance	from price from 0 to 10	i i		March Street Street Street	***	
	Randomize slippage from	0 to 5			wax change down (p)	10	_
0	Randomize spread from 1	to S			Keep connected @		- 61

 \Rightarrow The Result is in the overview table.

R3: Modified randomize history data by tick

Selected Timeframe

MaxChange=5%, 10%

 \Rightarrow The Result is in the overview table.

R4: Randomize OHLC history data, max price change 40% of ATR

MaxChange=40%

 \Rightarrow The Result is in the overview table.

R5: Randomize Parameter

0	Backtest precision	Selected timefra	ime only (fa:	stest)
Use	Name			
	Randomize history data (by tick), with probab	ility 20 % up .	/ 20 % down and max pri
	Modified randomize histo	ory data (by tick), wit	h max chang	e 10 % of tick price chang.
	Randomize OHLC history	data, max price cha	nge 50 % of A	ATR(14) and probabilities (.
	Randomize min distance	from price from 0 to	10	
	Randomize slippage from	n 0 to 5		
	Randomize spread from	1 to 5		
	Randomize starting bar,	with max change 100)	
	Randomize strategy para	meters, with probab	ility 30 % and	i max change 30 %

 \Rightarrow The Result is in the overview table.

R6 WFA-Matrix

N=100

3x3



	Palatric is advantagealed. It contain if canning a rearrher of t	AT pplystatory, which preval	free and spin the	
the I	Titlering			
in altre	ally careform here step will be makened after this cross over It their conditions of withe developed interact away and no.	r is comparised in their arress clean it with the exercise	ret.	
Add tallors in	and the state of your entry on the state and the	a Lot Passer MI contentation	Set interes	mannel W sareth
	products a share to a form and a second where these re-	a statement of the statement		
	and the second se	and a second sec		
ter part	et when it from an arms of 👘 🐨 struct and 👘	* solution		
Rey parts	et when it from an arm of 1 and 2 structure of 1 and	✓ course 0 = + s.		
Rey parte Altern al la	er untern at monte an annu del 👘 🤟 result and 👘 🕴 result 2 👻 l'resta the have resta at monte some 🚥 🚺	∀ minute 0 = + n.		
iter para itera al la Adacaman	er uten it from an annol () () () () () () () () () (in a		
Rey para Alex al la Adsumes O	ex unten d'hom an ann a'f (1, 1, 11) yaar and (1, 1 ann (1, 2, 11) yaar at chave restaurrese same oor (1, 1 e same 's composed as s't of constituen that penser of al Lativatae	* mone 0 -+ 4 motion	Aprata	
Re pare dere al le lebumes ()	er unten ditrotta an ann a'd a' ''' ritert and a' ant '' '''''''''''''''''''''''''''''''''	* course 0 - + % antition 	Retrolate 1	
Rectano Alexando Alexando C	e when it from an ann all (* 1997) must and (* and (* 1997) must have returning some + (*) come is computed as a % of constitution that paramitive, all latitudes are that parts (2005) are factorized to be parall	* course c -+ a andians 	Refranka 0 60 k	
Alter Jack	es when it from an ann of the main provide that and the formation of the main of the provide the set of the provide the provided the provide the provided the provide the provide the provided the provide the provided	V moree 0 - + a metars 	Right author 0 60 %	1. 1. 1.
Advantes C	er unten ditrotto an anno di la mai praest and la anti 2 mai biographic have retrauteresse surre e la latticular anti la companya esta e Ki of constituent that pensativo, al latticular anti biographic (DCG) anti biographic	marrier m	Refruita 0 60 % 70 % 20 %	1. 1. 1. 1.
Ren para Alexa al la Alexanas C C C C C C C C C C C C C C C C C C C	e when it from an error of the method and the second secon		Refrontes 1 0 5 10 5 20 5 20	1. 1. 1. 1. 1.
	ex enten it from an ann af (1, 1) () () () () () () () () () () () () ()	Y mane	Ref ratio 0 60 % 20 % 20 %	1. 1. 1. 1. 1.
Ren pare electronic al la la burnes la burnes	ex enten di tromo an anno di la man presenta da la	marrier m	Referantiae 0 60 % 70 % 52 % 20 25 %	8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8

Trading engine						
Engine	MetaTraders	×	Additional charts	0 -+ 0	(ess to	world charts that strangy has
Backtest data settings						
Symbol	GBPJPY_M1_UTCPL_ 🛩		Timeframe	HI	- 41	
Start day	2009.01.01		End day	2021.04.09	-	Reset dates
Available from	1003.08.04		60	2023.12.21		
Test parameters Precision	Selected Dimeframe only	(fertre 😒	Commisions & swap	No commissions. (No swap	0
Stread	5 - + mm		Sincare	1 -+ n		Min distance 0 + nice
Data range parts What is R7 Most o	sed configs 50		10 [20 [20] 10 [WH 111111	1000	

 \Rightarrow The Result is in the overview table.

CombinationTest B+C+D+E

I use 50000 Strategies as input.

 \Rightarrow The Result is in the overview table.

Overview

Filter	Result	#Strategies	Remark
<mark>A-without filter</mark>	130 EUR/Strategy	20800 ¹	This is the challenge
B OOS1	301 EUR/Strategy	14350	passed
C 00S2	215 EUR/Strategy	5745	passed
D EURJPY	231 EUR/Strategy	2076	passed
E USDJPY	180 EUR/Strategy	5853	Passed
B+C+D+E	424 Euro/Strategy	243	Passed
B+C+D+E +RT3a	1100 Euro	1	Passed, but only one
			Strategy left
RT3b(1.8) N=300	200 Euro/Strategy	1487	passed
RT3b +RT3c(1.8)N=300	223 Euro/Strategy	277	passed
RT3b +RT3c(1.7) N=300	174 Euro/Strategy	182	passed
RT3b +RT3c(1.6) N=300	262 Euro/Strategy	102	passed
RT3b +RT3c(1.6)N=1000	403 Euro/Strategy	26	passed
RT3b +RT3c(1.5)N=1000	496Euro/Strategy	10	passed
R1	338Euro/Strategy	5000*	passed
R2	290Euro/Strategy	1765*	passed
R3 5%	213Euro/Strategy	475*	passed
R3 10%	127Euro/Strategy	401*	failed
R4 40%	297EUR/Strategy	324*	passed
R4 50%	251EUR/Strategy	2282*	passed
R5 10%	193 EUR/Strategy	3861*	passed
R5 20%	212EUR/Strategy	1345*	passed
R5 30%	251EUR/Strategy	1681*	passed
R5 40%	208EUR/Strategy	1020*	passed
R6 N=100	387EUR/Strategy	201*	passed
R6 N=1000	444EUR/Strategy	249*	passed
R6 N=2000	444EUR/Strategy	427*	passed

(*) means that I have stopped the filtering according to this number of strategies. I don't need to filter all strategies to check the Robustnessfilter.

¹ In the Beginning I generated only 20800 Strategies. Later, I generated more Strategies because I found out, that we need more strategies for then intensive filtering. So I added more Strategies to the counter of 50000. I used this additional Strategies in the R1-R6-Filter.

2 Workflow-Analysis of Workflow GBPJPY – StrategyLab Workflow

I got a Workflow for GBPJPY-H1-Strategies form the StrategyQuantX Webside. I have generated with this workflow 90 Strategies and traded this on demo and on real account.

Source: https://strategyquant.com/shared/gbpjpy-strategylab-workflow/

I will call this workflow Q89 GBPJPY H1 from now on. I Traded the Strategies from this workflow GBPJPY from the Strategy lab since Oct. 2021 on some demo and life accounts. The name of this Strategies had the prefix Q86 GBPJPY H1.

I will make an Walkflow-Analysis for this workflow. This means I take this existing workflow and set this workflow more times in the past and more times in the future. So at the end I have many workflows.

I run this generated workflows parallel in a SQX and check the results of the End tests. Endtest means, I generate for every workflow an backtest of unseen data. The data period of this unseen data is one year.

To show the result in a convenient form. I generate with a toolbox an equity curve of the endtest data periods.

If the Equity curve (red lines) goes up, then the workflow is successful. If the red line goes down, it is not successful.

C:(Fores)	Toolbox/SQ\1 Marter\use/p	orojectv/Q98 G	BPIPY workflowAnaly	yuiv(project.c	fa					
C://orei/	Toolbox\SIQ:2 Generator								set SQ Rootckr	
54	delta days	15	steps back	2	steps future	O Shift Days		1.000		i.
Clylorexty	tmp/cleltadays.txt				set file	Othe datefile		Liff she	ne rootdir/user/projects	27
Q96 GBP	PY workflowAnalysis			gene	rated workflow name	(should be unice II)			clear projectdir	
emply							1	Endteit	Get Endtest Dates fro	m Database
please ad	d additional description to t	his box above					3848			

Abbildung 14: With the workflow-generator of the Toolbox I generated 15+7=22 Workflows.

I shifted the generated workflows 84 days in the past and the future. I shifted it 15 times of 84 days in the past and 7 times of 84 days in the future.

At the end I got 23 Endtests. From this Endtests I generated the Equitycurve of the profits.

In the following Table you can see the periods of the Endtest. You can see, I have done for every period an Endtest of one year.

Endtest
0
0
0
0
0
2022.11.18-2023.11.18
2022.08.26-2023.08.26
2022.06.03-2023.06.03
2022.03.11-2023.03.11
2021.12.17-2022.12.17
2021.09.24-2022.09.24
2021.07.02-2022.07.02
2021.04.09-2022.04.09
2021.01.15-2022.01.15
2020.10.23-2021.10.23
2020.07.31-2021.07.31
2020.05.08-2021.05.08
2020.02.14-2021.02.13
2019.11.22-2020.11.21
2019.08.30-2020.08.29
2019.06.07-2020.06.06
2019.03.15-2020.03.14
2018.12.21-2019.12.21
2018.09.28-2019.09.28
2018.07.06-2019.07.06
2018.04.13-2019.04.13
2018.01.19-2019.01.19
2017.10.27-2018.10.27

Abbildung 15: This are the Periods for the endtests of the different Workflows.

Walknow-Analysis without Robustnesstests	Walkflow-Analy	ysis without	Robustnesstests
--	----------------	--------------	-----------------

ustom projects				
Q98 GBPJPY workflowAnalysis_+00000	[Tasks (B),] [Engine] (Results)	0	÷.	@ Stop @ Pau
Q98 GBPJPY workflowAnalysis +00084	[Tasks (9).] [Engine] [Results]	i.	-	Stop
Q98 GBPJPY workflowAnalysis +00168	[Tasks (9),] [Engine] [Results]	D	-	⊗ 320β
Q98 GBPJPY workflowAnalysis +00252	[Lasks.(9).] [Engine] [Results]	Ē.	-	8 94p
Q98 GBPJPY workflowAnalysis +00336	[Tasks (9) [Engine] [Results]	<u>1</u>	-	€ Stop
Q98 GBPJPY workflowAnalysis_+00420	[Tasks (2)] [Engine] [Results]	<u>1</u>	-2	🛞 Stop
Q98 GBPJPY workflowAnalysis +00504	(.Tasks.19).) (Engine) (Results)		2	B Stop
Q98 GBPJPY workflowAnalysis_+00588	(Tasks (9),) [Engine] [Results]	5	2	🔘 Stop
Q98 GBPJPY workflowAnalysis00084	[Tasks:(9),] [Engine] [Results]			() Stop

Abbildung 16: The Walkflow-Generator generated 23 Workflows for the StrategyQuantX. After the generation the workflows are all in the StrategyQuantX. You can see here a part of this.

Now it is Time for starting all these workflows.

Every Workflow generate 5000 Strategies and made a Endtest of it. If the first walkflow is ready, the next workflow will be started automatically in the SQX.

At the end we have 23 Pools of Strategies. Every pool contains 5000 Strategies.

I did this all, without Robustnesstests or special Filtering.

In the first Step I will see the quality of Strategy generation only with the Generationmodul and the Endtest

1. Build strategies	
V+	
2.0051 Hemail	(1)
~+	
3.0052	, III
×+	
4. EURIPY	
s. usbjirv Irmal	
×+	
9. rohust Multi	11
·\/+	
7. Endtest	

Abbildung 17: In the first Step of this Analysis only Build strategies and Endtest is activated. I will see the result without filtering or Robustnesstests.

What is the reason why I don't use Robustnesstests in the first step?

The reason is, that Robustnesstests are only able to filter 10%-30% of the curvefitted strategies out of the generation. The generation should produce good strategies. If the Buildingblocks and the settings are not good the result will be bad.

Workflow~Q98 G8P3PY workflowAnalysis	0.0	0.0	0.0	0.0	0.0	0	0
Portfolioorg15	0.0	0.0	0.0	0.0	0.0	0	0
Norm n=5	0.0	0.0	0.0	0.0	0.0	0	0
average results	0.0	0.0	0.0	0.0	0.0	0	0
average results <"Q98 G8PIPV workflowAnatysis_+00588++	-594.35	-594353.50	0.94	-0.57	0.28	5000	2022.11.18-2023.11.18
average results <"Q98 G8RIPY workflowAnalysis_+00504>=	1241.47	1241470.00	1.12	0.64	0.93	5000	2022.08.26-2023.08.26
average results <* CI98 G8PIPV workflowAnalysis_+00420==	-1014.15	-1014154.94	0.91	-0.66	0.52	5000	2022.06.03-2023.06.03
average results <"Q98 G8PIPY workflowAnalysis_+00336>=	2073.37	2073374.88	1.20	0.56	1.18	5000	2022.03.11-2023.03.11
average results <*Q98 G8P/PV workflowAnalysis_+00252>=	2058.93	2058925.50	1.22	0.52	1.20	5000	2021.12.17-2022.12.17
average results <"Q98 GBPIPY workflowAnalysis_+00168>=	2907.36	2907356.50	1.38	0.74	1.64	5000	2021.09.24-2022.09.24
average results <* Q98 G8PIPY workflowAnalysis_+00084>=	2995.67	2995670.00	1.46	0.68	3.66	5000	2021.07.02-2022.07.02
average results <"Q9B GBPIPY workflowAnalysis_+00000> =	1309.20	1309204.88	1.21	0.43	1.25	5000	2021.04.09-2022.04.09
average results <"Q98 G8PIPY workflowAnalysis00084>=	1014.37	1014371.19	1,18	0.62	1.33	5000	2021.01.15-2022.01.15
average results <"Q98 GEPIFY workflowAnalysis00168> =	-370.67	-370674.72	0.94	-0.64	-0.29	5000	2020.10.23-2021.10.23
everage results <*Q98 G8/IPV workflowAnalysis00252>=	-205.13	-205131.35	0.97	-0.62	-0.24	5000	2020-07.31-2021.07.31
average results «"Q98 G8PIPY workflowAnalysis00336»	693.04	693038.25	1,13	0.43	0.83	5000	2020.05.08-2021.05.08
average results <"Q98 G8RSPY workflowAnalysis00420>=	2079.05	2079047.63	134	0.57	2.79	5000	2020.02.14-2021.02.13
average results <"Q96 GBPIPY workflowAnalysis00504+=	1484.34	1484337.38	1.22	0.72	1.40	5000	2019.11.22-2020.11.21
average results <*Q98 G8PSPY workflowAnalysis,00588>=	1746.22	1746216.50	1.24	0.78	1.58	5000	2019.08.30-2020.08.29
average results <"Q98 G8PIPY workflowAnalysis00672>=	943.21	943208,13	1.12	0.49	0.76	5000	2019.06.07-2020.06.06
average results <"Q98 G8PIPY workflowAnalysis00756>=	1216.59	1216590.25	1.16	0.74	1.18	5000	2019.03.15-2020.03.14
average results <"Q98 G8P/PV workflowAnalysis_~00840 >=	2717.71	2717712.75	1,39	0.76	4.14	5000	2018.12.21-2019.12.21
average results <*Q98 GBPIPY workflowAnalysis00924>=	1872.85	1872853.50	1.29	0.79	3.00	5000	2018.09.28-2019.09.28
average results <"Q98 G8PIPY workflowAnalysis01008>=	1340.24	1340244,00	1.22	0.76	1.76	5000	2018.07.06-2019.07.06
average results <"Q98 G8PIPY workflowAnalysis01092> =	730.45	730454,56	1.12	0.71	0.96	5000	2018.04.13-2019.04.13
average results <1098 G8P/PY workflowAnalysis01176>=	66.69	66686.40	1,01	0.44	0.09	5000	2018.01.19-2019.01.19
average results <"Q98 GEPIPY workflowAnalysis01260>=	-547.26	-547281.63	0.92	-0.52	-0.46	5000	2017.10.27-2018.10.27
	0.0	0.0	0.0	0.0	0	0	0
.00000000000000000000000000000000000000	0.0	0.0	0.0	0.0	0	0	0
	0.0	0.0	0.0	0.0	0	0	0
overall average results=	1119.96	0	1.16	0.36	1.21	115000	0
and the second se							

1 Walkflow-Analysis without Robustnesstest and 5000 Generated Strategies

Abbildung 18: Walkflow without Robustnesstest and 5000 generated Strategies. The Normation is 5. I have to divide to 5 If I want to see the average profit for one Strategy. 1119/5=223 Euro average Profit.



Abbildung 19: Walkflow without Robustnesstest and 5000 generated Strategies. The Equitycurve looks good. The red line is the summation of the profits.

Walkflow-Analysis with Robustnesstests 5000 Strategies

Results:

In this part I switched on the Robustness test filtering.

I generated in every Period 5000 Strategies.

Name	Norm NetProfit.	SumNetProf	Pf	Stability	RetD0	Stategies	Endtest
.00000000000000000000000000000000000000	0.0	0.0	0.0	0.0	0.0	0	0
Workflow=Q98 GBP/PY workflowAnalysis	0.0	0.0	0.0	0.0	0.0	0	0
PortfokodS	0.0	0.0	0.0	0.0	0.0	Ð	Ð
Norm n=5	0.0	0.0	0.0	0.0	0.0	0	0
average results	0.0	0.0	0.0	0.0	0.0	0	0
average results + 'Q98 G8PJPY workflowAnalysis_+00588++	-655:73	2885.22	0.92	0.52	0.32	22	2022.11.18-2023.11.18
average results <"Q96 G8PJPY workflowAnalysis_+00504>=	2115.75	8886.15	1,23	0.65.	0.94	21	2022.08.26-2023.08.26
everage results < 'Q98 GBR/PY workflowAnalysis_+00420> =	-1542.3E	-5244.08	0.88	-0.57	0.48	17	2022/06/03 2023:06:01
average results <"Q98 G8PJPY workflowAnalysis_+00336 >=	3530.43	3530,43	1.43	0.58	1.23	5	2022.03.11-2023.03.11
average results <"Q98 G8P/PY workflowAnalysis_+00252>=	2246.13	2246.13	1.23	0.46	0.67	5	2021.12.17-2022.12.17
average results <"Q98 G8PJPY workflowAnalysis_+00168>=	4808.00	8654.40	1.93	0.62	2.59	9	2021.09.24-2022.09.24
average results <"Q98 G8PJPY workflowAnalysis_+00084×=	3549.51	14198.04	1.67	0.67	2.94	20	2021.07.02-2022.07.02
average results <"Q98 GBPJPY workflowAnalysis_+00000 ==	970.46	1358,64	1.19	0.41	0.44	7	2021/04/09 2022/04/09
average results <"Q96 G8PJPY workflowAnalysis00064>=	1284.95	2312.91	1.28	0.52	1.28	9	2021.01.15-2022.01.15
average results = "Q98 G8PJPY workflowAnalysis00168 -=	-923.22	-1845.44	0.84	-0.54	-0.42	10	2020.10.23-2021.10.23
average results + "Q98 GBPJPY workflowAnalysis 00252++	1134,40	-2041.92	0.09	0.70	0.51	8	2020/07.11-2021/07 31
average results <"(298 G8PJPV workflowAnalysis_~00036>=	1142.85	3428.55	1.26	0.57	1.10	15	2020.05.08-2021.05.08
average results < 'Q98 G8PJPY workflowAnalysis00420>=	3833.05	6899.49	2.06	0.56	6.43	9	2020.02.14-2021.02.13
average results < "Q98 G8PJPY world/owAnalysis 00504	1206.71	3378.78	1.20	0.69	0.79	14	2019/11/22 -2020/11/21
average results <*Q98 G8PJPY workflowAnalysis, ~-00588>=	2707.05	4872.69	1.37	0.74	2.07	9	2019.08.30-2020.08.23
average results <"Q98 G8PJPY workflowAnalysis00672 >=	650.25	2470.95	1.08	0.44	0.47	19	2019.06.07-2020.06.06
average results < 'Q98 G8PJPY workflowAnalysis00756	2797.00	\$034.60	1.36	0.65	2.01	9	2019.03.15-2020.03.14
average results <"C96 G8PJFY workflowAnalysis,00840>=	3902.22	7804.44	1.58	0.71	3.43	10	2018.12.21-2019.12.21
average results <"Q98 G8PJPY workflowAnalysis00924>=	3242.21	7132.86	1.59	0.82	4.39	11	2018.09.28-2019.09.28
average results + "Q98 G8PJPY workflowAnalysis01008>	4170.79	5839.11	1.73	0.83	4.06	7	2018.07.06-2019.07.05
average results <"Q98 G8PJPY workflowAnalysis01092>=	1741.53	5921.19	1,25	0,73	1.23	17	2018.04.13-2019.04.13
average results <"Q98 G8PJPY workflowAnalysin01176>=	2754.85	28650.42	1.46	0.67	2.30	52	2018.01.19-2019.01.19
average results + "G98 G8PJPY workflowAnalysts01260++	-1364.44	-4153.32	0.83	-0,57	-0.65	15	2017.10.27-2016.10.27
	0.0	0.0	0.0	0.0	0	0	0
.00000000000000000000000000000000000000	0.0	0.0	0.0	0.0	0	0	0
	0.0	0.0	0.0	0.0	0	0	Ð
overall average results=	1783.20	0	1.52	0.37	1.56	321	0

Abbildung 20: Walkflow-Analysis with Robustnesstst und 5000 Strategies are generated. 1783/5=356 Euro per Strategy.



⇒ With Robustnesstest this was an improvement from 223 Euro to 356 Euro per Strategy.

Abbildung 21: Walkflow-Analysis with Robustnesstst und 5000 Strategies are generated.

Check every Filter of the Workflow

The Looptest

In the first Step I will do a loop-Test. I will repeat the generation for period 0000 without filtering and build a portfolio of all 5000 Strategies. I will check how the different portfolios differ.

The Result:	
-------------	--

Symbol (T	Net profit (Port	Profit facto	Ret/DD Rati	1	Mini equity cha	# of trad
Portfolio	F	\$ 1 298 585.38	1.23	1.26	5		180521
Portfolio	ŀ	\$ 1 439 516.38	1.26	1.39	\$		185886
Portfolio	F	\$ 1 280 487.5	1.23	1.34	\$		184647
Portfolio	F	\$ 1 441 568	1.24	1.31	\$		188685
Portfolio	F	\$ 1 053 861	1.19	1	4		181475
Portfolio	F	\$ 1 178 985.75	1.2	1.17	\$		181987
Portfolio	F	\$ 1 349 903.38	1.24	1.35	5		183206
Portfolio	F	\$ 1 204 051.63	1.21	1.36	\$		181501
Portfolio	ŀ	\$ 1 296 138.38	1.23	1.14	5		183228
Portfolio	ŀ	\$ 1 398 115.75	1.24	1.29	-		189466
Portfolio	ŀ	\$ 1 224 868	1.21	1.39	\$		184350
Portfolio	ŀ	\$ 861 136.19	1.14	0.7	5	_	187856
Portfolio	F	\$ 962 271.06	1.17	1.02	\$		184770
Portfolio	ŀ	\$ 854 544.25	1.15	0.98	\$		180828
Portfolio	F	\$ 1 467 491	1.25	1.2	\$		188369
Portfolio	ŀ	\$ 1 215 413.5	1.22	1.27	\$		178883
Portfolio	F	\$ 1 512 037	1.27	1.45	5		183716
Portfolio	ŀ	\$ 1 349 280.5	1.23	1.32	\$		187652
Portfolio	F	\$ 1 387 065.5	1.24	1.2	\$		186699
Portfolio	F	\$ 738 129.5	1.12	0.84	5		183989
Portfolio	H	\$ 1 506 350.25	1.26	1.48	5		187116

Abbildung 22: The results of the runs looks similar. The Nettoprofit of the portfolio varies from 738129 Euro till 1.5 Mio Euro. There is a difference, but this variation is ok.

2 OOS1 Filter

In this Step of the Analysis I will only use the OOS1 Filter after Generation, the other Filters are switched off. I will use the same Strategies from the last generation which are stored in the database. This are 5000 Strategies in every period of this Workflow-Analysis.

I will check in this step the effectiveness of the OOS1-Filter.

The Result:

rhame	his is he first.	Same	1.11	TRANSPORT OF	400 line	agest Terminal	
"soccessisting or other second	8.6	2.5	80.7	00 0	0 0 :	1	
VacMess-CHI 14507 excitoulation:	8.8	M.	00.1	00 0	0 0		
(hethin)5	8.8	8.8	65 1	00 00	0 0	- G	and there are been been
Norm mild .	1.1	1.0	10.0.7	00 0	0 0	1.1	
within the fit.	11	11	00.7	00 0	0 0	4	X
autops could cheer and second and a contract and a second second	1007.00	-327044-044	0.10	1444	ANA TIME	Internet of the second of the	
metrage sealing - "200 GBNIT workflowtenityte: +00504	1004.200	MARWR-18	1.00	mail 10	18 1547	DELLOR AN AVAILABLE	Pietfolio
annings muchs of the station's and house again, should also	119128	100002-00	10.00	148 1	111 100	DECISION DI CALTURN PE	
surveys much - "288 1870" and fourtainers - 1922	216A.75.	taiamit.za	140	tion in	11 100	TRALET I'S SEALS IN T	
permanente a 1000 DBWY and Sudardyn, 100201-1	2006188	111004111	TATE	1. 940	12 1004	1001 12:22 2012 22:13	2116 · · · · · · · · · · · · · · · · · ·
evenue made = 1298 28997 sarifestedys, >00181 = >	100004	10000005	1.85	0.78 0	45. 200	2001-08,04-2820-08-04	
evenage results - 1095 535974 werkforwheatype, +00084++	3798-54	3474625-00	1.527	0.00	61 384	2011/07/82-20121/07/82	and a second
anatogo maulti - 'Q90 GMU'Y workRowinatyon, +00000	1400.08	104621.19	120	000 1	21	0010439-2020-94/66	
semage multi-+ 'Q10 D2891'Y earl Scientistry is - 20094++	110.00	750728.19	1.28	0.001	24 1 248	181101-5-382291W	
compression and a tight date is worth outwatcher, - database	-40.17	1000300.00	ILM.	100	11. 141	3001123 001128.0	
average results - 1290 DRFWY wardfoodsatives, - BETRE - a	100.00	21110.0	12.90	4.42	131, 1807	200007171-2021-01-01	
Actings Intells, VI2R 1870'V northers/todyst, - 01118-1	MINON:	8822998.16	1.117	10.00 10	TT ITM	DESCRIPTION OF SHAFT ON SH	
scorege on the child MATRY and Rendoutype, 200201-1	(1114)8	TTRACTOR	1.07.1	048	41 1794	200312114-307133118	1 mm
evening weather 1008-0890Y swithening yes. 20104-1	1018.28	TORVETAL	1.24.2	677 1.	AB	3819.11.23.3030.11.28	
evenage results - 1058 E8767Y werkflow/waty/sc,-80508 - r	1845.08	108738538	1.520.7	0.17 U	M 284	2919/08/58-2010/08/29	2 2144 -
everage woulds - 1000 LBNVV earthcade aryon, - 60072++	1014,25	69155836	1000	0.48 17	19	21106-SP-202008-B	E pine
weekpp ma, Ro < '000.0289'T weekSouAtury to - 82758+4	188,23	3949411	1183	0.01 = 1	24 387	2010/02/5-2020/00 M	100 C
average cerular infatte LBNVV averySourAnalysis; - BillerD-+	2007/04	101655.00	11627	0.08 . 4	18. 2164	interface intercounter	1.00
Average meuts - 1288 189977 workbookeatypt - 829291 -	3M812	14081238	1000	0.88	08 3869	2018/08/28-2019/28/28	Town State
average masks of QHI SERVEY everyficinal earlyse, - \$2500 c.c.	1012.21	11005030	(1.00)	0.78 1.	28 109	2010/27/38 -2019/27/38	
average results - "OR SERVY surplus budyon," \$10921-1	TUTW	mmad.18	1,10.1	0.12 1	11 3466	2010/04/14 2016 2017	
warepresented with AMAY and books anyon, -41178-1	301.75	112,000,000	1043	040	41.5493	BURN A SAVUM	
-sources state - 100 SHOY and Bradedore - \$1500-4	- 2-64 (0.7)	OW COM, BUT	0.001	AT I	141 356	DULT OF TAXABLE	a set a set of a later of a
Courses and the street state of the street	1.1	10	98.5	00 0	10		
.500000000000000000000000000000000.	6.2	64.	99.5	99	. 9.5		
	8.8	6.0	98.3	00 0	- 100		
constituents and a resultion	2010/07		118.3	618 T	10 1944	4 4	Dispit (an Alba) Parati

Abbildung 23: The average result is 1232/5= 246 Euro, this is an improvement. The original value without filtering was 1119/5= 223 Euro. This means that the OOS1-Filter have a positive effect.

3 00S1+00S2 Fil	ter						
8						1.10	
lan a	Name Parked	A. Landistruit	PH Select	ty Bell	U Distance	m Indeni	
***************************************	00	1.1	00 00	0 HE 1		. 0	
Andrew Cell (2007) workfund labora	200	2.8	00. ED	44	10		
WINE CO.	00	24	00.00	100			
arm nell.	00	4.0	00 80	80	8		
en sur imañs	00	44	00 00	100	10	- a	A Date Service
And Address of the Ad	14440.000	140000	1.00. 2.44		-	00011118_0001111%	
internet study, a WAR ODDEY and Theat rates, a MARA or	11/70-00	1001103-00	1.13 4164	1.4.98	1647	INCOMPLICATION IN	Portfolio
server most 2700 (2009) white almost shall be	-310.40	- KNOPPO ha	1000 1000	8.23	1158	2003 06:05, 2013 06:01	1
service model of CON CONTRACTOR AND	12081.30	400000101	128 842	1.55	462	2012/01/15 2017100 10	
HERE BUILD - THE GROWN WARRAND - MITTER -	2001.17	10017424	1.17 8164	1.10	417	201111227-201212-02	
and the party of the second second second second second second	10010.00	10017306-011	1.44 (1.77)	1.65	446	COLUMN DELIGIAN	
mine make (TMI ORTY workflood adult - 2008)	1001.42	190304-10	1.12.048	1.84	1112	INTERVE DUTIES	
man mails ("Diff (BUP) waiting had a set (BOOD) of	1009.00	201110-08	1.12 0.00	1.91	NOET.	201104-09 201104-09	a 2-
street works a TAN DRAFT and the street street. (2000)	1071.11	111108-01	1.18.018	1.00	1000	INPLOT IN PRINT OF	
server sould a "100 (0000) and the server of the server	short and	11101111-00	0.00 -0.00	1.44	115	COMPANY OF THE PARTY	
second study - 100 Chief's and the Archive - 00712-1	477.08	opposited.	1000 1000	1.0.00	10001	- 2020-07 Str. 2021-07 ST	
service includes of the California and Physics and a California	0.000.000	COLAN IN ST	112-042	6.32	44.00	page 64-bit path of the	
where weath < 200 district work bank where 20420 + +	2796.00	SALADALE TH	147.054	0.64	1000	2000.001+ 201102.1#	
man multi - 128 (8187 winiferinden - 1998).	1016.04	NUMBER OF	1.10 1004	194	1184	anten et au ministe pe	4 d (1.00)
man weeks a 240 CRUPY and the short a first	1780.10	100100-00	1.00 0.00	178	1021	COMPANY OF CONTRACT, N	
water works of the ORDER workflow has been a court of	TONLAT	IN TRACK ALL	1.15.030	2.81	11000	per tempore periode he	2
service service of TAN (MARY) went had a dark of the	1926/12	10001-01-02	135.119	1.18	107	Devents in Sectors in	
state works of the OPPPI statements in the state	1044.11	101123-012	141.030	14.30	LOET	2010/05/2012/09/05/201	
second studies of VAR (19210) and the strategy of VAR 4	1100.02	407103-01	111.000	140	-1071	1010 (0.16. JUNE 10.	
sector must - Yes caller waters and - Aritish	DISTAN	ACT+00 L4	1.20.045	-14	100	2010/07/08.2010/07/08	
while posts of the child's weather which a state of	10000	information.	1 15 1 10	1.00	100	Internet in the second in	
when such a the second second second second second	110.01	COLUMN IN	1.10 1.00	1.84	1101	APPROX IN COMMITTEE	
and the lot of the second se	- and and	1001000		-1.11		ATT 1 10 11 10 10 10 10 10	the second se
	0.0		00.00		-		and the second s
	00		00.00	1.2	- Q		
		12	200 200	- 2 -	- C	- T	
and success building	Add of the other	10	1.25.0.26	10.00	Contrast.		a new plane have blane date and the one and have been been as in the plane and the plane and
and the second	1993		And the second	1.00	10.00	- #11	Rapp & Hot Past

Abbildung 24: The average result is 1463/5= 292 Euro this is an improvement. The original value without filtering was 1119/5= 223 Euro. This means that the OOS2-Filter have a positive effect.

4 OOS1+OO2+EURJPY

				2111122			000			10 Mar 10		
Narw	Marin New Yorks	Lengers	181.5	Samp.	RefOT	Deepin	üroltum.	10 B B B B B B B B B B B B B B B B B B B	211	100		
***************************************	-34	100	82	18 :	20.1		*		100	- Control N	Contra 1	0 ME
Mokten-CM 18977 workfundeniym	3.8	00	0.0	60.00	DÓ -	10	10.					manufacture.
Portiolof5	3.8	00	0.0	48.000	10. J	× .	* ·			A Description of the		
Apple av5	0.8	00	-66	10.	50	. a.	# C		0	0		
average worth	-8.0	00	122	18 3	20		1.	A Robi Denses		And the later of the		- 0 X
manage matrix - "1988 ABUTY modificant alpon, (\$5558) or		-tes (\$.27	124	8.84	EJT.	199	2010/11/10 2010 11:18	and the second se				
meriops musics a 1296 SBPDY meridiowistralpets, r 80934+ a	3716cm	20843.94	123	646.	1.35	248	2022.08.26.2022.06.28	and the second sec			Partifolia	
entropy tealty - 'Q90 S&N'P workformmaly/2, +80428++	-415.34	115665	5.95	-8,60	1.19	280	201206-07-202126-00				1.0101010	
makings must + 1290 GMRPT workfornitration, +80008	20080270	14553040	1.16	5.68	1.64.	218	1003311111-200330.01	1.1.1				the second s
sounge mails (1298 14999 motificerit siyes, +00112+).	F23007	8882111	140	244	tar:	10	man to re-sport to 18	1.1.1.1				2-6
avarage teadle - XPR 189797 weekPowlewlysis, +07148-1	4214-010	108406-1/1	340	141	142	128	2007-89-39-3002-06-04	R.40				
avarage teachs a 1298 EBFDY stockfounk wholk a 800841 r	4111.25	187538.77	1.12	187	4.12	201	2021/07/07 2022 07:02	1.20				<i>F</i> .
anartige mains - 1285 589577 monthourst alpin, + 80008	40100	3992228	0.15	634. 1	100	201	0011409-0020438					
strange south: v 1299 689971 worldowline(ord) - competi-e	1853-85	4600.0	1.11	8.04	643	185	20010111-2003.0118					
manage matters (1988-1897) we bloom apple, -18 fabres	111111		100	181	6.01	0.001	100110-00110-000	11100				
manage must a THE DEPTY and Averaging _ ODAD >>		194407-00	1.65	2.45	6.65	141	202010131-002102-0	1.100				
average made - 1295 USEPP workforwireight OEDEL	24.84	105444	1.00	641	100	214	3010105-00105-08					
analoge moster - 1000 GBRPT workford/ulpas 04400 or	2412:29	3000613	. 131	H00: 1	1.00	122	2020/02/14-2021/02/0	1.100				
seeinge multic - 1299 LAPOT workflowtrodynk 00004-+	1809/28	10099124	1.21	2.61	111	100	2018/11/22-2020 11:20	2				
manage tendls, a "QBE LEWITY modificer/colput, - CEREE-	1010.07	11/04/62	1.28	8.75	144	100	and a set should be a first	1				
manage tenafit - 1288 289097 workfloaitradput - 000121-	1104681	8252122	1.16	0.68	100	201	2014/06/2012/02/2012 00:00	2		14-		
average results / VDM CBPDP workform algost, - OCPA	2360.68	300561.41	1.35	8.79	164	110	207 B.H. (5-2020-00200	11.000		1		
analogi more - QSUGBRY workforwateri, - GBRD -	0111108	111043-28	141	1.70	631	101	2010/12/14 2010 12:20	11.1au		100		
merings multiple (200 GBR/77 experiments along a complete a	1898-53	INTELAT	141	in.	4.10	104	2018/08/28 2018/00/28					
merge works - 1200 189077 auditout/uppa - 2100011	1012.06	MPTHEAT	1.30	282	182	1011	yor simple up where a	1				
sorrow mails - QH 18977 antihastration - 012511	101070	41766.14	118	2.65	2/84	121	201818-11-2019022-08					
marage maths / V266 CHUTY and Strenk along. dirithing	1400.01	115140.00	1.30	tes .	138	and in	2018/01/20-2019/01 18	1.1				
success have a TEN ARTY must an easy	10430	18.01.00	1.10	4.41	1.11	110	AVE # 17.28 # 102		1.000			Contraction of the local division of the loc
	11	bó.	80	100.000		.0		1.140	and the second second		- A -	A CONTRACT OF A
***************************************	1.1	00	80	80	p	G	1					1. 1
	8.0	00	82	E8		100	11					
invested averagia year deri	143559	10.	1.21	8.29	ur.	1941	¥	a-340 -114			the set out	AN

Abbildung 25: The average result is 1628/5= 325 Euro, this is an improvement. The original value without filtering was 1119/5=223 Euro. This means that the OOS1+OOS2+EURJPY-Filter have a positive effect.

23

5 OOS1+OO2+EURJPY+USDJPY

14.44				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Sec. 11	Report A			A		A REAL PROPERTY AND A REAL	
11,0110	TROUGH PROFILM	material	5	ine of	8415	Scholes	Diplet.			E.C.	U1	ALC: NOT	6 Y
200000000000000000000000000000000000000	R.P.		100							and the second s		a second	
Westflow~200 (BEP) and hand salyss	00	1.1	M.		M		2.0						Particular Constant
POTNEQS	.00	3.8	198	M	M.,		8. L				and the second se		
(Hollin 1+9)	60	M.	0.8		M	*	A						
average result.	: 083	3.8	102	18	48.1	*	*	A Provide Lines					
sharings reaches ("SEE 2019") ausiefund adjust, "COMP-1	2010/00	100 21 20	110	0.14	-118		101111-10-0011110	April 2 44					
average rands = '208 CBC9's web healed you, +0004++	1196.40	20050.00	1.19	9.43	1.05	10	283208.24.2023.84.34					Portfolio	the second
Average waute - 'COR UBDRY workflawthatype_+00400	11720.00	NAMES IN C.	104	-0451	-0.95	24	2020938-35359668	III					and the second
Anthone concile: < 'QDB GBP:P's and flamboulysis: <00006-+	3122.26	20178.06	+4	1.64	10.	40	11.18.000.11-3000.81.11						And the second se
average results shows there's applicable of the source of the second sec	JERMIN .	10048-01	1.14	4.17	104	30	2021.12.11.0002.10.11						
warrage results a '098 GB/IPY and bendvedysts, +00'981-1	415857	101103-001	7.84	878	274	40	20110933-30223836						
warrage nexults < 1290 OBVP1 and cheakeningsis, +00081++	183580	\$1552.05	1.85	3.67	181	13-	20110230-202231100						
average results < Q06 Q8597 automobilityis, -00800	159.10	2011/2	1.10	428	1.11	25	(RE) 04/88-2022.04.08	111300					<i>A</i>
analysi multi <'098 GRP1 whitripe Industria - 80084	118540	16276.44	3.04	2.54	CH-	35	101101-S-0028118						
entropy could, a fair call the solution of the second second	101128	CONTRACTOR OF	110	an.	-111		2007/12/02/07/10/08						1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Permanental - State Likeling and Real advan - 2010 re-	STLT5	CONTRACTS -	1.00	D.E.R.	-040	100	reaction of a second	10.100				and the second s	
Average results - ONE OR PT automotion by a - All (http://	101.05	10056-02	100	12.55	400	THE .	2010/2014 2021 1018	the second se				and the second s	ar
average ras./m 208 GRSP's unit-flankhulput 20428	3452.42	20000	1.54	0.47	1.10	15	20000214-30210218					*	
motogie conult: < 'Q08 GBOPY and Resolvation, - 80004++	1576.62	400538	0.28	4.83	CH.	128	38191123-2008.1133	4					
westage maults - 1018 URLINY workflawAnalysis - 80148	winiting.	41062.77	11.08	12.74	1.64	108	UNTROPING AN ADDRESS OF	1 E					
average maults - "CHE CEPTPY workflow/outputs - 808/11-1	1182.03	27151.87	1104	8.81	1.66	116	2019/08/21 2020/08/26	1.0			2		
average ration in 1598 UBMPY analysis and the Analysis - 4073811	111840	40807.00	110	478	1.10	88	proton in possile th	11-180		× .			
evenue mails (100 08197 whithewheelve: - 2064)	104732	81100/81	100	4.78	4.61		18441124-2010/1128						
memory results 11008 GROPY and floated and resolution	3713.81	POALSE.	1.48	141	1.84	100	281000.28-3019.9628						
average maulty -1008 GBRIPY workflowAnalysis, - \$1008	101210	81104.70	1.51	0.81	457	110	ATTECT 28-2018/2108	1.144					
domain marks - '088 (8979') work hand-advest - 810821-	7000.00	dates in	1140	2.78	111	180	DEVELOPING THE DOT NON-THE						
maximum results, -1008 (2019), and the sheat on 411 Maximum	1781.40	¥1000.00	1.24	1.84	1.00	200	2010/00/10 00 00 00 00 00			12000			A Participant and a participan
And the real in a line of the second se	484411	LUNDORY .	101	diat -	4116	140	20111025-3149-0029	1.500	1000			Sector Contraction	and the second sec
and the second	-00	1.1	4.8	48		4	The second s		- Marine		COLUMN		
	60	1.2	11	11	ā .	8			1000			5.5+	< ··· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·
	60	1.0	10	10	÷ .			1.000					
outed survey widoo	10/104		124	4.99	141	3118	4.	4				Dispute the Num	

Abbildung 26: The average result is 1441/5= 288 Euro this is an improvement against without filtering, but it was a step back against the last filtering.

⇒ The USDJPY didn't have a positive effect. We can drop this filter.

						1.1.1.1	
Name	BORT THE PARTY	a series were		many not	C Lage	per troles	Children Chi
	- 029	82	12 23				Protection Agent.
Notifiaa. 206.0019Y yestificadostype	02	60	M. M				
PeritrikelS	00	44	11.11	60	. e		
Maria rent	.00	.40	10.00		- 10		
www.goreu.dt	.008	40	88.88	1.11.60	0.0		A Party Second
summy reads of the sector of the designs, residence	0110.00		101.0	61 A.	0.98	WEAT REPORT IN	Mar w
mentals reals, r TPB 20PPY methodesiyes, +201201-1	428.29	WHEA 28	124.88	4. 34	1.11	2013/98.30-3023 INLJW	Portfolio
manage results a 1280 GEPPT montheastery pt, v004201 -	-34574	-4355.34	100 10	10.14	81. NR	20110010-002100-08	a second s
some mate - ON-GMPT surficultation of USA-	483.19	102.75	100.00	h. 4.8		2012/2011 10/2012 11:	
manage marks of 1286-308999 methodologital, +082121++	16/46/01	100.00	100.00	K 8.8	1.0	3831-10.01-2020.10.07	
memory reads v'000.000077 autificationysis, v00.081-	1270208	1211/180	241.68	8. 7.8	1.08	INTER-10.14.14.1003.09.24	
average results of DH 2019Y and Headinstyne, +2028411	872.84	UTHER M.	180 8.8	8. 21	. 18	2021-07-02-2022-07158	
www.govenite.com/commission/commissi	(9409	1128.84	3.10.14	1 64	0.00	2011.04.09-0322.04.08	
marings multir (108 25897 method/colym.) (0084	103.30	DIRE	141 83	0.14	C (#	IIII+++++1-3000.0+++II	
manage results of 200 2000Y supplies weather the	1100.000	-990175-	EFf-da	10 11		100110-00110-001	
mentals mails - 128 (2019) estilizations - 0000	-datable -	- BRIART	1.84 -0.	ri -61	4:10	poster at account in	1 m
analysistative TBL 2007 and featuring	210.41	1012245	CUT IN	1. 11	18.	2010/05/06/2021/06/20	ten and the second s
weiner mails - 'OH (0817's authoritation, 10042)	01434	145430	142.63	43 42	40	2010/03/14-2021/02/18	to a second s
memory water - OR SHITT surfloorentyst, 10004	LINET	TTTR AL	10.00	0 64	100	1014 A 11 (21) (2008 +1 (21)	1
mental multi - 198 SHAY surifications, - 00881	10191	ATOMAS.	140.83	4 1.0		2018/08/00 2020/06 20	
average results of DRI GERPY partition/entype - CORD or	128080	4108.11	10.44	4. 10	10	2019/08/07 2020 20:00	1-
warage made - URI (0077 are the design) - 0076-	10184	WHAT?	100.00	4 13	11	2018/01/15.2020/08/14	
menter make ("OH INFP particulation, CONC-	106.45	00429	141.14	0 10	110	2018/02/14/09 12:24	
means water ("ON-SHE's antibudeaters -00014-)	453.30	11742.35	155.44	1 49	18	21110-0110-0110-0028	
mentale results - 1288 (2019) Yourthout-Austral	244.12	2346.47	158.8.8	1 35	4	2010/01/06-2010/26	
service mails (THE SERVY continue to \$1000) -	1014.94	1011120	121.10	· 17	18.	2018/04/11/2019/2017	1
service made (THE DEETY serification) at 10000-	001.10	incrusion .	1.40.00	1. 18	1.48	ONE CONTRACTOR	ten la
second to be a state of the second state of the	- 100	April 18	4.76 -4		1.11	matematicane worth	- action a transferra a
	da	8.0				and the second second	
"networks and an	inin .	8.0	10.00				· · · · · · · · · · · · · · · · · · ·
	0.0	80	11.11		1.1	1	
consult processes searcher	58481	¥.	01.0	(r 10	. 111	(E)	n ben i ben nitze dan dan men men dan dan dan dan bi ini pen aki dan

6 OOS1+OO2+EURJPY+USDJPY+Robust

Abbildung 27: The average result is 354 Euro. => This filter works.

7 OOS1+OO2+EURJPY+USDJPY+WFa

SelectedTimeframe



Abbildung 28: I modifed this filter in the walkforward-Filter. I decreased the Min trades in one run from 20 to 17.

	himse thinks an	Same Station	1. 10	(Manufacture)	And	A Distance	a factoria	
	1.4	100		100	100			
Weiting The Land and the Andread		00	-		1			
States of	10	22	-122	- C		÷.	2	
and the second se		100	- 22	22 V	- 22 -	- C - C		
AGE TO L		300 H	- 22		12	÷.		
trouts on the	and the second					1		- 1 G. 1 K
secolds comply 1, 258 cm and the second of the parts of	-TALLET.	1100.00	1.1	10.34	0.00	10	THEFT, W. BOATS IN	
Analia menter « Coll patche Acquiremente + 60104 · «	-4812,002	JUNET NO.	12	1.88	104	40	TRUDBLE-DUIVELIE	Portfolio
synaps multi-crops carefy waterbooksalpid, +20028 ()	COLUMN STREET	1012184	2.00	1.11.1	10.18	. 8.0	1023-06-23 2014-36-24	Case
consequences of 200 CBP PT and the strategies, CBP PB or	74142	TERMINE	140	1.14	1.64	18	TRADICOLLARDING TO	an a
secteds carry v.000 (0016) monthestration v002211	49410	00010.000	53P	8.20	8.73		363 1124 1055 2114	
 overlage manifes < 'Q06 GROPH sector/panknolysis, x80(188) + 	#19.10	10587.45	14	A70	321	16	2021/06/24-2022/06/24	
average maulti < 'Q08 C879P1 wohlflowAralysis, +800841+	21800	11003.96		1.840	3.39	- 85	5851-05-165-5005762-008	
(average could) > "298 S8019"1 average without adjust, + 00000 + 4	8.16	317.08	्रधा	3.00	8.01	- 11	2021-09/26-022238-06	
conspression (2001) (2019) and its dynamics (2000) (2010/01	218485	1,23	8.01	1,21	. #8	1011/0.10-001212111	···· /
Average results + 7008 (2019) average advantages, - 2010.	100.00		1.8	1.64	0.45	11	2640 1024 2011 1025	
swenige mades a 200 UR/Pr appringly about the	-58.55	-182.58	1.7	-0.58	-921	1585	3604731-2014036	and the second sec
average rando < 208 GROPI worthteelympet 04118 - 1	5.61	345.28	1.00	8.51	141	45	26201039-2022-8526	
average mautic < SAE GERPT additional ration, - 104321 -	185.00	1044LH	-164	641	411	38	10000014-00100116	
sumption do . 120 100 Providence - 000 Pro-	108	198.05	1.00	141	1.21	11	10101125-0001121	194
Average cost to 17200 189797 model and Analysis, - Mildle or	445.49	15411.09	1.84	1.12.76	1.71	31	10110-0030-02203-0030	
Average results a 1998 GBVPV workflow/output, - HEITER I	101.45	10824.215	1.11	1881	3.011		pervedenter proprios de	
average can. At 17200 CBTIP1 and Standards. 2017bb of	1011.22	3100132	14	1.4.76	1.84	44	2010/01/02/2020 01/14	
average results a 1000 CBOPT accelerationation, -36840 and	198.00	20682-47	10	4.76	4.40		2010/02/25 2010 10:01	
manage marity - 1000 GROWI understanding - 500000-	414.10	308-0130	-4.90	1.54	4.42	48	24100-26-2010-8-38-38	-
mence insult - 108 CBOPT workforekulars - 01000	796.15	CONTRACTOR.	1.4	191	4.61	41	101000/06-20103/066	
senses on it : "OR LEVE southerduces - 2 http://	100.11	100 1000	14	1.11	1.11	11	OTTOOR OF BRIDE NO.	
And an Arrival Statistical Arrival Arrival	111.00	100.03.00	1.1	192	141	112	OTTALL IN DEPARTURE	
And and a state of the local data and the state of the st	100.00	and the lot		-			201710.27 0101010.01	and the second se
		200			100	10.0	a classication	
	22	00	- 22	22	12	2	1	
	11	111	- 22		2	12		
and a second			1.00		100	-	-	the line of the second
towned searcher works		- C.	- 25					Trape in This Past

Abbildung 29: The result of 313 of the Walkforward-Analysis was not so good.

8 OOS1+OO2+EURJPY+USDJPY+WFb

SelectedTimeframe

Settings filtering											
Walk-Forward type Period type:	Simula	red IS, Exact OOS (slower) Dwys - Bars (Tradestation comp	atities Flatting Ford								
Out of Sample %: Walk Forward runs	3	- + - +		Oversteinen W	en bienen Operanden Jaren bereiten Operanden af he strange seig f	te seringe herne. Ye seringe de Kjerner Dies in	iller met fondlik Series (den med te beter				
Maximum tests:	1.000 Recomme	vided number of tests is 3000 - 2	0000	Jammagn Filtering Types offen may send from their deep with the constrained offen 100 constrained as a sequented Filtering (dot electr combines 2 and as photoasis) (dottado angl) (dottad							
	yau con k sheattar	mit the number of teas WF option	naation performs, and itsus i	Radonald Street, or other	non reaction (= = = = = = = = = = = = = = = = = = =	d candidana.	100				
Value distribution (% from artgina	it value):			WT has anoth CARDy						
				5	WF Statisticy of Net grant	4.4	80%				
Up;	- 30	- +			We Sparse - Percentage secondation was	1.7	2014				
Down:	30	- +			and Appendic Was prove to and han as Well takat	1.1	10%				
Advantation of the local diversion of the loc	10	100		10	WE Special Adda N. Snapekiese in and non-		25.5				
seven stretter	110			C.A.							

Abbildung 30: I modified the "Out of Sample %" and the Walk Forward runs.

		-		-			
haven't	North Mellingfu	handedby	of PA	anti- fait	(E) linking	tas Derland	
·*************************************	1.1	00	00.00	1.0	- 00		la contra c
Workfore-CHI GRIPP write/backsture	3.6	.00.	00.85	1.00		A	
Parificies 0	8.8	00	60.65	1.0	- 10	1	
American I	8.0	00	10.10	1.88	- 30	1	
andrange results	11	00	100.00		- W.	6	a hub Darver
average results 1/2008 GBDP's protohonologicals, r005081-1	A23.41	AHER	145.47	11 07	4. 45	2012/11/01/020110	
Investige results <* 208 GB/IPY workflow/kellular + 60584++	364.97	20527208	1.90 8.6	8 15	20.05	2612-0826-3020-063	Portfolio Portfolio
service results COR OFFY your level advects r0080111	104.12	1075.10	129.42	11 127	14 . 14	Marcola 1 222.864	
surveys results a "200 (2019) und faultantics, +00001-1	ALC:16	ternine	110.08	4 1.2	1-18	DESCRIPTION OF TAXABLE PARTY.	n / 200
menuscrash - "ON INCEY and dealastics, 10252	1014.237	1004.11	348.84	a. 197	 1 	2011/12/17 2022 121	11 100
wanter results - '098 OSRPY workflow/autors, 100168-1	845.77	2821934	147.63	8 1.2	31.32	2821 08:24-3 022.893	34 4.30
swenage results < '098 G87PV wom/fisie/autosis.+00084	71415	2845248	105.04	4. 4.2	10.0	2621-07-82-2022/810	
somily a result of the Galifier and Sankadya (1900) -	101.00	3100.64	1.00	11 11	1 11	2011/04/04 2022/088	
pression results - "CPU LINTER' scaling whether - \$200811	1204.00	10104-02	1.101.002	4	10	ptr1/11/10-00020111	
service reads 17000 (2007) unit feed inton, 10100 r	HALTT	4410.71	100.00		1.10	2010/10/11 0011 100	
average results 21200 120207 aperfered relation, - 20202-1	242.3A	8445.75	101-07	58. 42	1. 11	2020/07/01 - 2020 - 2020	11 4 Mar
strange reads - 100 (BHP) antelestention, - 8038-1	Citik m.	+++0.75	140-42	11 -11	0.128	2006.08-005-00	
senage results + 534 GREPT assertion/Autoric, - 654281 F	+ 533168	WHERE.	100.04	0 17	48	2010/12/14 2021/021	di groot
memory results - 1000 GB/IP's undifficult edges - 00000	94.00	344.99	100.00	1 14	C. 11	amin's contra	
werege results - 108 GROPT work flam Autors, - 201221-	41811	10106.03	1.82 8.7	6 14	10	2019/08/10 2020 08:3	2 G 100
average results a TON GROPP workflew/andputy - REETE In	300.48	1987174	118-29	1. 302	11.19	2019/06/21 2022/06/2	
mention rands / 000 GROPY unstributional subsets - 20118 - /	621.88	2521046	110 111	T 1.0	47	2819-00.10-3020/081	
seemage results, +"GHI GROPY anothered halp in 80048++	78588	10811.34	430.64	1. 1.0	0.01	2010/021-2016/023	H + 400
merica results - "200 GRAPs workflow/setsets - 80004 -	 Web22 	4002208	1.100 8.8	4.1	10.046	2010/08/26 2010/08/28	
average results - 1248 GB/PY workflow/watcols 81258 rs	- BR237	REPORTE.	111.08	4. 41	1.168	principal detailed	AM 2 100
summings results + "200 1007074 undefined-subject, - 8 1002-1	448.19	117100.12	144 017	1. 1.10		STREET BUILDINGS	AN
average results a "ON GROPY and Availables, - 2007611	408.47	TEBLO	111 68	1 17	147	2018/1114-2019/011	II
increase results, a "Side CENTY workshow had not - \$ 1200-1	CHUIF	7548.00	346.47	14	8.11	2012/04/21 4/14/342	and the second sec
	3.8	00	160 88	1. 8	.0.	R. C. Lewis Contraction	
******************************	1.0	00	20 64		0		
	0.0	00	20.88	1.1	-	E -	Internet in the second s
the state with a	THER.		1.00 1.0	111114	i interio		the root the first and the star of the first the last in a star we are use and

Abbildung 31: The result of this modification was 310 Euro per Strategy.

9 OOS1+OO2+EURJPY+USDJPY+WFc

SelectedTimeframe

Settings	Rivering					
Walk-F	torward type:	Event I	Exact OD5 cvim	4	~	
Period	()pec	Denet	Days Bars (Tra	estation compa	tible) Heart	Trad.
an of	Sample %:	-	- +			
. Wolk F	brward runs:	1.00				
Masim	ium texts:	1,000	×.			
		Accession	noled countier of 6	errs /s 51800 - 20	902	
		jan ann i durathan	knië itse suurniver og	Presis NOF species	indran pierfai	ung, anaf thise Soort As
Value	distribution (%	from origin	e values			
Apr.		30	-+			
Down:		30	- +			
Max 68	epu:	10	-+			

Abbildung 32: I modified the Walkforward Settings form Simulation to "Exact IS, Exact OOS(slow)"

March 1	Marriel Amazine Ma	Sandarite:	111 104	and dealers	0-inentia	a Korbash	
STREET, STREET	1.0	20	100 100	1.00			
Westman West (MNIN and Hand Advan-	24	10.0	00.00	00	1.0		
Sector II	11	0.0	22.23	1. 200	- 22	1	
Associated	11	100	100.00		1.4	1	
and the second	10.0	100					i Ball Coules - B
the same in the same of the same state of the sa	- Constant		Contra Care				1 Percenter
second with the second se	10000	tana and	110.00		- E	TOTA IN THE AVAILABLE IN	Residence
search start - the start started and the	And An	interior of	Address of			TALL IN CO., NAME AND ADDRESS	Percents
merely many - the start southerneys, -out, -	AND IN CO.	a barriera.	in and the	10	1.4.4	TOTAL MALES AND ADDRESS AND	
service result > GAL GOAN and Roading the	000.00	August and	100 000		1.12	South of the second second	134
switch waters the must set provide the contract	-	average a	149.97		1.2	4997-58-11-0424-18-12	
similian mate - De derey mattine/exystcondi-s	1110.04	TOTAL COL	110.03	1.11	-11	2010939-20202908	a
some make a the state and provide the second second	862.50	URB2001	1102-008	1.10	0.00	2010/2012 2020/21/02	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
mentile many - the span has prepared as a constru-	4.18	andr.	100.00			2021 84 04 2020 24 08	1 1 mm
searche strage = 206 (206) and programs in 2000411	11210	MID049	110.00	9 /108	1.18	500 m H-0022 m H	
methys (most) < 1000 calify a calify whether a calify a second state of the second sta	1112	-6920-45	0.00 - 41	10	- 40	2020/10/21-2021 2020	
seeinge multi - 1280-3089Y weet RowAndryte - 85213	-81.81	1004.15	087-0	11 -1.41	- 43	2010/01/01 - 2011/01/08	A
lasting to the contract of the second second year." British a	-40.11	1110.04	116.41	H. 611	D (00)	2020 01 08 012120.08	A Loss A
sommer modes - 1290 (20197) somtificial oxytes, - 80000 + -	340.84	171208	118 04	r : 144		2028.11.11.007182.15	a part
armings ranafty - 1098-00899 work feedbad yes	246.81	37(8817)	139-04	 118 	. 40	2010.11.22.3024.11.23	
average results < '0.00 (25897' services/earlyin, - 20588-1	408.05	282644	139.30	1.158	1.168	2014年末3-2520.0828	8 6
areinge results - 1286-8289Y #srAhowheatysis, -806/2++	197,82	151234	115 08	6 0.19	39	2018.06.07-3329.06.06	A 4 100
sources would a '1281 39897' worth worth and and a 10718	86218	3440319	144.103	 E14 	140 - I	UT10.01.15-2000.03 H4	4 1.44
permanenti - 180 (8797) escherholye, - 6000 i s	215.01	21076-01	117,18	1.141	100	0118-16-11-00/W-16-25	A 3.000
menger-maile - "DRI GRIPPY and Real-robusty of - 62003 cm	606.37	ATMALIN	1.12 108	4.00	1.00	2018/08/2012/07/08 09:08	8
average risking a T290 000091 analthreakedppin, - 01000 va	78632	101215-04	138.68	4.1458	37	2018-0148-2018-01168	A 1
everage multi - 'QN USEN' exet for loady at	315.48	1011551	129-07	6 i 173.	142	2010/04/15-3014.04.05	3 im
seminger works - 1288-528974 anot Rowlendym, - 411 Terro	42547	THEFAL	135.68	1.1.00	170	20180110-20180138	
mettige works - 1284 million and Rowheature, - 01284	25.40	Although	101.05	a 600	2.08	2017/10.17 (010:0012)	
[편집] 전 전 전 전 전 전 전 전 전 전 전 전 전 전 전 전 전 전 전	00	99	00 00		10.	E 10.00 (10.00)	
***************************************	4.0	0.0	00.00		10	1.7	
	100	34	00.00		260		
second everage mode-	110.01	8C -	128.03	6. 119	0.0		The part of the second se

Abbildung 33: The Result of 331 Euro per Strategy was a little better, but the result was not perfect.

10 OOS1+OO2+EURJPY+USDJPY+WFd

Tick simulation

Settings	Rhaining		
Walk-P	orward type:	Exact 15, Exact DDS (daw)	
Period	type:	Terreria Deve Bara (Tradicitation compatible) Heating Plant	
an of	Sample %:	-+	
Wolk Fi	orward runs:		
Maxim	um fields:	1.000	
		Recommended number of tests is \$200 - 20000	
		processes limit the maximum of west 90% optimization performs, and thus distribution	liont it
Values	Estribution (%	from original values	
Apr.		30 -+	
Down:		30 - +	
Max 60	epui	10 -+	

Abbildung 34: I used the same Settings as before, but I switched from "Selected Timeframe" to "Ticksimulation".

#1					and				0	0 0	0
New years and the second	report Northands	horisten		140.04	Bach (1 Trainge	ay Instant		-24		
	66	10	4.8	11	1.2	4	100		-7016	CONTRACTOR OF TAXABLE	700
Westing 201 (0019) and heated yes	00	88	42.1	11	61	1					makaka Likaka
Participal	-00	11	10.7	88	88						
Amore read	00	11	0.0	48	44		0	and the second se	0	0	
average results	00	83.	49.1	0.0	10.		0	A from Diserver		Contraction of the Contraction o	- D X
mantipersonality of their contents and then being an e-contents of		1041.21	1.00	al date	1116		2011 11 14 4810 11 16				
searcherenalis sitzle certer's existence wayse, statutes of	1110-02	WHEN PARTY	1.10	Bat.	875	-04	THEOREM STOCKED			Portfolio	
mental reads - "OB OMEY swittenholyes, -OMO	ITTAR	(TRANKA)	100	CAR	1941	41.	10031-00-03-0000-04-01				
investor multi 2 008 (8589) and feaded you, 20036-2	 195.40 	10114.18	1547	8.21	281	0.	282255.71.2025.8118				a
mendermaks < 008-00007 earthowhealyse, +05252-r	- 1044.10E	P129-28	1.42	3.64	1.24	10	202112/07-2022/02/07	1.144			
investor results < "298 SMMY anti-howhealyni, x01100-r	- H+E.H.	88421211	1.21	11.79	104	13	mittonice mail relief	A LAND IN			
manager-mails - "128 (2019)" exclusion-maily-	128.68	101022-00	181	247.	LET.	12.8	10110/a) 201227.00	100			
mentals reads . The littley and dealerships, which a	A - 195.00	Index	1.00	1030	1.10	10	Just Juste plantage				
searchings reports 270/08 (20197) were broadenabyed, 2-00004-	- dinne	8168.25	1.207	1.55	ton.	198	SHOULD AND ALL				
manage made - "200 20007 and franksiger	* JAT 17	1001.00	1.00	100	040	44	2000 10:25-2011 10:01	100			
mental reality (GH 2019) part for the part (0005) -	+ - 1010H	1001100	1.84	615	0.14	41	100107-2120-2010	1.00			
mental reads - 100 others carbleshed yes - 0000-	- west	-0100.10	1.94	-0.10	0.10	- 10	INCOMES AND MADE	1. FOR			
armage results of DNI 128PPV earthfree/eatypes - 000201-	1. 605.70	200ALKA	1.71	3.81	4.10	44	sectore to dest all 19	1 A.M.			
warage made - 128 (8897) southeadedges, - 10584-	# THEFT	2016.16	101	0.05	141	44	2010/11/22 2020 11/20	2 1.00			
metagermatic CON (2007) autobadratys), 00001-	- 418.81	29437.01	100	0.75	100		1010-00-00-2000-00-00	2 1.44	-	-	
analogie results - 1086-508874 analosa Analysis - 608751-	< 105.28	1454154	1.01	031	101	-M	2010/06/07 2020 26:06	1 100			
manage results <104 GERPY earthracksayer - 00%6-	- 348.75	ptoron.	1.66	A.M.	2.21	44	attract to assess 14	3.100			
armightmails - 'CNI 3099'Y mithoutholym - 00825-	× 192.20	depth in	14T	1.00	1.10	10	2010/12/21 2010/22/2	1.00			
service make / 128 SIFPY cartificated on a 2003	10103.000	40,000,04	1.66	1.01	418		10 tool.in pronuting	1.42	A.		
mentale mails (100 0007 perthodopyer, -0100)	- 685.25	56075 W	1.54	1.84	3.00	11	INVOLUTION OF A DESIGNATION	1.76-			
mainton results ("ON-SHITY any feaderstyle, - 6108] -	- 416.00	30+56.38	1.58	0.52	1.27	71	2010/04/13 2010/04/10	1.110			
average receits - tolk dollary workhow/earlyins01176	- AND RY	PATTRAL	1.28	345	1.00.	100	distance of an and an	a set			
another mails of the HEFP's wettherwheetyne, 1 at the se-	- PERMIT	AMETON	1.84	3122	1111	-	101111127-001010-001			- A	2
	100	.84	100.0	14			4	In State			and the second
***************************************	00	11	10.0	10	÷11	19 - I	0			and the second s	
Construction and the construction	00	3.5	34.1	44	6 C	Sec	ů.:	Part of the second second second			
word away inclu-	101.82	π.	120	8.81	1.67	1010	0	1.00 4.00 0.00.1	100 -000 -000	female in the Part	All 2 and 20 and 40 and 40

Abbildung 35: The result from switching "Selected Timeframe" to "Ticksimulation" has no big effect.

11 OOS1+OO2+EURJPY+USDJPY+SysParameterA

Selected Timeframe

In this robustnesstest I use Sys Parameter Permutation with the following Settings. I use selected Timeframe for the backtest engine.

N=1000



Abbildung 36: I set "Best Optimization profit <2". This parameter has the biggest effect on this filter. This condition "<2" is a very hard condition. This filter will filter out many strategies. The big question is. How effective is this filter?

Trailing engine Trigra-	MetaTratera	(a) Antibiotal starts	4.1.4	there are all second to	alaan area ind allog is	i.
Rocktest data settings						
Symbol	саярт, ил, ился	Terrettarre	. #1	4		
Start day Available frame	2000.01.01 🔳	Breitstag 16	2021.04.00 2023.02.01		Reset dates	
Test parameters						
Presiden	Selected timeframe any	Tatte 🖉 Commission & swep	TAL CONTRACTOR	or the twee	0	
Splemant	3 -+ p01	Steener	1 ++	(PPI	Min, dillarout 0	+ (PD)
Data range parts Bhasair Alexan	adaolys 👘 🔋	(X) (X)((***) (*)((*)	.			Store that

Abbildung 37: I used this Precision and this Spread and Slippage.

								Contraction of the local division of the loc	
								A larmer	
								And in case	
									Portfalio
(a)						_	-	1. 1.00	
	1.00				-			1.000	
	1.0			~	<u> </u>		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	1.11	and the second se
	a second second		~						
	Acres in such			1		6.1		11000	
				- C.			Carlos and a second sec	3,140	
				_			1998 - Contra 19	3.844	
82							- 0	R	
-							an all distances	1.00	
	Type in the proof		1.1					Sec.	
higher of the second second		00	- 22	12.1	- 22	۰.		12	
Second and the second period we shall			- 22	<u>.</u>	- 22 -	÷ .	20	2	1 A Martin Contraction of the Co
Normando.		200	100		- 22	÷.	20	C.1.100	
and the set of the	10			10.1	-22	÷	1.0	1.000	
and the second sec		and and	1.00			÷.			
and the many of the state of th	Contract of the local division of the local	and the second second	1.00	100			state between the second		
and the state of t	4000111	10.004	1.00	4.41	100	÷.	POPTIPI DE SELLOYS		
weather works + The cope, a manufacture MAL - works +	1010.00	3007-04	-0.05	445		- 18 C	book not one instruction		
everage mosts < 000 S000Y werkhowkee/yet81008++	1079.27	4018.81	1.52	879	3.61	18. I	70-#11/04-28-07013		
wenge wats ~'OR SSRY weiktowkeeps: 21178-+	812-28	109437	1.85	124	4.88	3	2010/01/14/2018/01/1		
	1.1.	.00	11	4.0		×			
	3.8	302	3.8	1.1					N
	8.8	150	1.8.8	44	10.00	1.	0		
overall average seculity	HITAK.	0	1,10	3.48	3.75	11	0		Figure 1. And the same the sam

Abbildung 38: This filter seams very effective. The average profit is 653 Euro per Strategy. But this filter killed the most of the strategies. Only 11 Strategies left from over 20K Strategies. I think this is too much?

12 OOS1+OO2+EURJPY+USDJPY+SysParameterB

Selected Timeframe

Filter Best Optimization Profit <3

N=1000



Abbildung 39: The result of this filter is very poor. 363 Euro per Strategy is not a good result. 651 Strategies passed this filter.

13 OOS1+OO2+EURJPY+USDJPY+SysParameterC

Selected Timeframe

Filter Best Optimization Profit off

N=1000

Normal Vicence	Anew Kertrarit	Locketty	e W	Sec.44	hell.	indexes.	. Andres	
***************************************	11	66	1.1	1.1	1.6	A		
Workflass DMI (20197) and flash had on	8.0	60	1.0	44		Q. 1		
Perintelli	88	00		8.8	8.8		0	4.185226.log> Liscoully KalePortfolio created from >
biarty will	8.8	00	1.8.8	8.8	4.6		4	
www.controlling	11	00.	11	8.6	4.6	÷	0	- H #
warmings results of 2016 GBD/PY washingtonickeepings, re20206 res	1988.02	1000.81	1.0	10.00	0.00	39	DELYCER DELYCH	
merican (Multis - 1298 (2009) workflow/kellung + 00504+	419-14	1007629	1.1.11	1.04	1.05	46	1003.00.15-2011/08.25	Portfulio
previage results an 1240 SERVEY powerland-hadgets, + 60804 + 1	12445.002	- instantial	120	10.00	100		PRESIDENT OFFICE DE	
premier mails / 1/4 (819) contribution, (0.000-1	11 028	318/848	141	also -	1.73	31	10003108111 (00000111	
potence-mails - "ON USOPY and head adver, 10(252	76041	1071.01	1.0	1.8.50	1.86	u	7011017-201112-0	
svenge results > '088 (359PY work/level/setup), 100161	898.08	3493137	1.75	8.71	1.34	35	20210029-20220928	Am .
anatage results < "108 GRAPY worthholdsalptic + 00084	651.04	25041.41	104	1.01	3.44	40	2021/07/08-2020/2/08	100
manage impits - 128 GERPY excellant/column +00081	25.41	1006.06	1.00	6.30	4.00	11	0010406-28120434	
annuage results - "200 12000" and filtrad Autors, - 200800 - 1	24048	1208.01	1,1,1	1.114	1.00	25	100110310 (00110)	
presinge results a T288 (2019) post-band and an a 2012 ber	007.01	100001	1.11	10.71	-0.84	111	PAGE NUMBER OF TAXA	
premije ranalna v 1090 (2019) anostanikanikanik v 10010- v	-1411.25	70354.66	1.10	475	0.81	81	space or party of the	
statistics and a TON LEAST report and which a Stillar a	-14.64	2101.36	10.04		417	100	parts of our page on an	1
anemage results in 1008 OBREPS worth free Asstories, - 2014201 F	818-00	CHIMPS:	CON	10.00	(471)	111	IIIIII 00 14 282100.10	407 W
memory results / 109 GERPY and fisiological, - 89204-4	204.04	716640	1.4	TST-	4.75	11	2010/11/22 2010/11/24	2
merige results - 1200 GBRPY workflawAnalysis - 805001	seece.	10084.08	14	1.76	1.826	34	2010/08/20 20/20/20 20	
presinge results < 1248 (2019) work/how/walyse, ~ 2001(2) v	180.07	0.0121	10	10.00	1.86		Investory opposite	I the
parage reads / T/A (2019) contribution, - 60118-1	884.00	34(211)	-14	1.14	2.84	47	INVESTIGATION OF THE OWNER OWNE	
manage-analy +"0.00 100077 work-familiarity-rg, -201401-1	403-35	31624M	3.6	181	1.11	11	1010-1221-2010/2228	
average results > 708 GEVPY watching advantage	701.06	4133565	3.00	1.8.1	421	- 88	2716/025 2110/08/26	
average results <"ON USERY workhowinalgois	804.00	173840	1.51	ART.	457	34	2190705-2010/21	
mentage-insults - 1288 GEMPY watchteeksplague - #1002	471.78	101548	11.0	(424	1.81	48	LIMERATO OFFICIALE	
precinge results - "200 LEPTETY associated/origin, - 01178-1	387.14	200110	1.44	1121	1.78	118	physics for payments	
pression made a TOR APPY approximation, 101000 a	100.00	10000	1.0	10.00	-0.00	40	STATE OF THE PARTY OF THE PARTY OF	- the second sec
	8.8	00	1.8	11	18		a	
***************************************	8.8	00	1.1	3.8			4	A CONTRACTOR OF
	11	300.	11			(a)	0	
investige and the second secon	361.70	90 - E	-12	1.31	147	10		the the time of the second sec

Abbildung 40: This filter result is bad. 351 Euro per Strategy is not so good. 931 strategies passed this filter.

14 OOS1+OO2+EURJPY+USDJPY+SysParameterD

Selected Timeframe

Filter Best Optimization Profit < 2.5

N=1000



Abbildung 41: The average profit per Strategy is 404 Euro. 223 Strategies passed this filter.

15 OOS1+OO2+EURJPY+USDJPY+SysParameterE

In this Walkflow-Analysis I increased the N from 1000 to 10000 in the SysParameter-Filter. I would like to investigate the effects of increasing N on the filter.

I used the following Parameters:

Selected Timeframe

Filter Best Optimization Profit < 2.5

N=10000

							a Polt Commo					K
							Section 2.			and the second second		
1				_	-		444			Partness		
- Q				-	100		1.1				-	
Si Carlo					100							
		-			-							
81												
Tore	Noisi Nethal	Classes and	19.00	ality be	12 14:144	ie hidet	1.1					
	00	00	10.1	8 48	18.11		1.1					
Multithere USB GBORT workflowkowjow	00	200	10.1	8 88	1.4	F.					and the second s	
fotfokrfi	00	0.0	0.0114	8 98								
Marrie Jan F	00	0.0	1.0 1	4 44			1.11					
analige-inulti	100	100	1.0 .0	8 88			1.1.	1				
analoge result of the URLAW assessment around relations	84,72	-316.20	10.04	111 -111	1.1	20211-0-0020-1115	1.2					
And that shade - TAB LEAT Providence which, 1980 miles	ditt AB	101.12	1.87.2	10. 111	E 6	2022 10.00 0121-00.00	1.4					
soundary whole of 200 (2009) sentitively alped, 4003121 r.	120.01	101101	141.8	41.1.10	1.1	2021.10.11.002218.15	A 1.00					
anatoga results - "200 GROPT-sectificativelysts, +52 Hill-+	218-25	INGAT.	1.14.8	M	1	2001-04-34-2029-04-34	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
average results + 1206 GBTP1 workflookraitest, + 00084++	4/8/52	818.84	5.85.10	57 14	1.1	2021-07-05-2022-0102	1.100					
armings receipt - 1290 (db/091 workforeintalyse, +20000 + -	-1039	1116	1.50	344	4.1	Join India 3022 and Str.	1.00	A				
average results - 508 GRIP1 activitize4-adjust - 00030	1018-68	0007.04	130.8	HI 10		2020.01.09.302101.00	-					
menings results - "ON SRIPT workframingsta 00640++	105543	2110.00	331.4	41 1.10	508	2018/11.11.2018/11.21	-					
inversion results - 1200 GB/PPI wold/kowAnalysis, -<2 Mit	1088.05	1296.55	1.46.8	25. 2.46		2010/01/06-2010/01/26					the stand	
annings multi c 1200 08009 achlianAcalpsi, -01326-r.	CAPINE	10110-011	111.1	21. 1.7	108	2010/01/10/2018/01/19						
	-0.0	0.0	10.5	1 1		1						50 50
	(14)	:00	11.1	4 9	1	1						
Long the set of the se	00	00	140.14	4 . 4 .	1	1.1		the day of a	-	-	the state of the state and	And the Arm
matual average intellia	ALC: N	-0.1	197.8	36 125	1.0	A				Dage in the first		

Result Overview

Nr	Filter	Result	Sum #Strategies	Remark
<mark>1</mark>	<mark>Without filter</mark>	<mark>1119/5=223 Euro²</mark>	5000 each Workflow,	This is the challenge
			<mark>this means 115000</mark>	
			#Strategies as a Sum	
2	00S1	1232/5=246	76346	This filter has
				improved something
3	00S1+00S2	1463/5=292	22760	This filter has
				improved something
4	OOS1+OO2+EURJPY	1628/5=325	4941	This filter has
				improved something
5	OOS1+OO2+EURJPY+	1441/5=288	2229	Fail, The results gets
	USDJPY			worse with this filter.
6	OOS1+OO2+EURJPY+	354	313	This filter has
_	USDJPY+Robust	242		improved something
/		313	908	The WF as Robust is
	USDJPY+WFa			slightly worse than
				the last with
0		210	1222	Wontecano
0		310	1332	
0		221	1210	
9		331	1516	
10	00S1+002+FURIPY+	325	1332	The result is not
	USDJPY+WFd	020	1002	better if I use tick
				simulation instead of
				selected Timeframe.
11	OOS1+OO2+EURJPY+	653	11	
	USDJPY+SysParameterA			
	(<2)N=1000			
12	OOS1+OO2+EURJPY+	663	651	
	USDJPY+SysParameterB			
	(<3) N=1000			
13	OOS1+OO2+EURJPY+	351	931	
	USDJPY+SysParameterC			
	(off) N=1000			
14	OOS1+OO2+EURJPY+	404	223	
	USDJPY+SysParameterD			
	(<2.5) N=1000			
15	OOS1+OO2+EURJPY+	416	24	
	USDJPY+SysParameterE			
	(<2.5)N=10000			

² I have to divide by 5. Because toolbox has normalized all results to 5 Strategies in the end portfolio.

3 Q86 GBPJPY H1 Some Additional Tests

In the last chapter I check the efficiency the different robustness filter. The result of this was that the most filters are working fine. In this chapter I will check the quality of this filter. How stable are the results? We will find out, that the results are not so stable.

The question is. What can we do to get more stable result?

With the Numbers here in the Workflow, I mean not the numbers from chapter2. This numbers represents the Numbers of the Workflow-Modules.

In the Loop-Robustness Stability Tests I

Here in the Loop test I will test the stability of the Robustnesstests. I mean exactly the following thing.

- First I have generated a Pool of Strategies. I generated over 100K strategies in Step1.
- Then I filtered Steps 1-9.
- 3315 Strategies have passed the Filter 9-USDJPY.
- ⇒ So now I have 3315 pre-filtered Strategies for following next Analysis-Steps.

Loop-Analysis:

- In the Loop-Analysis I do filter step 10-15 in a Loop.
- In every Loop, the Result is a generated Portfolio. This Portfolio of Endtest will be generated in Step 20.

To the Results:

In the Result database I have generated a pool of portfolios after a while. If the robustness test filtering is stable, the portfolios looks similar.

If the portfolios look different, then the robustness filtering is not stable.

+ Add new t	task					
1. Build strategies Build		8. Clear databanks 2 GearDatabanks	(14)	15. R7 Retest	[13] O	2
×+		×+		∨+		
2. Load from files LoadFromFiles	101	9. USDJPY Retest	(14)	16. Skhaz netest	0 (0) (0)	2
×+		×+		~+		
3. Save to files	0 (0) (0)	10. R1 Retest	(14)	17. Clear databanks Charlonationis	(0) (0)	2
~+		×+		~*		
4. OOS 1 Refest	(0) 🍣	11. R2 Betest	(14)	18. Go To Task GoToTask	(0)	2
×+		✓+		✓+		
5. 005 2 Retest	m 🝣	12, R4 Refest	(14)	19. Endtest Refeat	113 •	2
×+		· · · · ·		V+		
6. EURJPY Retest	101	13, R5 Referst	14	20. Create portfolio CreatePortfolio	(13) 0	2
~+		∀+		∕+		
7. Load in EURJPY LaadFromFiles	و •••	14. R6 Rement	(13) O	21. Go To Task 2 GoToTask	[14] O	2
×+		V+				

Abbildung 42: I used for my Analysis this workflow.

Net profit (Port	Profit facto	Ret/DD Rati	Net profit (Port	Mini equity cha	# of trad
\$ 1 098.81	1.49	1.84	\$0		68
\$ 2.984.94	1.65	3.19	\$0		151
\$ 5 836.23	1.6	2.42	\$0		308
\$ 1 598.22	1.16	0.44	\$.0		253
\$1.821.78	1.62	3.37	\$0	m	113
\$ 2 152.62	1.54	1.54	\$0		124
\$ 2,411.37	1.32	0.92	50		209
\$ 3 697.56	1.68	2.58	\$0		180
\$ 2 484.45	1.31	1	\$0		220
\$ 2 562.48	2,01	3,36	50		87
\$1 015.38	1.22	0.45	\$0		117
\$ 1 079.64	1.25	0.89	\$0		119
\$ 1 715,49	1.54	2.78	\$0		101
\$ 1 813.95	1.5	1.79	\$0	-	116
\$ 3 316.59	2.24	6.71	\$0		117

I run the workflow in the loop to see the stability of the results.

Abbildung 43: I ran the workflow in the loop to see the stability of the results.

All portfolios are in profit. But the results differ. Some portfolios have perfect equity curves and other worksflows are not so good.

The results look not so stable. I think the value N in the Robustnesstests is too low.

I increase the N of the tests and check the effect.

R1-R5: increase N from 200 to 1000

R6: Increase N from 1000 to 5000

R7: Increase N from 500 to 3000

- ⇒ With bigger N, less Strategies are left. The Analysis take a very long time. I Stopped the analysis.
- ⇒ I will go on with an different Step.

Calibrate Q86er Workflow with Winner Strategies.

In Chapter "-1 Disclaimer:

All information including workflow settings and example strategies shared in this document is intended solely for the purpose of studying topics related to the usage of StrategyQuant software and is in no way intended as a specific investment or trading recommendation. The Document writer is not an investment advisers or brokers.

If specific financial products, commodities, shares, forex or options are mentioned on this document, it is always and only for the informational purposes.

The document writer is not responsible for the specific decisions of individual users.

0 Introduction

How have I always gone about finding profitable strategies?

We have built a workflow or copied it from somewhere and would like to use it to generate strategies and then use them on a demo account. Of course, a workflow not only includes generation but also extensive robustness testing. We use the workflow to generate many strategies and then run them on a demo account. We select only the best strategies at regular intervals and trade them on a real account. Strategies that reach the maximum drawdown are immediately deactivated and no longer used.

The way I described it here, it may or may not work. In my opinion this is pure gambling. It all depends on how good the workflow is. It could also be that a workflow we use is bad, but we still make profits. It could be that the market is right somehow and we are still making profits.

I would like to take a closer look at the entire process of strategy generation and use. I would like to examine the workflow used and see how profitable it is in different situations. In my opinion, a workflow is only profitable if it survives a workflow analysis. For example I examined a workflow by moving it into the past X times and see how profitable it is.

But some readers will now say that the whole thing is far too complicated. The strategies that don't work are filtered out on the demo account, so that in the end only the most profitable ones end up on the real account.

That's true, but "filtering the bad strategies out" doesn't work. You can only filter it out if you use special tests. We don't have such tests and I don't know how they should work.

I only use the strategies on a real account once I have done a workflow analysis for a walkflow and this is also successful for the current market phase.

Unfortunately, only one workflow has so far passed this test.

The secret of a profitabel workflow

There is a secret that I would like to tell you. This secret is very important if you want to build a functioning and therefore profitable workflow. It's not the currency pair or the trial period. It's also

not a special robustness test that I have to do with special settings. There is also no special composition of the building blocks. Or determines trading times.

The secret is the generator. Yes, exactly I mean the **"BUILD STRATEGIES"** module. The module must be good. When generating it, it must produce more profitable strategies than bad ones. If this is not the case, then the workflow will not be successful. To build such a profitable module you need a lot of Forex knowledge. Of course you can also just try it out. And test the whole thing with a workflow analysis. Of course that's a lot of work.

History of this Document:

In this analysis, I will review the Workflow Q86 for GBPJPY on the H1 timeframe for the second time. I previously conducted an analysis for this workflow two years ago. (Q86 GBPJPY H1 Analyse Thomas Nickel V1.4 2.12.2022). You can download this document under https://c.gmx.net/@329881123612003410/AXjh2A75Rm-xTLKwpAVWSA.

I would also like to point out my homepage https://monitortool.jimdofree.com/

Now it is two years later. Many things have happened. I have improved the toolbox for the workflow analysis. The workflow generation process is 10 times faster, and we have more accurate results in the overview. Additionally, I implemented a graphical result view as an additional feature.

Target of this Document:

Why am I actually writing this document here? Of course I didn't find the Golden Grail. The Workflow Q86 GBPUSD H1 is very good. This will be seen in the analyses here. However, it has a small problem. At the moment (Actual date 7.3.2024), the system is in a sideways phase.

I'm looking for people who would like to work to improve this workflow. If anyone has any ideas about what filters or rules I could add to the workflow to improve it, I would be very grateful. I would then use the ideas to improve the setting and do a workflow analysis. Then you can accurately predict whether the workflow is profitable. Or whether the whole thing is over-optimized. Maybe someone would like to join in. Or someone can just try out a few filters and see how it affects the current market phase. If someone finds something good, we could collect ideas and improve the workflow.

This is just a suggestion from me.

Of course, you can also just read it, generate strategies and enjoy the profits. Improve the workflow and not share the knowledge.

But that's not how we reach our goal.

I have been working with StrategyQuantX for over 10 years. The whole matter is simply too complicated. We can only move forward if we work together.

The workflows of this Document

I put all Workflows of this document in the GMX-Drive

https://c.gmx.net/@329881123612003410/AXjh2A75Rm-xTLKwpAVWSA.

What I'm looking for:

Looking for people who take the information out of this document and make some improvements of this workflow. In this document are some Analysis of the different Filters of this Workflow. You can take this information and combine this to make an improved workflow. Make some backtests and optimize the workflow so that the workflow works for the current market situation. Send me your results to tnickel@gmx.de. I will use this information for new Walkflow-Analysis.
What is in this Document?

In **Chapter1** I checked each individual step of the workflow for the generation period January 1, 2009-August 31, 2018. Here I generated over 50,000 strategies. I tested the individual filters. I found out that the filters and robustness tests used essentially work (SQ 4.138). (At this point I would like to thank the developers from the SQX team, they have worked very hard. This finally seems to be running stable). The filters all work differently. With this large strategy set you can make quite good, statistically relevant statements.

In **Chapter2** I did a walkflow-analysis for the workflow. I examined each individual filter step in more detail here. The reader can see exactly how efficient the individual filter steps are.

In **Chapter3** I did some stability tests for the different filters. I want to see how stable the results of the different filters are. In the last part of Chapter3 I found out some interesting things about the Robustnesstests.

In the **Appendix** I added an additional Workflow-Analysis for the modified GBPJPY M15 strategy workflow. You can see the difference between a working and a not working workflow. I did a second Workflow Analysis for the Workflow GBPJPY H1 with a different currency pair EURJPY H1. But this analysis fails too.

Conclusion

We analysed the GBPJPY H1 workflow and showed that it essentially works like this. You can make money with it. I hope many users here in the forum have already earned a lot of money with this?

But be careful: I would like to point out the disclaimer again at this point. This is not intended to be a call to use real accounts. I am not responsible for any losses.

You can't just take a workflow and generate strategies. The two workflow analyses in the appendix showed us that this doesn't work. We simply modified the working workflow a little. Once the currency pair was exchanged from GBPJPY to EURJPY and once the time frame was changed from H1 to M15. Both attempts ended in losses.

This shows you once again how difficult it is to find a working workflow.

I would like to point out again that the "working workflow GBPJPY H1" is in a sideways phase. It's going to be a bit difficult to make money at the moment.

1 Q86 GBPJPY H1 (Check this workflow in 2024 again)

I traded the Strategies from this workflow GBPJPY from the StrategyLab since Okt 2021 on some demo and life accounts.

https://strategyquant.com/shared/gbpusd-strategylab-workflow/

Recently there have been some new findings regarding robustness tests. I tried to check this strategy generation with different Robustnesstests.



Abbildung 1: After I generated strategies with this workflow I installed this Strategies on Demoaccount. This is the tradingresult on the Demoaccount for Q86 GBPJPY H1. The Equity curve is from one year Trading on demo account. The Equity looks nice.

The Q86 GBPJPY H1 portfolio has been running quite successfully for over 3 years. See the following graphic.



Abbildung 2: This Portfolio contains 39 Strategies at the moment. The Strategies are running on demo account. I trade the best strategies on real account.

I have generated this Portfolio 2021. If we take a closer look, the performance of this portfolio looks in the beginning better as in actual time period.

The reason can be that the market condition has changed? It is possible that a generated portfolio running with best performance only a limited time. I have to recalibrate the portfolio from time to time. But I don't did this recalibration in the past.

At first we have to recheck the Q86 GBPJPY H1 workflow.

4. OOS 1 Retest	[0]
\sim	
5. OOS 2 Retest	[0]
\sim	κ.
6. EURJPY Retest	[0]
\sim	ŧ
7. USDJPY Retest	[0]
\sim	8
8. Skluz Retest	[0]
\sim	÷
9. MC Param Retest	TO1

Abbildung 3: Der Workflow Q86 contains two OOS Tests and two additional currency test. The MC Param-Test filter out all the generated strategies. I think the parameter of the MC Param Test are too hard. Or I have generated too few Strategies?

I would also like to note that this q86 workflow was created with a much older version of SQX. I think it was still version 4.X.old Version 4.138 includes much better robustness testing. I think you could get a lot of performance out of the Q86 workflow with these.

I won't do a complete workflow analysis with Q86 because in this first step, this is very timeconsuming. But I would still like to use this new knowledge from this workflow to take a look at other workflows.

A Strategy Generation

In the first Step we need some Strategies. I generated overnight 20980 strategies without filtering. I use only the Build Strategy Setting.

Backtest data settings						
Symbol	GBPJPY, M1_UTCPI	~	Timeframe	H1	~	
Start day	2009.01.01	H	End day	2018.08.31	m	Reset dates
Available from	2003.08.04		to	2023.12.21		

Left value	<>=	Right value	
Avg. Trades Per Month	> ~	2	×
Profit factor	> ~	1.3	×
Ret/DD Ratio	> ~	5	×

Abbildung 4: Some Settings for the Generation. This is a very simple Setting. But this Setting was very effective.

In the first step, I would like to assess the quality of the generated strategies without a robustness filter. To do this, I left the computer running overnight and generated 20,800 strategies.

To see whether these strategies are good, you have to do a final test and then create a portfolio from them. If the equity curve in the portfolio looks good, then the settings for generating the strategies are good. Unfortunately, you cannot build a portfolio from 20800 strategies. For this you would need a super-fast computer. With my 7850X I can create a maximum of 5000 strategies in the foreseeable future. So when analysing strategy quantities > 5000, I will always build a portfolio with a maximum size of 5000 strategies. A series of tests has shown that the results of these smaller portfolios still have good significance.

I made a backtest of one year and build a portfolio of 500, 1000, 2000,.... 5000 Strategies.

I compared the results in a table.

Strategy Name		F Note	F	Symbol (Po	TIM	Net profit (Port.	Profit facto_	Ret/DD Rati	Mini equity cha	# of trad_
Merged portfolio	0	500, 134 Euro/Strategy	1.	Partfolio	H	\$ 67 181.13	3,3	0.86	1	19049
Merged portfolio(1)	0	500.	τ	Portfolio	H	\$ 67 181,13	1.1	0.86	1	19049
Merged portfolio(2)	0	1000, 112 Euro/Strategy	C	Portfolio	H	\$ 112 103.64	1.08	0.21	1	39150
Merged portfolio(3)	0	2000, 131 Euro	1	Portfolio	Η	\$ 263 333 53	1.09	0.88	1	77940
Merged portfolio(4)	0	3000, 136 Euro	Ċ	Portfolio	H	\$ 409 248 19	1.1	0.93	1	116468
Merged portfolio(5)	0	4000, 134 Euro	0	Portfolio	H	\$ 539 957.25	3.3	0.92	1	154378
Merged portfolio(6)	0	5000, 137 Euro/Strategy	C	Portfolio	H	\$ 686 757.63	1.1	0.95	1	192373

I will calculate an average Profit per Strategy out of my Merged portfolios. This value represents an approximation because I cannot form a complete portfolio from the 20,800 strategies.

⇒ 134+112+131+136+134+137=784/6=130 Euro/per Strategy Profit.

The average Profit per Strategy is 130 Euro per year. The Equity of the Portfolio looks good.

Fazit: We yield 130 Euro per Strategy if we make an easy endtest without any additional filter.

The Result looks good. But I know this is only one Time Period.

In order to evaluate the strategy generation well, we would have to do a complete walkflow analysis. But we're not doing that now. I only check all the filters used at this one time period.

We use for the Endtest only one year of data.

Start day	2021.04.09	11	End day	2022.04.09	=
ailable feen	2002 02 04		to.	2022 12:21	1.1

Abbildung 5: The Endtest is from 9.4.21-9.4.22

130 Euro/per Strategy is the Challenge

B Filter OOS1

	Avg. Trades Per Month	>	~	2	×
 Image: A second s	Profit factor	>	~	1	×
	Ret/DD Ratio	>	~	5	×

Abbildung 6: The Filter OOS is very simple.

14350 Strategies passed OOS1-Filter

Result:

Strategy Name	F Note	F Symbol (Po.	T. Net profit (Port.	Profit facto	RevOD Rat	n Mini equity cha	# of trad
Merged portfolio	5000. 303 Euro	C Pertfelio	H. \$1316 933.5	1.23	2.1	1	193756
Merged portfolio(1)	500, 279 euro	C Partfolio	H. \$ 139 968.09	1,21	1.87	1	19322
Merged portfolio(2)	1000.307 Euro	C Pertfelio	H \$ 307.556	1,23	2.03	1	39068
Merged portfolio(3)	2000.317 Euro	C Fortfolio	H \$ 635 177.25	1.24	2.17	1	77954

Abbildung 7: 14350 Strategies are too much for a Portfolio, so I generated some small portfolios and calculated an average value for the profit per strategy.

303+279+307+317/4=301 Euro/Strategy Profit

⇒ This Filter works fine and won the challenge.

C Filter OOS2

Left value		Left value <>=		
	Avg. Trades Per Month	× ×	2	ж
~	Profit factor	> ~	1.1	ж
	Ret/DD Ratio	> ~	5	×

Abbildung 8: The Filter OOS2 has Profit factor > 1.1 as the only condition.

5745 Strategies passed this OOS2-Filter

Merged portfolio	500.211 Euro	Ū.	Portlolio	14.1	\$ 105 625.25	1,15	139		19419
Merged portfolio(t)	2000, 201 Euro	0	Portfolio	15	\$ 403 795.31	1.15	1.96	1	77830
 Marged portfolio(2) 	5745.215.Euro	10	Portfolio	+1	\$ 1 235 105	1.16	1.40	1	221759

Abbildung 9: The Profit is 215 Euro. Merged portfolio2 contains all Strategies.

⇒ **215 Euro**/Strategy Profit. This filter works fine and won the challenge.

D Filter EURJPY

Left value		Left value <>=		
	Avg. Trades Per Month	> ~	2	×
~	Profit factor	> ~	1.1	×
	Ret/DD Ratio	> ~	5	×

2076 Strategies passed this EURJPY-Filter

Merged portfolio	0	500,213 Euro	(c	Portfolio	H_	\$ 106 852.41	1,16	1.37	1
Merged portfolio(1)	0	2070.231 Euro	c	Portfolio	H	\$ 479 610.91	1.18	1.55	1

Abbildung 10: The Filter EURJPY yield a profit of 231Euro/Strategy.

231 Euro/Strategy won the challenge

E Filter USDJPY-Filter

Left value	Left value 🗢=		
Avg. Trades Per Month	> ~	2	×
Profit factor	> ~	1	×
Ret/DD Ratio	> ~	5	×

5853 Strategies left

	the second	and the second se	the second se			
Merged portfolio 0	5853, 180 Eur/Strategy	C Portfolia	H \$ 1 056 061.25	1.16	1.3	

⇒ 180Euro/Strategy => passed challenge

RT3a Sys-Permutation-Test (1000)

tungs	Fittering			
Maximu	m tests:	1.000	U.	
		you cao limit th	te number of optimizations, and this limit i	the duration of this
		cross check		
Value di	itribution (%)	roza checii from original value	ar	
Value de	itribution (%)	from original value	a: +	
Value de Up: Down:	abibution (%)	from original value	0: + +	

-	% of Profitable Opt	imizations >	30	- +			
-	Average profit (in \$) of all optimiz	ations is	>\$ 0	- +		
-	Uniform distributio	n - less than	5	- +	changes fr	om positive	to negative
-	Best Optimization	profit < 2		+ StDe	ev of averag	e profit	
Syste	m Parameters Per	mutation cor	ndition	5			

Abbildung 11: The condition "Best Optimization profit <2" is a very hard condition.

The test is done with ticksimulation.

Only one Strategy of 424 Strategies passed this test.

Fitne	Symbol (IS)	TimeFrame (15)	Net profit (IS)	Mini equity cha	# of trad	Profit facto	Sharpe Rati	R Expectan	Annual % R.,	Stability (IS)
0.53	GBPJPY_M1_UTCPlux02	Ht	\$1 101.24	-	63	1.43	1.14	0.21	11.01 %	0:21

But the Equitycurve of this Strategy looks very good.



Abbildung 12: This is the Portfolio of the Endtest of "RT3a Sys-Permutation-Test (1000)"-Robustnessfilter. It looks good. In this case, the Portfolio contains only one Strategy.

RT3b Sys-Permutation-Test (300)

Use Permutation Test for N=300

Selected-Timeframe

Best Optimization profit <2

Up/down 50%

 \Rightarrow The Result is in the overview table.

RT3c Sys-Permutation-Test (1.8) (300)

Use Permutation Test for N=300

Selected-Timeframe

Best Optimization profit <1.8

Up/down 50%

 \Rightarrow The Result is in the overview table.

RT3c Sys-Permutation-Test (1.7) (300)

Use Permutation Test for N=300

Selected-Timeframe

Best Optimaziation profit <1.7

Up/down 50%

 \Rightarrow The Result is in the overview table.

RT3c Sys-Permutation-Test (1.6) (1000)

Use Permutation Test for N=1000

Selected-Timeframe

Best Optimaziation profit <1.6

Up/down 50%

I will make some different Robustnesstests on this datarange

Backtest data settings Symbol	GBPIPY M1 UTCPL	0	Timéframe	H1					
Start day Available from	2009.01.01 2003.06.04	-	End day to	2021.04.09 2023.12.21		Reset dates			
Test parameters Precision	Selected timeframe	only (faste., 👻	Commisions & swap	No commission	n i No swap	0			
Spread	5 -+ pips	and treaters -	Slippage	1+	pips	Min. distance	0	- +	pips

Abbildung 13: the following robustnesstests will be made on this datarange.

 \Rightarrow The Result is in the overview table.

R1: Rand Trades Order

Selected Timeframe

Monte Carlo trades manipulation	2 tests with 200 simulations
Use Name	Default
Randomize trades order, with mithod Resampling	Method Resampli 🛩
Randomly skip trades, with probability 10 %	

 \Rightarrow The Result is in the overview table.

R2:Rand history data by tick

Selected Timeframe

tting	s Filtering						
Nut	nber of simulations	200	-+	Use Full sample			
0	B Backtest precision	Selected timeframe	e only (fa	stast)			
Use	Name				Default		
	Randomize history data (by tick), with probability	20 % up	/ 20 % down and max pri	Probability up 🕲	20	
O.	Modified randomize histo	ry data (by tick), with m	nax chang	e 40 % of tick price chang	Max up change @	10	-
\Box	Randomize OHLC history	data, may price change	e 10 % of a	ATR(14) and probabilities (Probability down @	20	127
	Randomize min distance	from price from 0 to 10	i i		March Street Street Street	***	
	Randomize slippage from	0 to 5			wax change down (p)	10	_
0	Randomize spread from 1	to S			Keep connected @		- 61

 \Rightarrow The Result is in the overview table.

R3: Modified randomize history data by tick

Selected Timeframe

MaxChange=5%, 10%

 \Rightarrow The Result is in the overview table.

R4: Randomize OHLC history data, max price change 40% of ATR

MaxChange=40%

 \Rightarrow The Result is in the overview table.

R5: Randomize Parameter

0	Backtest precision	Selected timeframe only (fastest)								
Use	Name									
	Randomize history data (Randomize history data (by tick), with probability 20 % up / 20 % down and max pri								
	Modified randomize histo	ory data (by tick), wit	h max chang	e 10 % of tick price chang.						
	Randomize OHLC history	data, max price cha	nge 50 % of A	ATR(14) and probabilities (.						
	Randomize min distance	from price from 0 to	10							
	Randomize slippage from	n 0 to 5								
	Randomize spread from	1 to 5								
	Randomize starting bar,	with max change 100)							
	Randomize strategy para	meters, with probab	ility 30 % and	i max change 30 %						

 \Rightarrow The Result is in the overview table.

R6 WFA-Matrix

N=100

3x3



ence they be	" Matrix is achievery silve. It specially of coming a revealer of it	of ppl/schilters, which Permial	tes pre apro dires	
ttings 1	litiering			
ini ottere stange for	ally careform from they will be notice to take the oran oran It their conditions of with the deterioral (theraws away) and no (is computed after cross closes and do crosses	nd.	
W Marro	produces a soldle of X rows and Y columns, where work cell	La different WE optimization	Set retar	and the same
the part	existen it motion area of 👘 🐨 insectant 👘	* more		
Filter parts	et when it from an arm of the two rews and the set of t	✓ mumor. 0 = + n.		
Filer para	er erhen af from an arm of 1 an arm of a state and 1 an arm of 1 and 1	∀ mumme 0 ⁽¹ − +) %		
Riter pace	e elen those an and the second state of the se	 Y more − + a, andters 	Education	
Rei pare alters al la Adsumas	e ellen thotcan annal 1 · · · · · · · reacta at 1 · · · · · · · · · · · · · · · · · ·	*) murrer 0 - + 4, mediters	Servite 1	
Rher parte altern al la Adhuarmen O	er antern at fronts an arms of the set of the set and the set of t	• otane • - + - + - + ordere •	Retroite	
Riber parte altern al la Ribustnes O	er erfern tilfrette an ann of the set of the parameter source of the set of the parameter source of the set of the parameter of the set of the	* course • + % ordinars • * • *	Retrotor 0 00%	2
Advantes	er erfem it findte an annold i	* courses 0 - + % antificant 0	Refranke 0 60% 10%	
Rectaro Adurratio	er anten at fronta an anna af 1 a million at anna an a	* otoree • -+ + • -+ + • + • + • + • + • + • + • +	Refraike 0 05 12 0 22 0 20	8. 8. 8. 8. 8.
Repaires allo Repaires allo Cal Cal Cal Cal Cal Cal Cal Cal Cal Cal	er erfern it from an som of the set of the present of the set of t	* courses 0 - + n + n 	Refrontes 0 00% 10% 20% 20%	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Recurrence Advantes C C C C C C C C C C C C C C C C C C C	er erfem it frontil ein sons of the second s	* courses 0 -+ 4 courses 0 4 0	Retroite 1 00 % 10 % 20 % 20 %	8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8

Trading engine Engine	MetaTrader#	×	Additional charts	0 -+ the	ise ore ad (esi to	divional characthat strangy has
Backtest data settings						
Symbol	GBPJPY_M1_UTCPL_ 🛩		Timeframe	HI	4	
Start day	2009.01.01		End day	2021.04.09	-	Reset dates
Available from	1003.08.04		80	2023.12.21		
Test parameters Precision	Selected timeframe only	(fasta	Commissions & swap	No commissions (No swap	0
Spread	5 - + pips		Slippage	1 -+ pi	14	Min. distance 0 - + pips
Data range parts <u>What a 87</u> Most o	sect configs 50	(N) (N)	N N N N N N		1000	111111111

 \Rightarrow The Result is in the overview table.

CombinationTest B+C+D+E

I use 50000 Strategies as input.

 \Rightarrow The Result is in the overview table.

Overview

Filter	Result	#Strategies	Remark
<mark>A-without filter</mark>	130 EUR/Strategy	<mark>20800</mark>	This is the challenge
B OOS1	301 EUR/Strategy	14350	passed
C 00S2	215 EUR/Strategy	5745	passed
D EURJPY	231 EUR/Strategy	2076	passed
E USDJPY	180 EUR/Strategy	5853	Passed
B+C+D+E	424 Euro/Strategy	243	Passed
B+C+D+E +RT3a	1100 Euro	1	Passed, but only one
			Strategy left
RT3b(1.8) N=300	200 Euro/Strategy	1487	passed
RT3b +RT3c(1.8)N=300	223 Euro/Strategy	277	passed
RT3b +RT3c(1.7) N=300	174 Euro/Strategy	182	passed
RT3b +RT3c(1.6) N=300	262 Euro/Strategy	102	passed
RT3b +RT3c(1.6)N=1000	403 Euro/Strategy	26	passed
RT3b +RT3c(1.5)N=1000	496Euro/Strategy	10	passed
R1	338Euro/Strategy	5000*	passed
R2	290Euro/Strategy	1765*	passed
R3 5%	213Euro/Strategy	475*	passed
R3 10%	127Euro/Strategy	401*	failed
R4 40%	297EUR/Strategy	324*	passed
R4 50%	251EUR/Strategy	2282*	passed
R5 10%	193 EUR/Strategy	3861*	passed
R5 20%	212EUR/Strategy	1345*	passed
R5 30%	251EUR/Strategy	1681*	passed
R5 40%	208EUR/Strategy	1020*	passed
R6 N=100	387EUR/Strategy	201*	passed
R6 N=1000	444EUR/Strategy	249*	passed
R6 N=2000	444EUR/Strategy	427*	passed

(*) means that I have stopped the filtering according to this number of strategies. I don't need to filter all strategies to check the Robustnessfilter.

2 Workflow-Analysis of Workflow GBPJPY – StrategyLab Workflow

I got a Workflow for GBPJPY-H1-Strategies form the StrategyQuantX Webside. I have generated with this workflow 90 Strategies and traded this on demo and on real account.

Source: https://strategyquant.com/shared/gbpjpy-strategylab-workflow/

I will call this workflow Q89 GBPJPY H1 from now on. I Traded the Strategies from this workflow GBPJPY from the Strategy lab since Oct. 2021 on some demo and life accounts. The name of this Strategies had the prefix Q86 GBPJPY H1.

I will make an Walkflow-Analysis for this workflow. This means I take this existing workflow and set this workflow more times in the past and more times in the future. So at the end I have many workflows.

I run this generated workflows parallel in a SQX and check the results of the End tests. Endtest means, I generate for every workflow an backtest of unseen data. The data period of this unseen data is one year.

To show the result in a convenient form. I generate with a toolbox an equity curve of the endtest data periods.

If the Equity curve (red lines) goes up, then the workflow is successful. If the red line goes down, it is not successful.

C:(Fores)	Toolbox/SQ\1 Manter\user/y	projects/Q98 GI	BPIPY workflowAnaly	yuis(project.c	±.					
C://onei/	Toolbox/SQ\2 Generator								set SQ Rootch	
54	delta days	15	steps back	2	steps future	O Shift Days				-11.
Chloresty	imp\cieltadays.txt				set file	Othe detellie		Life she	w rootdir/user/projects	27
Q96 GBP	PY workflowAnatysis			gene	rated workflow name	(should be unice 10			clear projectdir	
emply								Endtest	Get Endtest Dates from	n Database
please ad	d additional description to t	his box above					+			

Abbildung 14: With the workflow-generator of the Toolbox I generated 15+7=22 Workflows.

I shifted the generated workflows 84 days in the past and the future. I shifted it 15 times of 84 days in the past and 7 times of 84 days in the future.

At the end I got 23 Endtests. From this Endtests I generated the Equitycurve of the profits.

In the following Table you can see the periods of the Endtest. You can see, I have done for every period an Endtest of one year.

Endtest
0
0
0
0
0
2022.11.18-2023.11.18
2022.08.26-2023.08.26
2022.06.03-2023.06.03
2022.03.11-2023.03.11
2021.12.17-2022.12.17
2021.09.24-2022.09.24
2021.07.02-2022.07.02
2021.04.09-2022.04.09
2021.01.15-2022.01.15
2020.10.23-2021.10.23
2020.07.31-2021.07.31
2020.05.08-2021.05.08
2020.02.14-2021.02.13
2019.11.22-2020.11.21
2019.08.30-2020.08.29
2019.06.07-2020.06.06
2019.03.15-2020.03.14
2018.12.21-2019.12.21
2018.09.28-2019.09.28
2018.07.06-2019.07.06
2018.04.13-2019.04.13
2018.01.19-2019.01.19
2017.10.27-2018.10.27

Abbildung 15: This are the Periods for the endtests of the different Workflows.

Walknow-Analysis without Robustnesstests	Walkflow-Analy	ysis without	Robustnesstests
--	----------------	--------------	-----------------

ustom projects				
Q98 GBPJPY workflowAnalysis_+00000	[Tasks (B) [Engine] (Results)	0	1	@ Sop @ Pau
Q98 GBPJPY workflowAnalysis_+00084	[Tasks (9),] [Engine] [Results]	Ċ.	-	Stop @ Pau
Q98 GBPJPY workflowAnalysis +00168	[Tasks (9),] [Engine] [Results]	D	-	🛞 Stopi 🛞 Pau
Q98 GBPJPY workflowAnalysis,+00252	(_Tasks/9).) [Eveloc] [Results]	Ū.	-	Stop
Q98 GBPJPY workflowAnalysis +00336	[.Tasks (%) [Engine] [Results]	0	-	Stop 8
Q98 GBPJPY workflowAnalysis_+00420	(Tasks (9),) (Engine) (Results)	Ū.	R.	🛞 Stop
Q98 GBPJPY workflowAnalysis +00504	(_Tasks19),) (Engine) (Results)	<u>e</u>	2	@ 5top @ Pa
Q98 GBPJPY workflowAnalysis_+00588	(Tasks (9),) [Engine] [Results]	<u>r</u>	2	(🕲 Stop) 🕲 Par
Q98 GBPJPY workflowAnalysis00084	[Tasks.(9),] [Engine] [Results]	E		(9) . Stop

Abbildung 16: The Walkflow-Generator generated 23 Workflows for the StrategyQuantX. After the generation the workflows are all in the StrategyQuantX. You can see here a part of this.

Now it is Time for starting all these workflows.

Every Workflow generate 5000 Strategies and made a Endtest of it. If the first walkflow is ready, the next workflow will be started automatically in the SQX.

At the end we have 23 Pools of Strategies. Every pool contains 5000 Strategies.

I did this all, without Robustnesstests or special Filtering.

In the first Step I will see the quality of Strategy generation only with the Generationmodul and the Endtest

1. Build strategies	
V+	
2.0051 Hemail	(1)
~+	
3.0052	, III
×+	
4. EURIPY	
s. usbjirv Irmal	
×+	
9. rohust Multi	11
·\/+	
7. Endtest	

Abbildung 17: In the first Step of this Analysis only Build strategies and Endtest is activated. I will see the result without filtering or Robustnesstests.

What is the reason why I don't use Robustnesstests in the first step?

The reason is, that Robustnesstests are only able to filter 10%-30% of the curvefitted strategies out of the generation. The generation should produce good strategies. If the Buildingblocks and the settings are not good the result will be bad.

Workflow~Q98 G8P3PY workflowAnalysis	0.0	0.0	0.0	0.0	0.0	0	0
Portfolioorg15	0.0	0.0	0.0	0.0	0.0	0	0
Norm n=5	0.0	0.0	0.0	0.0	0.0	0	0
average results	0.0	0.0	0.0	0.0	0.0	0	0
average results <"Q98 G8PIPV workflowAnatysis_+00588++	-594.35	-594353.50	0.94	-0.57	0.28	5000	2022.11.18-2023.11.18
average results <"Q98 G8RIPY workflowAnalysis_+00504>=	1241.47	1241470.00	1.12	0.64	0.93	5000	2022.08.26-2023.08.26
average results <*C98 G8PIPV workflowAnalysis_+00420==	-1014.15	-1014154.94	0.91	-0.66	0.52	5000	2022.06.03-2023.06.03
average results <"Q98 G8PIPY workflowAnalysis_+00336>=	2073.37	2073374.88	1.20	0.56	1.18	5000	2022.03.11-2023.03.11
average results <*Q98 G8P/PV workflowAnalysis_+00252>=	2058.93	2058925.50	1.22	0.52	1.20	5000	2021.12.17-2022.12.17
average results <"Q98 GBPIPY workflowAnalysis_+00168>=	2907.36	2907356.50	1.38	0.74	1.64	5000	2021.09.24-2022.09.24
average results <* Q98 G8PIPY workflowAnalysis_+00084>=	2995.67	2995670.00	1.46	0.68	3.66	5000	2021.07.02-2022.07.02
average results <"Q9B GBPIPY workflowAnalysis_+00000> =	1309.20	1309204.88	1.21	0.43	1.25	5000	2021.04.09-2022.04.09
average results <"Q98 G8PIPY workflowAnalysis00084>=	1014.37	1014371.19	1,18	0.62	1.33	5000	2021.01.15-2022.01.15
average results <"Q98 GEPIFY workflowAnalysis00168> =	-370.67	-370674.72	0.94	-0.64	-0.29	5000	2020.10.23-2021.10.23
everage results <*Q98 G8/IPV workflowAnalysis00252>=	-205.13	-205131.35	0.97	-0.62	-0.24	5000	2020-07.31-2021.07.31
average results «"Q98 G8PIPY workflowAnalysis00336»	693.04	693038.25	1,13	0.43	0.83	5000	2020.05.08-2021.05.08
average results <"Q98 G8/SPY workflowAnalysis00420>=	2079.05	2079047.63	134	0.57	2.79	5000	2020.02.14-2021.02.13
average results <"Q96 GBPIPY workflowAnalysis00504+=	1484.34	1484337.38	1.22	0.72	1.40	5000	2019.11.22-2020.11.21
average results <*Q98 G8PSPY workflowAnalysis,00588>=	1746.22	1746216.50	1.24	0.78	1.58	5000	2019.08.30-2020.08.29
average results <"Q98 G8PIPY workflowAnalysis00672>=	943.21	943208,13	1.12	0.49	0.76	5000	2019.06.07-2020.06.06
average results <"Q98 G8PIPY workflowAnalysis00756>=	1216.59	1216590.25	1.16	0.74	1.18	5000	2019.03.15-2020.03.14
average results <"Q98 G8P/PV workflowAnalysis_~00840 >=	2717.71	2717712.75	1,39	0.76	4.14	5000	2018.12.21-2019.12.21
average results <*Q98 GBPIPY workflowAnalysis00924>=	1872.85	1872853.50	1.29	0.79	3.00	5000	2018.09.28-2019.09.28
average results <"Q98 G8PIPY workflowAnalysis01008>=	1340.24	1340244,00	1.22	0.76	1.76	5000	2018.07.06-2019.07.06
average results <"Q98 G8PIPY workflowAnalysis01092> =	730.45	730454,56	1.12	0.71	0.96	5000	2018.04.13-2019.04.13
average results <1098 G8P/PY workflowAnalysis01176>=	66.69	66686.40	1,01	0.44	0.09	5000	2018.01.19-2019.01.19
average results <"Q98 GEPIPY workflowAnalysis01260>=	-547.26	-547281.63	0.92	-0.52	-0.46	5000	2017.10.27-2018.10.27
	0.0	0.0	0.0	0.0	0	0	0
.00000000000000000000000000000000000000	0.0	0.0	0.0	0.0	0	0	0
	0.0	0.0	0.0	0.0	0	0	0
overall average results=	1119.96	0	1.16	0.36	1.21	115000	0
and the second se							

1 Walkflow-Analysis without Robustnesstest and 5000 Generated Strategies

Abbildung 18: Walkflow without Robustnesstest and 5000 generated Strategies. The Normation is 5. I have to divide to 5 If I want to see the average profit for one Strategy. 1119/5=223 Euro average Profit.



Abbildung 19: Walkflow without Robustnesstest and 5000 generated Strategies. The Equitycurve looks good. The red line is the summation of the profits.

Walkflow-Analysis with Robustnesstests 5000 Strategies

Results:

In this part I switched on the Robustness test filtering.

I generated in every Period 5000 Strategies.

Name	Norm NetProfit.	SumNetProf	Pf	Stability	RetDO	Stategies	Endtest
.00000000000000000000000000000000000000	0.0	0.0	0.0	0.0	0.0	0	0
Workflow=Q98 GBP/PY workflowAnalysis	0.0	0.0	0.0	0.0	0.0	0	0
PortfolioIS	0.0	0.0	0.0	0.0	0.0	Ð	Ð
Norm n=5	0.0	0.0	0.0	0.0	0.0	0	0
average results	0.0	0.0	0.0	0.0	0.0	0	0
average results + "Q98-G8PJPY workflowAnalysis_+00588++	-655:73	2885.22	0.92	0.52	0.32	22	2022.11.18-2023.11.18
average results <"Q96 G8PJFY workflowAnalysis_+00504>=	2115.75	8886.15	1,23	0.65	0.94	21	2022.08.26-2023.08.26
everage results < 'Q98 GBR/PY workflowAnalysis_+00420> =	-1542.3E	-5244.08	0.85	0.57	0.48	17	2022/06/03 2023:06:01
average results <"Q98 G8P3PY workflowAnalysis_+00336 >=	3530.43	3530,43	1.43	0.58	1.23	5	2022.03.11-2023.03.11
average results <"Q98 G8P/PY workflowAnalysis_+00252>=	2246.13	2246.13	1.23	0.46	0.67	5	2021.12.17-2022.12.17
average results <"Q98 G8PJPY workflowAnalysis_+00168>=	4808.00	8654.40	1.93	0.62	2.59	9	2021.09.24-2022.09.24
average results <"Q98 G8PJPY workflowAnalysis_+00084×=	3549.51	14198.04	1.67	0.67	2.94	20	2021.07.02-2022.07.02
average results <"Q98 GBPJPY workflowAnalysis_+00000 ==	970.46	1358,64	1.19	0.41	0,44	7	2021.04.09 2022.04.09
average results <"Q95 G8P/PV workflowAnalysis00054>=	1284.95	2312.91	1.28	0.52	1.28	9	2021.01.15-2022.01.15
average results = 'Q98 G8PJPY workflowAnalysis00168 -=	-923.22	-1845.44	0.84	-0.54	-8.42	10	2020.10.23-3021.10.23
average results + "Q98 GBPJPY workflowAnalysis_+ 00252++	1134.40	-2041.92	0.09	0.70	0.51	8	2020/07.11-2021/07.31
average results <"(298 G8PJPY workflowAnalysis00036>=	1142.85	3428.55	1.26	0.57	1.10	15	2020.05.08-2021.05.08
average results < 'Q98 G8PJPY workflowAnalysis00420>=	3833.05	6899.49	2.06	0.56	6.43	Ð	2020.02.14-2021.02.13
average results < "Q98 G8PJPY world/owAnalysis 00504	1206.71	3378.78	1.20	0.69	0.79	14	2019/11/22 -2020/11/21
average results <"Q98 G8PJPY workflowAnalysis, ~-00588>=	2707.05	4872.69	1.37	0.74	2.07	9	2019.08.30-2020.08.23
average results < 'Q98 G8PJPY workflowAnalysis00672 >=	650.25	2470.95	1.08	0.44	0.47	19	2019.06.07-2020.06.06
average results <"Q98 G8PJFY workflowAnalysis00756	2797.00	5034.60	1.36	0.65	2.01	9	2019.03.15-2020.03.14
average results <"Q98 G8P0PY workflowAnalysis,00840>=	3902.22	7804.44	1.58	0.71	3.43	10	2018.12.21-2019.12.21
average results <"Q98 G8PJPY workflowAnalysis00924>+	3242,21	7132.86	1.59	0.82	4.39	11	2018.09.28-2019.09.28
average results = "Q98 G8PJPY workflowAnalysis01008>=	4170.79	5839.11	1.73	0.83	4.06	7	2018.07.06-2019.07.05
average results <"Q98 G8PJPY workflowAnalysis01092>=	1741.53	5921.19	1,25	0,73	1.25	17	2018.04.13-2019.04.13
average results <"Q98 G8PJPY workflowAnalysis01176>=	2754.85	28650.42	1.46	0.67	2.30	52	2018.01.19-2019.01.19
average results + "OB8 G8PJPY workflowAnalysis01260++	-1384.44	-4153.32	0.83	-0,57	-0.65	15	2017.10.27-2016.10.27
	0.0	0.0	0.0	0.0	0	0	0
.00000000000000000000000000000000000000	0.0	0.0	0.0	0.0	0	0	0
	0.0	0.0	0.0	0.0	0	Ð	0
overall average results=	1783.20	0	1.52	0.37	1.56	321	0

Abbildung 20: Walkflow-Analysis with Robustnesstst und 5000 Strategies are generated. 1783/5=356 Euro per Strategy.



⇒ With Robustnesstest this was an improvement from 223 Euro to 356 Euro per Strategy.

Abbildung 21: Walkflow-Analysis with Robustnesstst und 5000 Strategies are generated.

Check every Filter of the Workflow

The Looptest

In the first Step I will do a loop-Test. I will repeat the generation for period 0000 without filtering and build a portfolio of all 5000 Strategies. I will check how the different portfolios differ.

The	Result:
-----	---------

Symbol (T	Net profit (Port	Profit facto	Ret/DD Rati	1	Mini equity cha	# of trad
Portfolio	F	\$ 1 298 585.38	1.23	1.26	5		180521
Portfolio	ŀ	\$ 1 439 516.38	1.26	1.39	\$		185886
Portfolio	F	\$ 1 280 487.5	1.23	1.34	\$		184647
Portfolio	F	\$ 1 441 568	1.24	1.31	\$		188685
Portfolio	F	\$ 1 053 861	1.19	1	4		181475
Portfolio	F	\$ 1 178 985.75	1.2	1.17	\$		181987
Portfolio	F	\$ 1 349 903.38	1.24	1.35	5		183206
Portfolio	F	\$ 1 204 051.63	1.21	1.36	\$		181501
Portfolio	ŀ	\$ 1 296 138.38	1.23	1.14	5		183228
Portfolio	ŀ	\$ 1 398 115.75	1.24	1.29	-		189466
Portfolio	ŀ	\$ 1 224 868	1.21	1.39	\$		184350
Portfolio	ŀ	\$ 861 136.19	1.14	0.7	5		187856
Portfolio	F	\$ 962 271.06	1.17	1.02	\$		184770
Portfolio	ŀ	\$ 854 544.25	1.15	0.98	\$		180828
Portfolio	F	\$ 1 467 491	1.25	1.2	\$		188369
Portfolio	ŀ	\$ 1 215 413.5	1.22	1.27	\$		178883
Portfolio	F	\$ 1 512 037	1.27	1.45	5		183716
Portfolio	ŀ	\$ 1 349 280.5	1.23	1.32	\$		187652
Portfolio	F	\$ 1 387 065.5	1.24	1.2	\$		186699
Portfolio	F	\$ 738 129.5	1.12	0.84	5		183989
Portfolio	F	\$ 1 506 350.25	1.26	1.48	5		187116

Abbildung 22: The results of the runs looks similar. The Nettoprofit of the portfolio varies from 738129 Euro till 1.5 Mio Euro. There is a difference, but this variation is ok.

2 OOS1 Filter

In this Step of the Analysis I will only use the OOS1 Filter after Generation, the other Filters are switched off. I will use the same Strategies from the last generation which are stored in the database. This are 5000 Strategies in every period of this Workflow-Analysis.

I will check in this step the effectiveness of the OOS1-Filter.

The Result:

rhame	his is he first.	Same	1.11	TRANSPORT OF	400 line	agest Terminal	
"soccessisting or other second	8.6	2.5	80.7	00 0	0 0 :	1	
VacMess-CHI 14507 excitoulation:	8.8	M.	00.1	00 0	0 0		
(hethin)5	8.8	8.8	65 1	00 00	0 0	- G	and there are been been
Norm mild .	1.1	1.0	10.0.7	00 0	0 0	1.1	
within the fit.	11	11	00.7	00 0	0 0	4	X
autops could cheer and second and a contract and a second second	1007.00	-327044-044	0.10	1444	ANA TIME	Internet of the second of the	
metrage sealing - "200 GBNIT workflowtenityte: +00504	1004.200	MARWETS	1.00	mail 10	18 1547	DELLOR AN AVAILABLE	Pietfolio
annings muchs of the station's and house again, should also	119128	100002-00	10.00	148 1	111 100	DECISION DI CALTURN PE	
surveys much - "288 1870" and fourtainers - 1922	216A.75.	televitize.	140	tion in	11 100	TRALET I'S SEALS IN T	
permanente a 1000 DBWY and Sudardyn, 100201-1	2006188	111004111	TATE	1. 940	12 1004	1001 12:22 2012 22:13	em.
evenue made = 1298 28997 sarifestedys, >00181 = >	100004	10000005	1.85	0.78 0	45. 200	2001-08,04-2820-08-04	
evenage results - 1095 535974 werkforwheatype, +00084++	3798-54	3474625-00	1.527	0.00	61 384	2011/07/82-20121/07/82	and a second
anatogo maulti - 'Q90 GMU'Y workRowinatyon, +00000	1400.08	104621.19	120	000 1	21	0010439-2020-94/66	
semage multi-+ 'Q10 D2891'Y earl Scientistry is - 20094++	110.00	750728.19	1.28	0.001	24 1 248	181101-5-382291W	
compression and a tight date is worth outwatcher, - database	-40.17	1000300.00	ILM.	100	11. 141	3001123 001128.0	
average results - 1290 DRFWY wardfoodsatives, - BEDIE - a	100.00	21410.4	12.90	4.45	131, 1807	200007171-2021-01-01	
Actings Intells, VI2R 1870'V northers/todyst, - 01118-1	MINON:	8822998.16	1.117	10.00 10	TT ITM	DESCRIPTION OF SHAFT ON SH	
scorege on the city M 14707 wortherwinalyse, - 30105	(1114)8	TTRACTOR	1.07.1	048	41 1794	200312114-307133118	1 mm
evening weather 1008-0890Y swithening yes. 20104-1	1018.28	TORVETAL	1.24.2	677 1.	AB	3819.11.23.3030.11.28	
evenage results - 1058 E8767Y werkflow/waty/sc,-80508 - r	1845.08	108738538	1.520.7	0.17 U	M 284	2919/08/58-2010/08/29	2 2144 -
everage woulds - 1000 LBNVV earthcade aryon, - 60072++	1014,25	69155836	1000	0.48 17	19	2411-06-57-2020-06-86	E pine
weekpp ma, Ro < '000.0289'T weekSouAtury to - 82758+4	188,23	39464.11	1183	0/1 = 1	24 387	2010/02/5-2020/00 M	100 C
average cerular infatte LBNVV averySourAnalysis; - BillerD-+	2007/04	101655.00	11627	0.08 . 4	18. 2164	interface intercounter	1.00
Average meuts - 1288 189977 workbookeatypt - 829291 -	3M812	14081238	1000	0.85	08 3869	2018/08/28-2019/28/28	Town State
average masks of QHI SERVEY everyficinal earlyse, - \$2500 c.c.	1012.21	11005030	(1.00)	0.78 1.	28 109	2010/27/38 -2019/27/38	
average results - "OR SERVY surplus budyon," \$10921-1	TUTW	mmad.18	1,10.1	0.12 1	11 3466	2010/04/14 2016 2017	
warepresented with AMMY wareforeiteryst, -41178-1	301.75	112,000,000	104.0	040	41.5493	BURN A SAVUM	
-sources state - 100 SHOY and Bradedore - \$1500-4	- 2-64 (0.7)	OW COM, BUT	0.001	AT I	141 356	DULT OF TAXABLE	a set a set of a later of a
Courses and the street state of the street	1.1	10	98.5	00 0	10		
.500000000000000000000000000000000.	6.2	64.	99.5	99	. 9.5		
	8.8	6.0	98.3	00 0	- 100		
constituents and a resultion	2010/07		118.3	618 T	10 1944	4 4	Dispet in Mint Party

Abbildung 23: The average result is 1232/5= 246 Euro, this is an improvement. The original value without filtering was 1119/5= 223 Euro. This means that the OOS1-Filter have a positive effect.

3 00S1+00S2 Fil	ter											
W7												
Name .	Service Parket	A. Lordistree	d Pl . Date	er beitt	U Dames	m Indeni						
	-	1.1	100 00	120								
And the Child Child's work had been	00	-14	00 80	1221	- Te				-			
and the second se	100		100.00	100	- 2	1.0						
arm of the	00	44	00 80	10		9	100					
	200	10	00.00	100			I Company and the second se					
and the state of the second second second second	LAND OF	1 Address of the	100 14		-	and the most three	ARC					
the state of the state of the state of the state of the	11110.00	And a state of	1.12 4.000	114.44	and in	investigation instantion inc	19941 (1941			and a state of the		
and that a first short shart set at a set of the	111111	1001010.14	COMPANY AND		ALC: N	Table on the latter of the	_			ertrono		
and the second se	Address of the local	and the second second	other states	1.00	1128	INTERACTOR INTERACTOR	=					
reads under + the open is economic which + economic	10,000,00	-RUMONI	1.30, 0.00	1.00	100	Induced - Induced						10 million 10 million
endle workt - mei deute ansunneeredent - entre	1000	100114198	1.11 1.10	1.370	40	detrative percents						-1
while write + 258 means would will be a fitted of	per la dal	1001100-011	1.86.1077	100		sproto+ procere						10 C
enage results - TAN ORANY workshoet/selpte_100360++	101145	PRODUKTS.	1.10, 2.66	144	1110	terrorixe contou et						
wage wulds - "DHI GROPT-woldfland-selpsis, + 80008.co	1004.88	201110.08	1.12 0.88	1.81	1041	101104.08 201106.38	1.00					
service shafts a UNLUMPY and the sharp of the	1072.08	101/08/01	1.18.0.38	1.00	1998	lating to latter up	-					
energy (and) - "24 (2017) and the strain (1/4), -(0.01)-	1000 81	1110111-00	0.00 -0.00		0115	(NUL HOD DOL HUT						
enter multi 2.509 GENTS automotivation. ORIG-	-411.08	-9799LAB	1000 4.88	1.44	100	2000/07/04 2021/07/04	= 000					
wrage incuits < '000 GBRP's work/towkratyse 08230	508.39	5564/ B.R.L	1.12.642	. 631	100	20010508-20110508						
recision results < DNI GBHIPT work/Ison/yalysis, ~ 00420++	2706.00	56434218	147.034	10.64	1020	2005/02/14 2011/02/18	¢					
erige reals - 128 (diff? wontheringss, -050h).	1016.06	104406.001	1.10 1:00	194	:1186	2010/11/20 08/0011/21	4 11.000					
mage-mails ("280 SBTPY and flawballow, -3008h-	1780.10	101000-00	1.78 (1.18	1.78.	1021	1910 DE DE DECEMBRO DE	1 E					
arrays mails - THE GROPP undificultual and - OBTIT-	TONLAS	101008-01	1.15.000	2.81	11000	JENGED" JEROBA	£ =		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
anage results - 'UN (2019's wonthead-adult - 2019)-	1926.92	149541.44	1.15 1.70	1.14	857	perieste in period in	and the second s		1.00			
wrate multi v 100 (2019) watchinghing - 20140-	1044.11	101720-02	141.030	4.36	1087	2010/15/2012/2012/201						
where we want a compare of the March 1997 and the second second	1146.52	407105.41	1.11 (545)	1.00	-1071	2010/00/28 2010/00/28	10.000					
series much - '199 GERP anti-bashnaking - frittig-	200148	407103-04	120 640	1.12	140	2010/07/06/2010 00/07/08	1.00					
sector results of the country workfore the sector of the	101141	in Marry and	1 15 1 10	1.00	100	internet in the second in						
solar and the state of the second second second second	110.01	COLUMN INC.	1.000	1.000	11.01	And on the statement of	0.000					
and a series of the series of		10000000	110 100					1				1111
	0.0		00.00				1.000		and the second		and the second	A COLOR
		11		1.2	- CC			1		Contraction of the local division of the loc		
		100	100.000	- 2 -	(2)	- 2						
Characterization of the second second second	100	-	00.00	10.00			1.1841	her a lost of her own	-	Contractor of the second state		
neing wikide yentigt.	100.11		00,00		31149	P.1.				Suga in the Part		

Abbildung 24: The average result is 1463/5= 292 Euro this is an improvement. The original value without filtering was 1119/5= 223 Euro. This means that the OOS2-Filter have a positive effect.

4 OOS1+OO2+EURJPY

Nation	Marts Noticett	Longer	10.0	Sampy 5	ent00	Divingi	é Drohum	1000	811		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2020
"######################################	-14	0.0	82	18 3	10.1		+		100		Dentes	
Not-Revolute 1991 (1999'9' provide subject	1.0	0.0	0.0	60	ŵ .	10	¥.					manager1, dagh_
Portolo/S	3.8	00	60	40.11	16	× .	*			A contract of the		
Applie 6-5	0.8	00	-66	80 C	16 C	- A	¥.		-		0	
average modils	-8.0	00	120	10 3			12	A Road Channel				- 0 ×
manage marries of 7500 1.8007 month same algost, 1.600.081 to	1079.34	4475-27	1.00	810	TL3	110	WHER YE RE REPORT OF THE	And a state of the				
marings mailty / 1995 EBPSPY service control and a 1005041 a	2110.00	2004126	129	846. 1	1.55	248	2022 08-34-2023-06-28	(April 197			Bearing	
anatoge teades < 1000 588574 societosenatore, +80428++	-415.34	-21062.01	5.95	1.80	6.99	280	202230-07-202126-80	-			1.01.01.01.0	
makings must a 1200 GBRPT workfoardy algost a 80008	100306270	14553048	1.26	5.68	44.	318	10003101711-200300.017	1.1.1				Comments of the second s
and the mails of 1298 149197 motificant when (10112) -	122027	88821.19	140	246 1	art -	75	JUST 14 YF ORDE 18 18	1				2
avarage teachs - 7200 189797 workfrontealysis, +07148-1-	4214-010	108806.51	140	141 1	142	128	2007-09-39-3002-06-04	B-107				
avarage teachs - 1998 EBFDY scottfounicatests + 80084++	4111.25	187538-77	1.12	187 4	112	201	2021/07/02 2422/07/02	1.100				· · · · · · · · · · · · · · · · · · ·
arrantege maanta - 1036 589597 monthourwaalysta, + 80008	40100	3992228	0.15	134.0	100	201	202104/09-2022/04/38	1.1				
menge multir v 1200 68997 workforetration, - compet-s	1853.85	46000	1.38	A.M. (643	141	20010111-20020118					
manage matters (1988-1897) was bloom apply10 fabro	111111		100	111	ist.	180	200120-010-000	11.144				
manage multip of TVH DBPOP and Averlandyring, GLMD +		19440.00	1.65	245	6.65	141	2010110-001012	and the second s				
average mosts - 1295 CBP377 arotification whith OR156	24.84	1054.44	1.000	641	304	314	2010/06-2021/06-00					
maining multi- Q00 GROT workford white - 3400 -	2412-29	3086613	. 101	NOC. 3	38	101	2020/02/14-2021/02/0					
average mostly (1299 189197 southbartraips, -00004	1809336	1009136	1.31	2.61	111	100	2018/11/22 2020 11:20	2				
manage testils - 1200 120079 southwest wheat, - 120222 -	1010.07	11/04/62	1.28	1.71. 1	ini-	100	2010/08/08 20 2020/08/28	1				the second se
manage tenality is 1288-289099 workBoard/unipote	11046101	8292122	1.16	0.68	100	201	2014.04.07.2020.08.08	2		14		
average waver - 1000 08/07/ workform/adjust, - 00756-	2360.68	308961.41	1.35	279. 3	168.	110	207881 (5-20010570)	11.000				
analogi mante - QSI CBRPT woolf care along - GBRD -	011108	11104528	141	1.71 4	10	191	30181031-38181228	11-1-mm		1		
sive upp mouth: - 1200 GMUPT eccel/cardy alpin - 120204	186443	INTELAT	1.44	in. 4	110	104	2018/06/2019 00:00	1.1.1				
merge marks - 1288 189397 earthout/uspag - 21001 -	1012.06	Material .	1.90	200 1	ikt .	381	2018/01/09-20196/02/28					
sources main ("QH 18979' antibush-sign, 17250) a	103675	41706.04	3.18	2.09	100	121	207.8.8415.2079026238					
average month - V206 CBRITY and Black adjust (71716) -	1800.01	113148,28	1.00	Ann i	188	and .	2018/01/09-2018/01 18	1.00				
and that have a TEN COURT and and agen0'00000	-0430	14.81.00	1.20	441	41.6	124	4011 II.37.2918-1007	1	1200			Contraction of the local division of the loc
No.	8.8	66	50	80. 8	1	10	8	1100	and the second second	The second		
***************************************	18.8	00	80	80 . 8		18	1	1				
	8.0	00	100	18 7		38	10	1000				
tional average reader-	1435.50	10.	1.21	1.29	ur.	1041	1.	4-340 -144			Ann - 1011 - 1011	AN

Abbildung 25: The average result is 1628/5= 325 Euro, this is an improvement. The original value without filtering was 1119/5=223 Euro. This means that the OOS1+OOS2+EURJPY-Filter have a positive effect.

54

5 OOS1+OO2+EURJPY+USDJPY

14.44				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Sec. 11	Report A			A		A REAL PROPERTY AND A REAL	
11,0110	TROUGH PROPERTY.	material	5	ine of	8415	Scholes	Diplet.			E.C.	U1	ALC: NOT	6 Y
200000000000000000000000000000000000000	R.P.		100							and the second s		a second	
Westflow~200 (BEP) and hand salyss	00	1.1	. M.		M		2.0						Particular Constant
POTNEQS	.00	3.8	198	M	M.,		8. L				and the second se		
(Hollin 1+9)	60	M.	0.8		M	*	A						
average result.	: 083	3.8	102	18	48.1	*	*	A Provide Lines					
sharings randos ("SEE 2019") and sharing on ,-2008-1	2010/00	100 21 20	110	0.14	-118		101111-10-0011110	April 244					
average rands '208 CBC9's webbaulautyve_+0004++	1196.40	20050.00	1.19	9.43	1.05	10	283208.24.2023.84.34					Portfolio	the second
Average waute - 'COR UBDRY workflawthatype_+00400	11720.00	NAMES IN C.	104	-0451	-0.95	24	2020938-35359668	III					and the second
Anthone concille > 'QDB GROPP' actember adjustOCDE-+	3122.26	20178.06	+4	1.64	10.	40	11.18.000.11-3000.81.11						And the second se
average results shows there's applicable of the source of the second sec	JERMIN .	10048-01	1.14	4.17	104	30	2021.12.11.0002.10.11						
warrage results a '098 GB/IPY and bendvedysts, +00'981-1	415857	101103-001	7.84	878	274	40	20110933-30223836						
warrage nexults < 1290 OBVP1 and cheakeningsis, +00061++	183580	\$1552.05	1.85	3.67	181	13-	20110230-202231100						
average results < Q06 Q8597 automobility/six = 00000+ =	159.10	2011/2	1.10	428	1.11	25	(RE) 04/88-2022.04.08	111300					<i>A</i>
analysi multi <'098 GRP1 whitripe Industria - 80084	118540	16276.44	3.04	2.54	CH-	35	101101-S-0028118						
entropy could, yright Calify and TaxAndyon, 1 (01181)	101128	CONTRACTOR OF	110	an.	-111		2007/12/02/02/15/08						1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Permanental - State Likeling and Real advan - 2010 re-	STLT5	CONTRACTS -	1.00	D.E.R.	-040	100	reaction of a second	10.100				and the second s	
Average results - ONE OR PT automotion by a - All (http://	101.05	10056-02	100	12.55	400	THE .	2010/2014 2021 1018	the second se				and the second s	ar
average ras./m 208 GRSP's unit-flankhulput 20428	3452.42	20000	1.54	0.47	1.10	15	20000214-30210218					*	
motogie conult: < 'Q08 GBOPY unit Resolvation, - 80004++	1576.62	400538	0.28	4.83	CH.	128	38191123-2008.1133	4					
westage maults - 1018 UR18Y workflawAnalysis - 80148	winiting.	41062.77	11.08	12.74	1.64	108	UNTROPING AN ADDRESS OF	1 E					
average maults - "CHE CEPTPY workflow/outputs - 808/11-1	1182.03	27151.87	1.16	8.81	1.66	116	2019/08/21 2020/08/26	1.0			2		
average ration in 1598 UBMPY analysis and the Analysis - 4073811	111840	40807.00	110	478	1.10	88	proton in possile th	11-180		× .			
evenue mails (000 08197 whithewheelve: - 2004)	104732	81100/81	100	4.78	4.61		18441124-2010/1128						
memory results 11008 GROPY and floated and resolution	3713.81	POALSE.	1.48	141	1.84	100	281000.28-3019.9628						
average maulty -1008 GBRIPY workflowAnalysis, - \$1008	101210	81104.70	1.51	0.81	457	110	ATTECT 28-2018/2108	1.144					
domain marks - '088 (8979') work hand-advest - 810821-	7000.00	dates in	1140	2.78	111	180	DEVELOPING THE DOT NON-THE						
maximum results, -1008 (2019), and the sheat on 411 Maximum	1781.40	¥1000.00	1.24	1.84	1.00	200	2010/00/10 01 01 01 10			12000			A PARTY AND A PART
And the real in a line of the second se	484411	LUNDORY .	101	diat -	4116	140	20111025-3149-0029	1.500	1000			Sector Contraction	and the second sec
and the second	-00	1.1	4.8	48		4	The second s		- Marine		COLUMN		
	60	1.2	111	11	ā .	8			1000			5.5+	< ··· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·
	60	1.0	10	10	÷ .			1.000					
outed survey widoo	10/104		124	4.99	141	3118	4.	4				Dispute the Num	

Abbildung 26: The average result is 1441/5= 288 Euro this is an improvement against without filtering, but it was a step back against the last filtering.

⇒ The USDJPY didn't have a positive effect. We can drop this filter.

		14 14 14 14 14 14 14 14 14 14 14 14 14 1			10.0		
	STATE IN CASE OF STREET	a second to be		anney, ea	441.54	and the second	Contraction of the Contraction o
	0.0	10					Protection Agence.
Worksham-CHL 3379Y were final-heatype	02	6.0		- 15	- 2		
Perficients	00	60	10.0		0.02		
August (set	200	.40	M. 8		- 29		
owing out t	.000	44		1.1.10	0.000		A Professioner .
sensor mate - we write a thereinger, ristlen.	1111100		10.0	RE 13	11.00	WEEK'S REPORT 11	MAK INC
mentals results = TON 20PPY metiles/estyst, +2003111	428.39	8164.28	1.34 8	4. 84	E 31	2013.58.34-3023.04.39	Portfolio
manage results a 128 (2010) montheasteriyes, violation a	-365.76	-486.04	1000.00	B . 4	41.74	2011/01/01/2011/02	4.00
manage musits + 1081-008071 averthreadenlytic, r08138004	483.19	1102.75	1.38.9	P. ()	E. (*	2012/2014 12012/09/1	
manage made - 1286-3089Y werthooksdyte, +00222++	104.01	1118.30	1.00.0	6X - 84	4	3641.101.47-3020,33.1	
menage results of DBL SHAPY manifest-bestyne, +02318++	127030	121111-00	DAT N	8 N	1.18	JULY 34.34-3002 PM.3	
average results of DHI 2019Y were bearing you, + 2020a a	877.84	UTHEN:	180 8.	6. 21	1.18	2021 8152 3022 8153	Y
www.epres.edu < QMI 000077 exercitors/program, +00000117	(9409	1128.84	3,48,84	11 104	1 (A	2011 84.00-2022.04.08	100
mettige multi - 1281 25797 metthoutentymi - 00014	103.30	DIRE	141 83	10 14	0 0	382+3+43-3000.0+1	
manage results - "200 2000" successions, - 00100	1100.000	90075	1001-1	10 1	6 K.	10001 TH.U.L. POP 1 YO J	
mining reals - 128 2019Y antilephates, -0000	-station in the	-BHART	1.04 -0	1 -0	14 10	2010/07/01 2021/21/0	1.00
sources many - TON 20197 section/colym	200.41	1012245	TOT N	11 13	1. 15	2019.05.061.0021.05.0	
waters mails - '081 (080'r awtikealeaters, 004))	19/434	145430	Light for	4. 62	2 40	2009/03 14-2021/02/1	A company of the second se
ments wate - OR all I'r sertholyntau - 0004	NRAT	TTTR AL	10.0	10 64	it i n	1014 B 11 (311 (300)) +1 21	4
menage results - 1280 SHRVY excellent/wayars - 00588	404.05	1121.00	140.5	14	ю. т.	2018/08/00 2020/06 21	
average results of DNI GREEY averation/onlysis - CORTER -	128080	4108.11	1.00.0	10 10	1. 18	2019/06/07 2020 20409	1-
waters make - OB 1997 an Healestyn - 00791-	557.84	WHAT?	1.00.00	4 12	0.11	2018/08 PE 2020/08 14	
seenas mate c'08 (000 particulation) - 0000	10645	00429	141.1	6 D	0.111	2018/0211-0010 (122)	
services works - 108 SHE's sertilization - 00814 -	453.30	11742.75	155.4	11 43	4 18	2010/03/06/2010/06/2012	
manage results - 1288, 208977 earth solvations	244.12	2346.47	158.8	11	4 4	2018/01/06-2019/01/26	
service main (DR 2000 south above (0.001))	104.94	1011120	101.1	PP 1/	1. 18	2018/04/11 2019/2011	100
service make - THE DEPT service hashes and a	301.16	angrad de	1.40.0	IT. 31	1 41	STREET IS JOINED IN	1.00
second chain of the state of section house of the	- 100 mil	INCOME.	1.31 -1	14 1	(1) 10	mallinear and some	- astrong a free of the a
	60	8.0			1	and the second se	the second se
"Reteresting and	10.0	8.0	10.0				
	0.0	10	10.0		1.1		
month prompt teacher	58481		011	0 0	<. iii	6 B	the limit is the desire of the desire of the limit is an end of the limit is an end of the second se

6 OOS1+OO2+EURJPY+USDJPY+Robust

Abbildung 27: The average result is 354 Euro. => This filter works.

7 OOS1+OO2+EURJPY+USDJPY+WFa

SelectedTimeframe



Abbildung 28: I modifed this filter in the walkforward-Filter. I decreased the Min trades in one run from 20 to 17.

	himse thinks an	Same Station	1. 10	(Manufacture)	And	A Distance	a factoria	
	1.4	100		100	100			
Weiting The Land and the Andread		00	-		1			
States of	10	22	-122	- C		÷.	2	
and the second se		100	- 22	22 V	- 22 -	- C - C		
AGE TO L		300 H	- 22		12	÷.		
trouts on the	and the second					1		- 16. 1
secolds comply 1, 258 cm and the second of the parts of	-TALLET.	1100.00	1.1	10.34	0.00	10	THEFT, W. BOATS IN	
Analia menter « Coll patche Acquiremente + 60104 · «	-4812,002	JUNET NO.	12	1.88	104	40	TRUDGLE-DUIVELIE	Portfolio
synaps multi-crops carefy waterbooksalpid, +20028 ()	COLUMN STREET	1012104	2.00	1.11.1	10.18	. 8.0	1023-06-23 2014-36-24	Case
consequences of 200 CBP PT and the strategies, CBP PB or	74142	TERMINE	140	1.14	1.64	18	TRADICOLLARDING TO	an a
secteds carry v.000 (0016) monthestration v002211	49410	00010.000	53P	8.20	8.73		363 1124 1055 2114	
 overlage manifes < 'Q06 GROPH sector/panknolysis, x80(188) + 	#19.10	10587.45	14	A70	321	16	2021/06/24-2022/06/24	
average maulti < 'Q08 C879P1 wohlflowAralysis, +800841+	21800	11003.96		1.840	3.39	- 85	5851-05-16-5855-16-68	
(average could) > "298 S8019"1 average without adjust, + 00000 + 4	8.16	317.08	्रधा	3.00	8.01	- 11	2021-09/26-022238-06	
conspression (2001) (2019) and its dynamics (2000) (2010/01	218485	1,23	8.01	1,21	. #8	1011/0.10-001210110	···· /
Average results + 7008 (2019) average advantages, - 2010.	100.00		1.8	1.64	0.45	11	2640 1024 2011 1025	
swenige mades a 200 UR/Pr appringly about the	-58.55	-182.58	1.7	-0.58	-921	1585	3604731-2014036	and the second sec
average rando < 208 GROPI worthteelympet 04118 - 1	5.61	345.28	1.00	8.51	141	45	26201039-2022-2028	
average mautic < SAE GERPT additional ration, - 104321 -	185.00	1044LH	-164	641	411	38	10000014-0010014	
sumption do . 120 100 Providence - 000 Pro-	108	198.05	1.00	141	10.00	11	10101125-0001121	194
Average cost to 17200 189797 model and Analysis, - Mildle or	440.49	15411.09	1.84	1.12.76	1.71	31	10110-0030-02203-0030	
Average results a 1998 GBVPV workflow/output, - HEITER I	101.45	10824.215	1.11	1881	3.011		pervedenter proprios de	
average can. At 17200 CBTIP1 and Standards. 2017bb of	1011.22	3100132	14	1.4.76	1.84	44	2010/01/02/2020 01/14	
average results a 1000 CBOPT accelerationation, -36840 and	198.00	20682-47	10	4.76	4.40		2010/02/25 2010 10:01	
manage marity - 1000 GROWI understanding - 500000-	414.10	308-0130	-4.90	1.54	4.42	48	24100-26-2010-8-38-38	-
mence insult - 108 CBOPT workforekulars - 01000	796.15	CONTRACTOR.	1.4	191	4.61	41	101000/06-20103/066	
senses on it : "OR LEVE southerduces - 2 http://	100.11	100 1000	14	1.11	1.11	11	OTTOOR OF BRIDE NO.	
And an Arrival Statistical Arrival Arrival	111.00	100.03.00	1.1	192	141	112	OTTALL IN DEPARTURE	
And and a state of the local data and the state of the st	100.00	and the lot		-			201710.27 0101010.01	and the second se
		200			100	10.0	a classication	
	22	00	- 22	22	12	2	1	
	11	111	- 22		2	12		
and a second			1.00		100	2.	-	the line of the second
towned searcher works		- C.	- 25					Trape in This Past

Abbildung 29: The result of 313 of the Walkforward-Analysis was not so good.

8 OOS1+OO2+EURJPY+USDJPY+WFb

SelectedTimeframe

settings Filtering	(
Walk-Forward type Period type	Simula	red IS, Exact OOS (slower)	w				
Out of Sample %:	30	- +		Van Hakk Well In	ward Opennation		
Walk Forward runs	-	- +		anne foi in printe	nem housen (Verscher die erstellte odig) det is wij dies is regelse speciel werkel g	, ha inited in 10mm, par of an inited in 10mm.	alle met held alleren hereineter betw
Maximum tests:	flecommu	rded number of tritts is \$1000 - 25	000	Constitution and sound	nen hen heg alt be onsignet give big over 1 efterne 2 alt på Alexand (hernal næg) och s	ed is inspected. Optimizing and in and	
	you con i diseattore	with the number of teas WF optim	aation performs, and itsus i	Autoritania araa a	uniter - (M, 2, 4) in terperature	al contratory.	leta
and the second second		a mene		10	Left value	494	Retrieve
- Yake astroution (* nom niften	K ANDAT			we has a site carry	1.1	
ine.	10	=4		100	AT Second Percentage characteristics	1.1	80%
199					Phaenal Margnett in and run as Wolfstala	4.4	80%
Downi	20			5	WP Special Microbiolity in organization	2.4	- 14 M
Max steps	10	- +		8	107 Special - Mole N. Snavednase, in land rant	190 Y	25.9

Abbildung 30: I modified the "Out of Sample %" and the Walk Forward runs.

		-		-			
haven't	North Mellingfu	handedby	of PA	anti- fait	(E) linking	tas Derland	
·*************************************	1.1	00	00.00	1.0	- 00		la contra c
Workfore-CHI GRIPP write/backsture	3.6	.00.	00.85	1.00		A	
Parificies 0	8.8	00	60.65	1.0	- 10	1	
American I	8.0	00	10.10	1.88	- 30	1	
andrange results	11	00	100.00	6.0	- W.	6	a hub Darver
average results 1/2008 GBDP's protohonologicals, r005081-1	A23.41	AHER	145.47	11 07	4. 45	2012/11/01/020110	
Investige results <"ONE GERP's workflow/keepsile +00584	364.97	20527208	1.90 8.6	8 15	20.05	2612-0826-3020-063	Portfolio Portfolio
service results COR OFFY your level advects r0080111	109-12	1075.10	129.42	11 127	14 . 14	Marcola 1 222,864	
surveys results a "200 (2019) und faultantics, +00001-1	ALC:16	ternine	110.08	4 1.2	1-18	DESCRIPTION OF TAXABLE PARTY.	n / 200
menuscrash - "ON INCEY and dealastics, 10252	1014.237	1004.11	348.84	a. 197	 1 	2011/12/17 2022 121	11 100
wanter results - '098 OSRPY workflow/autput, 100168-1	845.77	2821934	147.63	8 1.2	31.32	2821 08:24-3 022.893	34 4.30
swenage results < '098 G87PV wom/fisie/autosis.+00084	71415	2845248	105.04	4. 4.2	10.0	2621-07-82-2022/810	
somily a result of the Galifier and Sankadya (1900) -	101.00	3100.64	1.00	411 147	1 11	2011/04/04 2022/088	
pression results - "CPU LINTER' scaling whether - \$200811	1204.00	10104-02	1.101.002	4	10	ptr1/11/10-00020111	
service reads 17000 (2007) unit feed inton, 10100 r	HALTT	4410.71	100.00		1.10	2010/10/11 0011 100	
average results 27290 128797 aperfered relation, - 30252-1	242.3A	8445.75	101-07	58. 47	1. 11	2020/07/01 - 2020 203	11 4 Mar
strange reads - 100 (BHP) antelestention, - 8038-1	Citik m.	+++0.75	140-42	11 -11	0.128	2006.08-005-00	
senage results + 534 GREPT assertion/Autoric, - 654281 F	+ 533168	WHERE.	100.04	0 17	48	2010/12/14 2021/021	di groo
memory results - 1000 GB/IP's undifficult edges - 00000	94.00	344.99	100.00	1 14	C. 11	amin's contra	
werege results - 108 GROPT work flam Autors, - 201221-	41811	10106.03	1.82 8.7	6 14	10	2019/08/10 2020 08:3	2 G 100
average results a TON GROPP somehend-subject, - REETE In	300.48	1987174	118-29	1. 302	11.19	2019/06/21 2022/06/2	
mention rands / 000 GROPY unstributional subsets	621.88	2521046	110 111	T 1.0	47	2819-00.10-3020/081	
seemage results, +"GHI GROPY anothered halp in 80048++	78588	10811.34	430.64	1. 1.0	0.01	2010/021-2016/023	H + 400
merica results - "200 GRAPs workflow/setsets - 80004 -	 Web22 	4002206	1.100 8.8	4.1	10.046	2010/08/26 2010/08/28	
average results - 1248 GB/PY workflow/watcols 81258 rs	- BR237	REPORTE.	111.08	4. 41	1.168	principal detailed	AM 2 100
summings results + "200 1007074 undefined-subject, - 8 1002-1	448.19	117100.12	144 017	1. 1.10		STREET BUILDINGS	AN
average results a "ON GROPY and Availables, - 2007611	408.47	TEBLO	111 68	1 17	147	2018/1114-2019/011	II
increase results of 1200 CENTY and the balance of 1200 of	CHUIF	7548.00	346.47	14	8.11	2012/04/21 4/14/342	and the second sec
	3.8	00	160 88	1. 8	. 6	R. C. Lewis Contraction	
***************************************	1.0	00	20 64		0		
	0.0	00	20.88	1.1	-	E -	Internet in the second s
the state with-	THER.		1.00 1.0	111114	i interio		the root the first and the spin spin the line in the 1 and the second spin the

Abbildung 31: The result of this modification was 310 Euro per Strategy.

9 OOS1+OO2+EURJPY+USDJPY+WFc

SelectedTimeframe

Settings	Rivering					
Walk-F	torward type:	Event I	Exact OD5 cvim	4	~	
Period	() per	Denet	Days Bars (Tra	estation compa	tible) Heart	Trad.
an of	Sample %:	-	- +			
. Wolk F	brward runs:	1.00				
Masim	ium tests:	1,000	×.			
		ferren	noled countier of 6	errs /s 51800 - 20	902	
		jan ann i durathan	knië itse suurniver og	Presis NOF species	indran pierfai	ung, anaf thun Soot As
Value	distribution (%	from origin	e values			
Apr.		30	-+			
Down:		30	- +			
Max 68	epu:	10	-+			

Abbildung 32: I modified the Walkforward Settings form Simulation to "Exact IS, Exact OOS(slow)"

March 1	Marriel Amazine Ma	Sandarite:	111 104	and dealers	0-inentia	a Korbash	
STREET, STREET	1.0	20	100 100	1.00			
Westman West (MNIN and Hand Advan-	24	10.0	00.00	00	1.0		
Sector II	11	0.0	22.23	1. 200	- 22	1	
Associated	11	100	100.00		1.4	1	
and the second	10.0	100					i Ball Coulor
the same in the same of the same state of the sa	- Constant		Contra Care				1 Percenter
second with the second se	10000	tana and	110.00		- E	TOTA IN THE AVAILABLE IN	Buildela
search start - the start started and the	And An	interior of	Address of			TALL IN CO., NO. 144-14	Percents
merely many - the start southerneys, -out, -	AND IN CO.	a barriera.	in and the	10	1.4.4	TOTAL MALES AND ADDRESS AND	
service result > GAL GOAN and Roading the	000.00	August and	100 000		1.12	South of the second second	134
switch waters the must set provide the contract	-	average a	149.97		1.2	4997-58-11-0424-18-12	
seeinge results is the depay and function of education	1110.04	- Interested	110.03	1.11	-11	2010939-20202908	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
some make a the state and provide the second second	862.50	URB2001	1102-008	1.10	0.00	2010/2012 2020/21/02	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
mentile many - the span has prepared as a constru-	4.18	andr.	100.00			2021 84 04 2020 24 08	1 1 mm
searche strage = 206 (206) and programs in 2000411	11210	ARDO-49	110.00	7/100	1.18	500 m H-0022 m H	
methys (most) < 1000 calify a calify whether a calify a second state of the second sta	1112	-6920-45	0.00 - 41	1 10	- 40	2020/10/21-2021 2020	
seeinge multi - 1280-3089Y weet RowAndryte - 85213	-81.81	1004.15	087-0	11 -1.41	- 43	2010/01/01 - 2011/01/08	A
lasting to the contract of the second second year." British a	-40.11	1110.04	116.41	H. 611	D (00)	2020 01 08 012120.08	A Loss A
sommer modes - 120 (2019) som findenskyste, - 80000	340.84	1712039	118 04	r : 144		2028.11.11.007182.15	a part
armings ranafty - 1098-00899 work feedbad yes	246.81	37(8817)	139-04	 118 	. 40	2010.11.22.3024.11.23	
average results < '0.00 (25897' services/earlyin, - 20588-1	408.05	282644	139.30	1.158	1.168	2014年末3-2520.0828	8 6
areinge results - 1286-8289Y #srAhowheatysis, -806/2++	197,62	151234	115 08	6 0.19	39	2018.06.07-3329.06.06	A 4 100
sources would a '1281 39897Y worth and adjust, - 50718+	86218	3440310	144.103	 E14 	140 - I	UT10.01.15-2000.03 H4	4 1.44
permanenti - 180 (8797) escherholye, - 6000 i s	215.01	21076-01	117,18	1.141	100	0118-16-11-00/W-16-25	A 3.000
menger-maile - "DRI GRIPPY and Real-robusty of - 62003 cm	606.37	ATMALIN	1.12 108	4.00	1.00	2018/08/2012/07/08 09:08	8
average risking a T290 000091 analthreakedppin, - 01000 co.	78632	101215-04	138.68	4.1458	37	2018-0148-2018-01168	A 1
everage multi - 'QN USEN' exet for loady at	315.48	1011551	129-07	6 i 173.	142	2010/04/15-3014.04.05	3 im
seminger works - 1288-528974 anot Rowlendym, - 411 Terro	42547	THEFAL	135.68	1.1.00	170	20180110-20180138	
mettige works - 1284 million and Rowheature, - 01284	25.40	Automa .	101.05	a 600	2.08	2017/10.17 (010:0012)	
[편집] 전 전 전 전 전 전 전 전 전 전 전 전 전 전 전 전 전 전 전	00	99	00 00		10.	E 10.00 (10.00)	
***************************************	4.0	0.0	00.00		10	1.7	
	100	34	00.00		260		
second everage mode-	110.01	8C -	128.03	6. 119	0.0		The part of the second se

Abbildung 33: The Result of 331 Euro per Strategy was a little better, but the result was not perfect.

10 OOS1+OO2+EURJPY+USDJPY+WFd

Tick simulation

Settings	Huring		
Walk-P	orward type:	Exact IS, Exact DDS (dow)	
Period	урк	Farmer Days Ears (Tradestation compatible) Heating Fixed	
an of	Sample Ni	- +	
Wolk Fi	prward runs:	a - +	
Maxim	um texts:	1,000 👻	
		Recommended number of terms in 59507-20000	
		you can limb the number of tests 90° systemation performs, and the devalues	Joon a
Values	Estribution (%	from original values	
Apr.		30 -+	
Down:		30 - +	
Max 40	eps:	10 -+	

Abbildung 34: I used the same Settings as before, but I switched from "Selected Timeframe" to "Ticksimulation".

#1					and				0	0 0	0
New years and the second	report Northands	horisten		140.04	Bach (1 Trainge	ay Instant		-24		
	66	10	4.8	11	1.2	4	100		-7016	CONTRACTOR OF TAXABLE	700
Westing 201 (0019) and heated yes	00	88	42.1	11	61	1					makaka Likaka
Participal	-00	11	10.7	88	88						
Amore read	00	11	44	48	44		0	and the second se	0	0	
average results	00	83.	49.1	0.0	10.		0	A from Diserver		Contraction of the Contraction o	- D X
mantipersonality of their contents and then being an e-contents of		1041.21	1.00	al date	4116		2011 11 14 4810 11 16				
searcherenalis sitzle cerery weighted wayse, stationer	1110-02	WHEN PARTY	1.10	Bat.	875	-04	THEOREM STOCKED			Portfolio	
mental reads - "OB OMEY swittenholyes, -OMO	ITTAR	(TRANSA	100	CAR .	1941	41.	10031-00-03-0000-04-01				
investor multi 2 008 (0509) and feaded you, 20036-2	 195.40 	10114.18	1547	8.21	281	0.	282255.71.2025.8118				a
mendermaks < 008-00007 earthowhealyse, +05252-r	- 1044.10E	P129-28	1.42	3.64	1.24	10	202112/07-2022/02/07	1.144			
investor results < "298 SMMY anti-howhealyni, x01100-r	- H+E.H.	88421211	1.21	11.79	104	13	mittonice mail relief	A LAND IN			
manager-mails - "128 (2019)" exclusion-maily-	128.68	101022-00	181	247.	LET.	12.8	10110/a) 201227.00	100			
mentals reads . The littley and dealerships, which a	A - 195.00	Index	1.00	1030	1.10	10	Just Juste plantage				
searchings reports 270/08 (20197) were broadenabyed, 2-00004-	- dinne	8168.25	1.207	1.55	ton.	198	SHOULD AND ALL				
manage made - "200 20007 and franksiger	* JAT 17	1001.00	1.00	100	040	44	2000 10:25-2011 10:20	100			
mental reality (GH 2019) part for the part (0005) -	+ - 1010H	1001100	1.84	615	0.14	41	100107-2120-2010	1.00			
mental reads - 100 others carbleshed yes - 0000-	- west	-0100.10	1.94	-0.10	0.10	- 10	INCOMES AND MADE	1. FOR			
armage results of DNI 128PPV earthfree/eatypes - 000201-	1. 605.70	200ALKA	1.71	3.81	4.10	44	and one of any states	1 A.M.			
warage made - 128 (8897) southeadedges, - 10584-	# THEFT	2016.16	101	0.05	141	44	101001120-20061103F	2 1.00		-	
metagermatic CON (2007) autobadratys), 00001-	- 418.81	29437.01	100	0.75	100		1010-00-00-2000-00-00	2 1.44	-	-	
analogie results - 1086-508874 analosa Analysis - 608751-	< 105.28	1454154	1.01	031	101	-M	2010/06/07 2020 26:06	1 100			
manage results <104 GERPY earthracksayer - 00%6-	- 348.75	ptoron.	1.66	A.M.	2.21	44	attract to assess 14	3.100			
armightmails - 'CNI 3099'Y mithoutholym - 00825-	× 192.20	depth in	14T	1.00	1.10	10	2010/12/21 2010/22/2	1.00			
service make / 128 SIFPY cartificated on a 2003	10103.000	40,000,04	1.66	1.01	418		10 tool.in pronuting	1.40	A.		
mentale mails (100 0007 perthodopyer, -0100)	- 685.25	56075 W	1.54	1.84	3.00	11	INVOLUTION OF A DESIGNATION	1.76-			
mainton results ("ON-SHITY any feaderstyle, - 6108] -	- 416.00	30+56.38	1.58	0.52	1.27	71	2010/04/13 2010/04/10	1.110			
average receits - tolk dollary workhow/earlyins01176	- AND RY	PATTRAL	1.28	345	1.00.	100	distance of an and an	a set			
another mails of the HEFP's wettherwheetyne, 1 at the se-	- PERMIT	AMETON	1.84	3122	1111	-	101111127-001010-001			- A	2
	100	34	100.0	14			4	In State			and the second
***************************************	00	11	10.0	10	÷11	19 - I	0			and the second s	
Construction and the construction	00	3.5	511	44	£17	Sec	ů.:	Part of the second second second			
word away inclu-	101.82	π.	120	8.81	1.67	1010	0	1.00 4.00 0.00.1	100 -000 -000	female in the Part	All 2 and 20 and 40 and 40

Abbildung 35: The result from switching "Selected Timeframe" to "Ticksimulation" has no big effect.

11 OOS1+OO2+EURJPY+USDJPY+SysParameterA

Selected Timeframe

In this robustnesstest I use Sys Parameter Permutation with the following Settings. I use selected Timeframe for the backtest engine.

N=1000



Abbildung 36: I set "Best Optimization profit <2". This parameter has the biggest effect on this filter. This condition "<2" is a very hard condition. This filter will filter out many strategies. The big question is. How effective is this filter?

Trailing engine Ingra-	MetaTradetii	With Antonia State		there are ad-	anaa araa ka araag	
Backtest data settings						
Symbol	авализицитель. 👻	Teneture				
Dart day Available fram	2000.01.01	Brediska ju	2021314-00		Roat Game	
Test parameters						
Presision	Selected timeframe any	Tatte 🤟 Commisium & swog	No committe	ter 1 set twee	0	
(grenist)	3 -+ pps	Stoog	1 -+	(PDI	Mio, dittance B	- + (PP)
Data yange parts Dhening Alexan	ad sofge 👘 👘 🎽	EX (XX + 1 + XX)	as un			Statute:

Abbildung 37: I used this Precision and this Spread and Slippage.

								Contraction of the local division of the loc	
								A larmer	
								And in case	
									Portfalio
(a)						_	-	1. 1.00	
	1.00				-			1.000	
	1.0			~	<u> </u>		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	1.11	and the second se
	a second second		~						
	Acres in such			1		6.1		11000	
				- C.			Carlos and a second sec	3,140	
				_			1990 - Contra 19900 - Contra 19900 - Contra 19900 - Contra 19900 - Contra 1990 - Contr	3.844	
82							- 0	R	
-							an all distances	1.00	
	Type in the proof		1.1					Sec.	
higher of the second second		00	- 22	12.1	- 22	۰.		12	
Second and the second period we shall			- 22	<u>.</u>	- 22 -	÷ .	20	2	1 A Martin Contraction of the Co
Normando.		200	100		- 22	÷.	20	C.1.100	
and the set of the	10			10.0	-22	÷	1.0	1.000	
and the second sec		and and	1.00			÷.			
and the many of the state of th	Contract of the local division of the local	and the second second	1.00	100			state between the second		
and the state of t	4000100	10.004	1.00	4.41	100	÷.	POPTIPI DE SELLOYS		
weather works + The cope, a manufacture MAL - works +	1010.00	3007-04	-0.05	445		- 18 C	book not one instruction		
everage mosts < 000 S000Y werkhowkee/yet81008++	1079.27	4018.81	1.52	879	3.62	18. I	70-#11/04-28-07013		
wenge wats ~'OR SSRY weiktowkeeps: 21178-+	WITCH.	109437	1.85	174	4.88	3	2010/01/14/2018/01/1		
	1.1.	.00	11	4.0		×			
	3.8	302	3.8	1.1					N
	8.8	150	1.8.8	44	10.00	1.	0		
overall average seculity	HITAK.	0	1,10	3.48	3.75	11	0		Figure 1. And the same the sam

Abbildung 38: This filter seams very effective. The average profit is 653 Euro per Strategy. But this filter killed the most of the strategies. Only 11 Strategies left from over 20K Strategies. I think this is too much?

12 OOS1+OO2+EURJPY+USDJPY+SysParameterB

Selected Timeframe

Filter Best Optimization Profit <3

N=1000



Abbildung 39: The result of this filter is very poor. 363 Euro per Strategy is not a good result. 651 Strategies passed this filter.

13 OOS1+OO2+EURJPY+USDJPY+SysParameterC

Selected Timeframe

Filter Best Optimization Profit off

N=1000

Normal Vicence	Anew Kertrarit	Locketty	e W	Sec.44	held.	indexes.	. hater	
***************************************	11	66	1.1	1.1	1.6	A		
Workflass DMI (20197) and flash had on	8.0	60	1.0	1.0	11	Q. 1		
Perintelli	88	00		8.8	8.8		0	0.105120.log> lise-ouils kat-Portfolio created from >
biarty will	8.8	00	1.8.8	1.0	4.6		4	
www.controlle	11	00.	11	8.6	4.6	÷	0	- H #
sources receipt / The Albert's southfactures, references	1100.02	7960.24	1.0	100	1046	39	DESCRIPTION DESCRIPTION	
merican (Multis - 1298 (2009) workflow/kellung + 00504+	419-14	1007629	1.1.11	1.14	1.05	46	introduis certaine as	Portfulio
previage results an 1240 SERVEY powerland-hadgets, + 60804 + 1	12445.002	- instantial	120	1941	100		PRODUCED OF DESIGN IN	
premier mails / 1/4 (819) contribution, (0.000-1	11 028	318/848	141	1.00	1.73	31	100010811 (http://doi.org/11	
potence-mails - "ON USOPY and head adver, 10(252	76041	1071.01	1.0	1.52	1.86	u	7071-0117-20021210	
average results + "088 GBNPY work/few/wature_+00168++	898.08	3493137	1.75	8.71	1.34	35	20210039-20120924	. Am
anatage results < "108 GRAPY worthholdsalptic + 00084	651.04	25041.41	104	1.0	3.44	40	20210708-3020236	100
merica-multi - 128 GENPY exembasionation +00081	26.46	1005.05	1.0	1.30	4.00	11	0010406-081204.04	
anninger medite - "200 10000" and filosof Adapter DOOD+	24548	1208.01	1.1.1	1.14	120	25	1001103/10 (MARLIN 19)	
president and a state of the second s	007.01	0.000	1.11	0.71	-0.84	11	1000 1010 001110.00	
sources results a 1000 CROPPY and Andrews, 100102 -	-141.15	TOTAL SAL	1.10	475	0.81	81	monor or party of the	
surveyer that is "the little state and adding . Stilling	THE R.A.	2101.00	10.04		417	100	page about page on an	
average results + 1000 OBREY work/head-satistic, - 404(10) =	000-00	CHMD:	10.0	141	4.10	111	10010034-0030	****
eventia insulty / 100 GERPY anti-fisial-ration - 80004-4	204.04	718840	1.4	151	4.75	11	2010/11/22 20:011/24	2
merice results - 1200 GBRPY workflowAnatysis - 805881++	Second.	10084.08	14	6.76	120	34	21116-06-28-26-26-26-26-26-26-26-26-26-26-26-26-26-	
average results < 1040 001091 work/hand-saloss, ~ 000101 v	100.07	00123	10	2.84	1.00		INVERSE POLICY OF THE POLICY O	2 im
parage results + TAB (2007) contributions, - 40718-1	844.00	34(21.1)	-1.b	1.14	2.84	47	INTERACTOR DESIGNATION	
postings-made + 1288 1850PY apph-feed-sature - 20040-1	823-35	31529.04	1.0	1.81	10	11	1010-1221-00101223	
manage results - 1098 GRAPY workfload autors - 80004 - a	20128	4133543	1.0	1.81	421	58	2118-2028-2010-08-20	
available results - 1088 (3599) workthreeknalspit, - 81008++	854.00	THEFT	1.91	1.07	457	194	29-9-0104-29-00/2-04	-
mentals (mult) - 100 GERPY and final solution - 8 KMC	471.18	10115.40	1.0	4.24	180	40	DIVERSARIA OFFICIALE	
sources weath - "200 100007 engineering of the	3187.84	2004110	1.41	121	2.78	11.0	straight to presidents	
second reals . The property contractants Class.	100.00	*****	1.0	10.00	-0.00	40	STATISTICS, STREET, ST.	
	8.8	100	1.0	11	10.00		d.	
***************************************	8.8	00	1.0	1.6		S. 1	1	
	11	300	- 11	8.8	÷ .		0	- Other for the set of
sound sources multi-	361.70	0.5	-128	131	141	10		the the transmer on an in the deside of the test in the second second second second second second second second

Abbildung 40: This filter result is bad. 351 Euro per Strategy is not so good. 931 strategies passed this filter.

14 OOS1+OO2+EURJPY+USDJPY+SysParameterD

Selected Timeframe

Filter Best Optimization Profit < 2.5

N=1000



Abbildung 41: The average profit per Strategy is 404 Euro. 223 Strategies passed this filter.

15 OOS1+OO2+EURJPY+USDJPY+SysParameterE

In this Walkflow-Analysis I increased the N from 1000 to 10000 in the SysParameter-Filter. I would like to investigate the effects of increasing N on the filter.

I used the following Parameters:

Selected Timeframe

Filter Best Optimization Profit < 2.5

N=10000

							a Poll Commo				- 8 K
				1000	-		Same Court		Boat Solars		
	- 1-				10		4.541				
					7.8		4.000				
51200					19.00		1.00				
1		-					1.00				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
· ·							1.0				
There	Plant Nethals	Clarkers	NY COM	ing bet	1 Methoda	e hidet	1.1				
**************************************	00	-0.0	11.11	44.7	1						
Wommer-ON OSCIPT wommer-language	00	00	10.10	0.9		F	1.1			and the second s	
fodokrli	60	00	10.148	1.8							
March Avel	00	0.0	10.00	4.4			1				
analogie deutes	00	100	1.0 .0.0				1.	1			
ane age results of the Latenth association ages, while the	W1. T.I.	-311.70	18.84 40.	1120 11		20211.00.002011.10	1 f				
Anti-tage intraffic - TATE LARGET sound-basely service, 1 (2010)	ALL	100.10	LIT IN	 (i) (i) 		state in or other in the	1.4				
some sign retails of 2000 (all PT south and reduced, + 2011) in r	120.01	101101	141.84	12,004	4	2021.10.11 u022-10.11	A 1.00				
processor results of COM CMUPY contributioning and Million	218-25	Indut.	114.85	1.00	2	2001-04-34-2022-09-34	11.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1				
anarage results + 1204 GBTP1 workforeikrateria, + 0008/k - r	4/8/32	818.84	141.85	1. 141.	3	2021-07-05-2022-0102	1.100				
annuage results - 12/N SB/7P1 workfore/ea/yars, +29800 r -	-1039	-847.14	1.50 -01	4 -674		2001 Stalls-2002 Hall	1.00				
average results - 108 GRIPT arch/con4relates - 00030	01018-68	000734	130.00	1. 100	1	2020.01.08.002101.08					
menus reals - "ON SHPT soldset also, -0040	1055.43	11104	331.14	1.110	- X	2018/11/14/2018 11/14					
average results - 1249 GB/PPI woldflowArshipsa, -01928	108.05	inei.ti	1.46.8.2	1. 2.88		30180108-30188108				the stand of the second	
weeking results of the call PV work from why as - 61 176	11111	474.91	111.1.7	1.11		2010/11/10/2018/11 10					
	-00	0.0	10 11	- 18		E					545
	60	:00	11.10			8					
	00	0.0	44 48	10.0		8		The line of the	 		120 100 100
ratial accept inidia-	ALC: N	-0.1	107.13	1.25	24	8	11,000	the the second	 Dage in the first		400 mil 100
									10000 100 1000 10000		

Result Overview

Nr	Filter	Result	Sum #Strategies	Remark
1	<mark>Without filter</mark>	<mark>1119/5=223 Euro</mark>	5000 each Workflow,	This is the challenge
			this means 115000	
			#Strategies as a Sum	
2	00S1	1232/5=246	76346	This filter has
				improved something
3	00S1+00S2	1463/5=292	22760	This filter has
				improved something
4	OOS1+OO2+EURJPY	1628/5=325	4941	This filter has
				improved something
5	OOS1+OO2+EURJPY+	1441/5=288	2229	Fail, The results gets
	USDJPY			worse with this filter.
6	OOS1+OO2+EURJPY+	354	313	This filter has
	USDJPY+Robust			improved something
7	OOS1+OO2+EURJPY+	313	908	The WF as Robust is
	USDJPY+WFa			slightly worse than
				the last with
				Montecarlo
8	OOS1+OO2+EURJPY+	310	1332	
	USDJPY+WFb			
9	OOS1+OO2+EURJPY+	331	1318	
	USDJPY+WFc			
10	OOS1+OO2+EURJPY+	325	1332	The result is not
	USDJPY+WFd			better if I use tick
				simulation instead of
		650	11	selected limetrame.
11	OOS1+OO2+EURJPY+	653	11	
	USDJPY+SysParameterA			
12	(<2)N=1000	662	651	
12	UUSI+UUZ+EURJPY+	003	051	
	(<2) N=1000			
12		251	021	
13	UUSI+UUZ+EURJP1+	301	931	
	(off) N=1000			
1/		404	222	
14	UUSI+UUZ+LUNJFT+	404	225	
	(<2 5) N=1000			
15		416	24	
15	LISDIPY+SvsParameterF	410	27	
	(<2.5)N=10000			
<u> </u>				
-				
	1		1	1

" we have analysed the different robustness tests. In this chapter I will calibrate the Workflow with the Winner Strategies. With Winner Strategies I mean the Strategies which are profitable on Real accounts in the last year.

This is a completely different approach to how I approach this. Last time we had a workflow as a template. And I analyzed this workflow with a workflow analysis. The result is that certain filters work better or worse.

Here in the new approach I simply take 9 working strategies. This means that these strategies have made profits on the real account in the past. I filter these 9 strategies with the workflow optimized here and see whether these strategies survive the individual robustness tests.

These 9 strategies were certainly generated a long time ago with the Q86 workflow and should actually still be able to run through it without any problems after 2 more years and not be filtered out.

But let's take a closer look to see if that's really the case. How certain are the filters of not filtering out these strategies? How stable are the results of the various robustness filters?

Chance also plays a role in walkforward analysis or Monte Carlo analysis.

Backtest data setting	s						
Symbo	d OBELEV	u	Timeliame	HI	4		
Start day	2009.01.01		End day	2023 12.20	-	Reset dates	
Available from	2003.08.04		m	2025.12.20			
Test parameters							
Precision	Selected timefra	rne only (faste 🚬 👻	Commissions & swap	No commissions	No swap	0	
Spread	5 -+ p	211	Sippage	0 -+ p	ips.	Mits distance 0	- + - pipu
Data range parts							
What m n? Most	reseq coulds:	50 W 30 D 0		#R (1111111	III))mil		-
						0051	Show chart
OOS1 Out of sa	miple - Test	Start 2020.10.25	i 😸 End 202	3.12.16		10%]	

I made a Backtest for the Winner Strategies.

Abbildung 44: I have 9 Strategies witch are trading since 25.10.2020 on Life account. See the following Backtest with IS and OOS.

nment
5 GBPJPY.a H1 4.4.153
5 G8PJPY.a H1 1.7.120
5 G8PJPY.a H1 1.5.152
5 G8PJPY.a H1 4.6.108
5 G8PJPY.a H1 3.8.133
5 GBPJPY.a H1 2.1.123
5 GBPJPY.a H1 3.5.99
5 GBPJPY.a H1 3.8.113
5 G8PJPY.a H1 1.4.149
5 5 5

Abbildung 45: This are the 9 Winner Strategies on the Realaccount. All 9 Strategies made profit in the past.



Abbildung 46: The Trading on Life Account of this 9 Strategies was very good.





Abbildung 47: The winner strategies are working fine in IS and OOS.

Now I will go through to the different Robustnesstests. And check how many of this 9 Winner strategies will pass my Robustnesstests R1-R7.

R1:

Use.	Name	Default	
	Randomize trades order, with method Resampling	Method Resampli	Ŷ
	Randomly skip trades, with probability 10 %		

Abbildung 48: Robustnesstest R1

I do this Robustnesstest in a Loop and check how stable the results are.

Method Resampling:Results for N=20

940,280 D	Artana O	7477D	PA3510	TAU 20 0	PWSSED	Aur O
POSSEE	EHED O	#ASSED	(WaseD	(Vasa)	THE O	PASSED.
+4 90 D	D-125 0	14556.00	DALED 0	PASSOO	(40.00 O	PASSET
F4 F1 0	HILE O	EVAND	EVILED 0	INSSED	FRASED 😶	1925440
F4. F7 0	E= 3507.	Holder 0	DALED 0	14153. 0	FOLDS O	-741TE 0
PASSET.	TASKE	F4/2200	EVILED 0	P/vsean	PW2200	GASSED.
ra m 0	Print O	E (1 57) 🙂	P85510	TALL O	FUISH 0	Will O
PSAIL.	terra 6	100.000 O	(Wased)	PASSTD.	(WSSE)	"Aire O
PACIE	(ALCE)	240200	PASSID	(Wased)	(Ward)	an sopp

 \Rightarrow I repeated this test 7 times. You can see the result is not stable for N=20.

Hint: In every colum of the table is the result of a Robustness.



Let's look at the first column of the table. Here, the Robustnesstest has sorted out 5 strategies as bad out of the 9 profitable strategies. That's a pretty high error rate. We remember: I classified the 9 strategies as profitable.

Abbildung 49: row1 of the table

Method Resampling:Results for N=200

ALLIA D	(341.55) O	TAILC 0	NU	141.10 0	FALLE 0	1.4
PASSED	PARTED.	FRIED 0	WONEL-	PASSED.	ESTED 0	ENLED 0
747210	TAL TO: 0	F/VLED 0	1455810	FAILTE 0	14100 0	PAGE TO
-Nuel O	7,81 (C. 0	PATTE:	FACTO	WSEEP 1	PASS210	WSSED
- 181 FD 0	M0. 0	14112 0	F4 => 0	r40.10 0	tsirb O	tkith 0
ASS-1J	PASSED	POLIER	1 YOSHU	IWshed	PA52210	PRODUCT.
51.65 0	whitem 0	FUIER 0	14.00 0	FALLET 0	14HD 0	TH => 0
740500	BASSED-	PASSIO	P(/SKET)	14ssed	196327.11	teased
WSSED	PARTER.	POSEED	TYSSEL!	P/V93972	19625 d	P)/0525

➡ I repeated this test 7 times. You can see the result is not stable for N=200. But the result is better than the last test with N=20.

Method Resampling:Results for N=1000

96430 0	enter O	(A17) 0	TA100 0	- KALAS 0	7.4 L TE . 0	0 01247
PANET.	240020	PASSE	PATER	REVEREN	ALCONG 1	FADID
raino 0	DALLO O	0 0.141	0 COLH	TAU 15 0	13 L22 O	O
1611D 0	145550	PASSE	PAREE	58-100	RACKED	and the second s
T&100 0	trano O	(alco O	ALS O	(AL20) O	HALE: 0	CHECC 0
PASED	Lange a	(WSBEE	(Woold)	TWSSED	74/200	T-IED
r4122 0	ETHER O	TALLS 0	with 0	-si- O	65.7.40 Q	and a second
PASSE	EXSTD.	PERE	(VISSEE)	obacen.	WSED	1.000
IV-SISED	F45300	(Visight)	TVISSED.	PAYORN	100013	COMP.

=>I repeated this test 7 times, the result looks stable.

Method Excact: Results for N=1000

PASSED	PASSED	PASSED	FAILED 0	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	FAILED 0	PASSED	PASSED	PASSED	FAILED 0
PASSED	PASSED	PASSED	PASSED	PASSED.	PASSED	PASSED
TAILED 0	FAILED 0	FAILED 0	FAILED 0	FAILED	FAILED 0	FAILED 0
PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	RASSED

- ⇒ The Method Excact with N=1000 yield the best results. I am happy with this result.
- ⇒ But the result is not perfect. This is the Reason why we should increase N to 10000. At the moment the SQX is only able to use N=1000 as maximum.

ttings Filtering		
Number of simulations 200 - + Use Full sample		
Backtest precision Selected timeframe only (fastest)		
Use Name	Default	
Randomize history data (by tick), with probability 20 % up / 20 % down and max pri	Probability up 🛞	20 -
Modified randomize history data (by tid), with max change 40 % of tick price chang	Max up change 🛞	10 -
Randomize OHLC history data, max price change 10 % of ATR(14) and probabilities (Probability down @	20 -
Randomize min distance from price from 0 to 10	Mars altranear damas (20	+21
Randomize slippage from 0 to 5	wax change down (g)	10 -
Randomize spread from 1 to S	Keep connected 🗇	63

Max Up/Max Down=10%-Selected Timeframe

N=30	FAILED 0	FAILED	FAILED	FAILED 0	PASSED	FAILED 0	FAILED 0
	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
	PASSED	PASSED	FAILED 0	PASSED	FAILED 0	PASSED	PASSED
	FAILED 0	FAILED 0	FAILED 0	FAILED 0	PASSED	PASSED	FAILED 0
	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
	PASSED	PASSED	PASSED	PASSED	FAILED 0	PASSED	PASSED
	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
N=200	FAILED 0	FAILED 0	FAILED 0	FAILED 0	FALLED 0	FAILED 0	TAU FTA
11 200	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
	PASSED	PASSED	PASSED	PASSED	ENLED. 0	TAILED 0	PASSED
	FAILED 0	FAIL FD 0	FAILED 0	FAILED 0	TALCED 0	FAILED 0	TALES 0
	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
	PASSED	PASSED	FAILED 0	FALLED 0	FALED 0	PASSED	PASSED
	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	NASSED
	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
N=1000	FAILED 0	FAILED 0	FAILED 0	FALLED 0	FAILED 0	FAILED 0	FAILED 0
	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
	FAILED 0	FAILED 0	FAILED 0	FALLED 🕕	FAILED 0	FAILED 0	FAILED 0
	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
	FALLED 0	FAILED 0	PASSED	FACED 0	FAILED 0	FAILED 0	HAILED 0
	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED

Max Up/Max Down=10%-Ticksimulation

N=10

PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED

N=30

PASSED	PASSED	PASSED	PASSED	
PASSED	PASSED	PASSED	PASSED	
PASSED	PASSED	PASSED	PASSED	
PASSED	PASSED	PASSED	PASSED	
PASSED	PASSED	PASSED	PASSED	
PASSED	PASSED	PASSED	PASSED	
PASSED	PASSED	PASSED	PASSED	
PASSED	PASSED	PASSED	PASSED	
PASSED	PASSED	PASSED	PASSED	

N=200

PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED
PASSED	PASSED	PASSED	PASSED

- There are big differences between Selected Timeframe and Tick simulation. I have to repeat all calibrations from the last chapter.
- We should do all Robustnesstests with Tick simulation, special for the Montecarlo-Analysis.

R6 WFA-Matrix

Selected Timeframe

N=100	PASSED PASSED PASSED PASSED PASSED PASSED PASSED PASSED PASSED PASSED PASSED	RALED: 0 PASSED PASSED (ALLD 0 PASSED PASSED PALED 0 PASSED	PALLOR () PASSED FAILED PASSED FAILED FAILED PASSED PASSED	Total random	
N=500	PALED 0 PASSED FALED 0 PASSED PASSED FALED 0 FALED 0 FALED 0 FALED 0 FALED 0 FALED 0	FARLED PASSED FAILED PASSED PASSED PASSED PASSED PASSED	FALED O FALED O	Total random	
N=1000	FALLE O PASSED PALLE O FALLE O FALLE O FALLE O FALLE O FALLE O	FALLIN O PVESED FALLIN FALLED O FALLED O	Mulio O Fairto O	Total random	

Ticksimulation

N=100	FRICED 0	PANSED	TRAILERS 0	Total		
	PASSED	PASSED	PASSED	random		
	FALLED 0	PASSED	FAILED 0	ranuom		
	FALLED. 0	PASSED	PASSED			
	FALLED 0	PASSED	PASSED			
	FALLED 0	TAILED 0	FAILED 0			
	FALLED O	FAUED 0	FAILED 0			
	PASSED	PASSED	PASSED			
	PASSED	PASSED	PASSED			
N=500	Riters relat	(ART) 0	2400D 🕕			
	TALLOO O	PASSED	PASSED			
	PASSED	C40.00 0	CAILED 0			
	FAILED 0	PAS3ED	FAILED 0			
	PASSED	PASSED	PASSED			
	PALLED O	FAILED O	AILED O			
	FAILED O	PASSED	FAUED 0			
	PASSED	FASSED.	FASSED			
	PASSED	PASSED	PASSED			
N=1000	04113 0					
	PASSED					
	FALLED 0					
	PASSED					
	EALES 0					
	ISULO 0					
	EALES 0					
	PASSED					
	PASSED					

5000	-	0			
	FAILED	0			
	740 FC	0			
	VALES (0			
	PASSED				
	CANED (0			l
	PALED (0			l
	PASSED				I
	PASSED.				

⇒ Filter not working for our case.

⇔

R8 WalkForward-Optimaziation

Selected Timeframe (up/down = 30%)

N=1000	DASSED	EAUED 0	FAULED B		
N=1000	PASSED	FALLED 0	PASSED		
	PASSED		PASED		
	PASSED	EWZZED	PASSED		
	PASSED	PASSED	PASSED		
	PASSED	PASSED	FAILED 0		
	FAILED	FAILED 0	FAILED 0		
	PASSED	PASSED	PASSED		
	PASSED	PASSED	PASSED		
	PASSED	PASSED	PASSED		
N=5000	FAILED				
	FAILED				
	PASSED				
	PASSED				
	PASSED				
	FAILED.				
	PASSED				
	PASSED.				
	PASSED				
N=50000	PALER O				
	14				
	T4 50 0				
	IV/SSet/				
	1455ED				

Selected Timeframe (up-down=20%) Simul/Excact

N=1000	FAILERS 0	HAILED 0	PAREE 0
	PASSED	PASSED	PASSED
	PASSED	PASSED	FAILED 0
	PASSED	PASSED	PASSED
	PASSED	FAILED 0	PASSED
	FAILED 0	FAILED 0	PASSED
	FAILED 0	PASSED	TAILED 0
	PASSED	PASSED	PASSED
	PASSED	PASSED	PASSED
N=5000	EAHED 0	EAU.ED O	FALED 0
	PASSED	PASSED	EALED 0
	FAIT FID. 🕕	PASSED	PASSED
	PASSED	PASSED	PASSED
	PASSED	FAILED 0	HALED 0
	FAILED 0	EARLED 🕕	FACED 0
	PASSED	FAILED 0	PASSED
	PASSED	PASSED	PASSED
	PASSED	PASSED	PASSED

N=50000				

⇒ I am not so Happy with this results

N=1000	INSED 0	HALED: 0	FAILED 0		
	FALLED 0	PASSED	PASSED		
	PASSED	PASSED	PASSED		
	PASSED	PASSED	PASSED		
	PASSED	PASSED	PA33ED		
	PASSED	FALLED 0	BASSED		
	PASSED	FAL FD 0	FAILED 0		
	FALLED 0	PASSED	PASSED		
	PASSED	PASSED	PASSED		
N=5000	PASSED	FAILIED 0	WALLED 0		
	HALLO O	FAILED 0	PAILED 0		
	WASSEU	PASSED	PASSED		
	FALED O	PASSED	PASSED		
	PASSED	PASSED	FAILED: 0		
	FALED 0	HAILED 0	FAILED 0		
	PASSED	HAILED 0	FAILED 0		
	FALLED 0	PASSED	PASSED		
	PASSED	FASSED	PASSED		
N=100k	PASSED	PASSED			
	PASSED	PASSED			
	PASSED	PASSED			
	PASSED	PASSED			
	FAILED 0	SAILED 0			
	FASSED	FAILED. 🕕			
	FAILED 0	FAILED 0			
	PASSED	PASSED			
	PASSED	FAILED 0			

Selected Timeframe (up-down=20%) Exact/Excact

Ticksimulation (up/down = 30%)

	A 11	1		
N=100				
N=500				
N=1000				
N=5000	PAILED 0 PAILED 0 PASSED PASSED PASSED PASSED PASSED PASSED	PALLEY O PASSED PASSED PASSED PASSED PASSED PASSED PASSED		
N=50K				

Ticksimulation (up/down =20%)

N=100				
N=500				
N=1000				
N=5000				
N=50K				

I have modified the Walkforward optimization Setting a little. I have yellow-marked the parameter.

ettings Filtering you define any conditions here they will be evaluated ofter this cress check is computed. fstrutegy fails these conditions, it will be dumbaed (thrown owny) and no further cross check will be evaluated. Robustness score must be >= 10 = + % to pass Robustness score is computed as a % of conditions that passed vs. all conditions	commended WF c
you define any conditions here they will be evaluated ofter this cross check is computed. itrategy fails these conditions, it will be dismissed (thrown away) and no further cross check will be evaluated. Robustness score must be >=% to pass Robustness score is computed as a % of conditions that passed vs. all conditions	commended WF o
Left value 👓 Right value	
✓ WF Net profit (OOS) > ✓ 0	
2 WF Stability of Net profit	
WF Special - Percentage of profitable runs >> 70 %	
WE Special - Max profit in one run as % of total < < 50 %	
VF Special - Minitrades in one run 👘 🗸 🗸 17	
V WF Special - Max % Drawdown in one run 🗢 🛩 25 %	

Appendix

In the following two sections I took the working workflow GBPJPY H1 from the Strategylab and modified the Timeframe in the first case and I changed the currency pair in the second try.

Q99 GBPJPY M15

In this part I will take the Q86 GBPJPY workflow and change the timeframe to M15. Make some modifications and make a Workflow-Analysis. I will check, if the workflow of Q86 GBPJPY H1 is able to produce good Strategies for the M15 Strategies.

I will show the new Settings first.

I will name this Project "Q99 GBPJPY workflowAnalysis M15"

I generated in every workflow 2000 Strategies in Result.

Settings for the generation period

Main chart						
Contributions in writip rade	Min.	1	-+	Max	3	-
Conditions in exit rule of enabled	Mill	1.	-+	Nov	2	-
(Zotal Indicators peciel)	Mitte	3.5	- +	Max	201	-
Globar Lockback perver (Shift)				Nicoc	3	-
is it required?						
is it required? The Stop law Arequest Stop law size						
Is it required? The investment is required. Stop lase size Four page.	Mirc. 10			Maria		

Abbildung 50: I modified SL because, the timeframe has changed from H1 to M15.



Abbildung 51: I modified TP because the Timeframe has changed from H1 to M15.
44		megs.	- PI	FORMATING .
	All	(t	11	tion to be a series of
D.	(BBST) Entry at michael	1		Castore
	(MKT) Extentionents at Internal	1		Cattern
	UTOPS Enter at \$100	9		Cattern
ā	(LW7) Enter of Artist	1		Cattorn
ARE AN	types	Tear	uf i	Palameters
et.	All	Teture C	uf.	Parameters Resist to daily
	types al Eat After Data	Final R	the state	Palantatata Resid to dala Codore
	All All Roll After Data Move St. 2 ME		ui	Palantena Jesistan optiv Castoria Castoria
	All Eak After Dats Nove 'S. 2 HE - 51.2 BE Add Pge		ul	Paranteres Resist to della Castoria Castoria Castoria
	types All East After Dans More's 2.2 HI - 5.1.2 ER And Pipe Pools Target		ut	Parameters Resolution Castorie Castorie Castorie Default
	types All Exit After Data More 'B. 2 HE 5 S. 2 BE And Pipe More Yanget Casp Low		ut	Parametere Tenar no della Castoria Castoria Delsall Delsall
	types All Eak After Bere Moore 31, 218 - 51, 2187 Add Pere Poort Farger Step Leen Training Soci		wif (Parametere Tenar no della Castoria Castoria Delsoli Delsoli Delsoli Castoria
	types All Exit After Bars Move St. 2 BL 4 St. 2 BE Add Pipe Profit Taget Grap Los Trailing Stop 4 Trailing Activation		wif (Persentation Reserve Control Contario Contario Defuell Defuell Defuell Contario Contario Contario

Abbildung 52: The settings for the buildingblocks are without modifications. I took the setting from the SQ-Forum.

Symbol	GBPJPY_M1_UTCH		Timeframe	M15	÷				
Start day	2019.01.01	10	End day	2021.08.31	88	Reset dates			
Available from	2003.68.64		12	2024.05.07					
Test parameters									
Precision	Selected timeframe	only (faste 😪	Commisions & swap	No commission	is No swap	0			
Spread	5 -+ pips		Slippage	0 -+	pips	Min. dista	nce D	-+	pips

Abbildung 53: This is the setting for the generation period. The generation period is shorter, because the timeframe is lower. We have 4 time more bars available. So we are able to divide the period through 4.

Engine	MetaTrader5 (hedge	d) 🛩	Additional charts	0 - + 1 the	e ore addition na to	a' choris that sti	wegy has	
Backtest data settings								
Symbol	GBP/PY_M1_UTCPL.	4	Timeframe	HI	¥			
Start day	2021.09.01	#	End day	2023.06:09	Till Ref	et dates		
Available from	2003.08.04		10	2024-03-07				
Fest parameters								
Precision	1 minute data tick sit	mulation (💌	Commisions & swap	No commissions (f	to swap 0			
Corneral	d - + mean		Simmer	The second second	-	Min distance	0 -+	min

Abbildung 54: I use only this OOS1 test.

	Left value	454	Right value	
0	Avg. Trades Per Month	× ×	2	1
2	Profit factor	× •	1	×
0	Ret/DD Ratio	a 0.	5	×

Abbildung 55: The filter for the OOS1 period

The settings for the Endtest period.

Symbol	GВРЈРУ_М1_UTCPI., ₩	Timeframe	H1	~		
Start day	2023.06.09	End day	2023.09.09		Reset dates	
Austrable from	2003.08.84	10	2024.03.07			
est parameters						
Precision	1 minute data tick simulation (😒	Commissions & swap	No commissione	Но ямар	0	

Abbildung 56: This is the setting for the Endtest. The time period is the same, only the currency pair is GBPJPY. The test is 3 Months.

I use for the endtest 3 Months. This is just supposed to be a quick analysis of what the M15 timeframe looks like.

I will generate 5000 Strategies for every period.

C:/Forest/Toolbox/SCI\1 Master/uner/pr	rojacts'(Q99 GE	IRPY workflowAnaly	nin MilSipro	jectafe				
C'/Forex/Toolbox/SQV2 Generator						,	wt SQ Rootdir	
64 delta days	15	theps back	2	steps future	O Shift Days			
C'uforee'stmpludeHadeys.txt				set file	Ditte datelle	a shav	v rootdio/uset/projects	22
Q99 GBPJPY workflowAnalysis M15			gene	nated workflow name	(should be uniqe !!)		ilear projectiür	
ampty						Endtest	Get Endlest Dates fro	m Database

Abbildung 57: This are the settings for the Walkflow-Generator.



Walkflow-Analysis without Robustnesstest. (only OOS1-Test)

Abbildung 58: The Workflow is bad, it is loosing.

The average profit of a strategy is **21,71 Euro loss**.

Walkflow-Analysis with Robustnesstest

We now want to improve the poor workflow with various robustness tests. We take the same robustnessts from the successful GBPJPY H1 workflow. The hope is that if we copy from successful things, then this will also be successful.

First I descripe the Filter Periods and Filtersettings

Shurpor	GBPJPY_M1_UTCPI	×	Timeframe	147	~		
Start day	2016.01.01	#	End day	2019:01:01	=	Reset dates	
Available from	2003.08.04		10	2024.03.07			
parameters							
	the second second second second second		Committees 8 marter	No complication 1	Bally Stratters	0	

Abbildung 59: OOS2 period

	Left value	-018	Right value	
0	Avg. Tradies Per Month	• X	2	ж
-	Profit factor	> ¥	1.1	ж
0	Ret/DD Ratio	6 M	5	ж

Abbildung 60: The filter for the oos2 period.

Backtest data settings Symbol	EURJPY_M1_UTCPI		Timeframe	н	4			
Start day	2016.01.01	#	End day	2023.06.09	m	Reset dates		
Available from	2003.06.04		to	2024.03.07				
Test parameters								
Precision	1 minute data tick se	mulation (Commissions & swap	No commissions (No swap	0		
5pread	3 -+ pips		Slippage	0 -+ p	ps.	Min. distanc	ae 0 -	+ pips



uton	natic filters			
	and a state of the second			
aun	umaniz hitter din 😟			
a constant of	CONTRACTOR CONTRACTOR			
H2E0	m filters			
usto	m filters	200	-District tables	
	in filters Leftvalue		Right value	_ 11
	M filters Left value Avg. Trades Per Month		Right value	*
	m filters Left value Avg. Trades For Month Profit factor		Right value	*

Abbildung 62: EURJPY Filter

lacktest data settings							
Synthesi	USD/PY,M1,UTCH.	~	Timeframe	341	v.		
Start day	2014.01.01		End day	2023.06.09		Reset dates	
Available from	inermus		10	2024.01.07			
fast personations							
Precision	1 minute data tick s	mutation t. 😽	Commune & was	No commissions (No wear	•	

Abbildung 63: USDJPY Filter Period

	Lotie Tilkeen.			
	ieur nitera			
1,000	mane million 🥵			
1000	Logical Control			
LUSDO	m futbarra -			
LISCO!	Leff onlye		Right value	
	Left value Aug. Tracks Par Worth	1.444 A	Right value:	
	Left value Jug. Truckis Par Munth Profit factor		Right volue:	1

Abbildung 64: USDJPY filtering

aluma	GREFFY, MI, LITCHL	~	Tanefrane	91			
Shertiday	2918.01.01	H	End day	2023.08.09		Rent.dates	
Available from	2010/10/09/04		111	2024.03.07			
nt parameters							
Precision.	Salocod Oneframe	only (fatte M	Commissione & swap	No commissione	Lic (Mob.	8	

Abbildung 65: Robustness Filter Period

Backkeel precision Backkeel precisio	-	atter of som definers 50 - + the full sample 30			
Backbest precision Subscool time/barne only (faces) Ver Name Assistantize history data (by tick), with probability 30 % up (30 % data and mas pri) Modified randomize history data (by tick), with probability 30 % up (30 % data and mas pri) Modified randomize history data, may procechange 10 % of tick price change. Randomize Subject random data (by tick), with mas change 40 % of tick price change. Randomize Subject random data. may price from 0 to 10 Randomize subject from 0 to 3 Randomize subject from 1 to 5 Randomize park from 1 to 5 Randomize gate from 1 to 5 Randomize park from 1 to 5 Randomize park from 1 to 5		the distributions in the contraction of the contrac			
Ware Oefpuit Sandomize history data (by tick), with probability 30 % up / 30 % disk price change. Modified randomize history data. thy tick), with max change 40 % of tick price change. Randomize OH4,C history data. max price change 10 % of ATR(14) and probabilities (L) Randomize spread from 10 5 	0	B Backtest precision Sulected timeframe only (famest)			
Arandomize history data (by lick), with profobility 30 % up / 30 % data m and mas pri Modified randomize history data (by lick), with mas change 40 % of lick prior chang. Sandomize 0H4,C history data. mas price thange 10 % of ATR(14) and probabilities () Sandomize slippage from 0 to 5 Sandomize slippage from 0 to 5 Sandomize slippage from 0 to 5 Sandomize spread from 1 to 5 Sandomize spread from 1 to 5 Sandomize spread from 1 to 5	Use	Name	Default		
Modified randomize fibrory data thy total, with max change 40 % of tick price change. Most change 56 Rendomize 0HLC history data, max price change 10 % of ATR(14) and probabilities (Rendomize stepsage from 0 to 5 Rendomize spread from 1 to 5 Rendomize spread from 1 to 5 Rendomize spread from 1 to 5	0	Randomize history data (by tick), with protobility 30 % up / 30 % down and max pri	Probability	30	-
Randomize OHLC history data, max junce change 10 % of ATR(14) and probabilities (Randomize min distance from price from 0 to 10 Randomize spread from 1 to 5 Randomize spread from 1 to 5 Randomize spread from 1 to 5	0	Modified randomize history data (by tick), with max change 40 % of tick price chang	Maxi change	36	-
Randemize min distance from price from 0 to 10 Sendemize spread from 1 to 5 Randemize spread from 1 to 5 Randemize tarting fair, with mak change 100	0	Randomize OHLC history data, max price change 10 % of ATR(14) and probabilities (Service cara. @		-
Sandomize sippage from 0 to 5 Randomize spread from 1 to 5 Randomize transport 1 to 5 Randomize transport 100		Randomize min distance from price from 0 to 10	Tester start and second dates		-
Randomize spread from 1 to 5 Randomize tracting har, with mak change 100	0	Randomine slippage from 0 to 5			
 Randomize starting har, with max charge 100 	0	Randomtre spread from 1 to 5			
		Randomize starting tax, with max charge 100			

Abbildung 66: Robustness Filter Settings

The Result:

Appendix .	And Indexed	Antellectro	4 =4	line and the	(net	Incorpor	Includ.	- D	×
**************************************	4.8	1.7	00	00	000	0.	1		_
Worklow-QOP GBI IPT accolusivosyst M11	344	8.8	0.0	ă0 - 1	00	-0.	A	Portfolio	_
Reford	0.0	8.8	007	00	00	× .	1		-
Materia due F	20.0	1.0	100	-	-				
anetage condition	4.2	8.8	-00	10	-	1	E -	· · · · · ·	
symptomerskie a 1000 GBVIV methodom/ana/M12, 400148-1-	101100	MART-IN.	1.78.		1.11	28	DESCRIPTION OF TAXABLE PARTY.		
Levenage rought ("OPP OBTRY anothing in store 1471, 1000b) -	145.41		0.04	4.11	145	T	2015/08/01 2028 12:00		
second reads a 1996 CONTRACTOR AND AND A 1997 AND A 199	111-00	121158	to and	-	4.80	11	ALCO NO.		
Instance Institle (*206 CBYPF is only desired at MTS100541.4	00.00	10172-00	1.00	0.25	0.00	10	2013-00-07-20(5-00-01		
average results (*000 GBNIFF said-Route/aluss NFC	177.88	1862108		4.36	111	181	26/21026-0020-0020-0020		
Investory result: - '200 GB/UPT and RowAnalyses MTE Initialy	2222.98	71254.34	1.08	368	1.58	14	2012-08-06-2012-02.01		
managements - 200 climits autobase along MTL - MUSA	-127-20	1231430		4.40	10.00	-	Manager and an and the		
intrody state, a rate of the second sub-spectral production of the second state of the	1448.07	01200.00	1110	a. ht :	187	1141	COLUMN IS NOT 1		
server reads a SW 1997 with a find on Mile, 1993 and	ALC: NO.	interaction of the	1100	ties 1	1.00	12	NUMBER OF STREET		
www.exemute.childline.com/double.childline.com/	hanker.	dect.la	1.64	ans.	1.18	14	20111029-2012-0126		
average results - 1009 OB/109 Aerobioxication WTL - MITEL #	19.53	2020.51	1.66	0.57	167	÷.	2021/08.06-2021/11/08		
and the standing of the COST OFFICE and the state of the office of the state of the	104.24	1805.84	10384	2.41	4.40		DEDITION THE DEDITION IN		
seeman results of \$500.080 PP and \$5000 along the U OBMADO A	-04.28	-0.04	Dag.	1.76	4.61	10	WHITE COLOR DON'T PLOT		
interaction of the California Annal	-10.81	10.454	1000	4.57	1.00	24	2010/11/21 2021 20181		
average results - 1000 DBVDP appendixes W11010000 -	18.04	1721.25	200	410	2.64	22	2020/09/04 JOINT 12/08		
Average marks - 1200 180000 autoback styles 1910 01000	80.00	1012.78	1.00	548	286	18	DEPOSITE OF STREET, ST	-	
section reach. CONTRACT work complete Mill - diffic a	111-00	100.01	1100	2.44	127	. 22	COLUMN 2 IN COLUMN 2		
sections could a "200 called" and from advantation of the advantation	-84.01	141111	OUTE	0.34	4.00	117	101012-01-00030-00	440	
	12.8	6.8	0.0	. 10	8	10.	State of the local division of the local div		
***************************************	0.0	8.0	00	60		100		-	
	2.0	11	00	00	10	00.			
control manager (window)	-016		1.08	+46	141	168	P	Line Line Line and the line the line of the line and the line of the line of the line line of the line of the line line line line of the line line line line line line line lin	-

Abbildung 67: This is the result of the Walkflow-Analysis with Robustnesstests.

The Result is Bad. This workflow is not profitable with this currencypair and this timeframe.

The result has even gotten a little worse. The question arises here: why didn't the robustness tests produce anything?

The answer is probably the following.

If the generator is no good and only produces bad strategies, then the robustness test can't do anything in the end.

Q100 EURJPY H1

In this workflow I took the workflow GBPJPY from the SQX Forum and changed the main currency pair from GBPJPY to EURJPY. I will check if this successful GBPJPY workflow works with a different currency pair.





Abbildung 68: I shifted the workflow 15 Times back with a shift of 84 days in the past and 7 times with a shift o 84 in the future. The time periods for the endtests are in the resultlist.



Abbildung 69: Result of the Workflow-Analysis for the Workflow EURJPY without Robustnesstest.

Walkflow-Analysis with Robustnesstest

In next Step I will switch all the default Robustnesstests on for this workflow and make the Workflow-Analysis.

Thatta	epon harboth	Surrender!	111	Statule.	Augo-	Groniges	ficket	
TRABABABABABABABABABABABABABABABABABABAB	8.0	4.8	11	14	1.1		4	
Ministeració de Italian Teceletine	8.0	14	164	88	10	8.0	1	- D - K
Roman	8.0	8.8	11.6	114	8.8	6.0	4	
most-c+1	8.0	4.0	1.0	10	1.0	6.3		Portfolio
manage and die	20		12	84	11	E	1	
evenue reachs of \$2100 Suffer TV, Valview, vitration of	30KA6	BARRY'S	1.11	1.00	1.10	11	100011316-0028-0114	-
average results of CARD Failure TN Multitive of PADe of	71.25	847.20	1.01	0.58	8.10	14.	NUMBER ADDRESS	-
southers and the o'Collin fails for The Materiana artifation of	4529	35400	1.01	0.56	1.145	90 - 2	bittom in accordion	
average result of the light PUT Valuation with the -	2001.00	1000.78	1.66	4.00	1.16	90 S	10110834-3020-0034	
service results - Crist Labors IN Mahrham - CORNA-	100.00	BUT TR	6.00	0.04	B.RT.		mant make-logal dauge	
average reads, of \$2.00 kpc.00 TV patients, 100041	MIL88	1323.65	1.41	ALTE	DAME	1	JULLAN IN ACCUSE 11	
evenance results of CARE FURTHER THE Maderines	955.24	UNCOR ···	1.67	10.00	1.64	3	2010/10/23-2021 01/24	
entropy results - "Chill Splicity The Multifum, - 20251	484.77	DOCTOR!	10.01	478	10.01	1.1	/8600731-3021473H	
manage into the other hards and the balling of the	and a second		181	10.00	110.00	1.1	ACCOUNTS OF ANY 121-14	-
summer reads of the second by Malufase - second-	-101 FBC -	-milde.	100	1110	1110		101010-00108-000710-010	the second s
manager and the official lighter for Valuation . (1988) -		-batton.	2.64	1140	OTH		DEPENDENCE AND VERY	a
average results of Orms Landy Do Malarina - Octab-	-1.98	430	1.00	4150	1000	S	11100 15-2020-05-09	
marine could - Chin Intell Womenton - 00071	178.00	AAX NOT	1.84		10.00		billions all cooperations	1
sectors ready - Still 199-P119 Matchest - 405 Marc	141.40	1001 01	1111	44.66		11.1	OFFICE DURING N	
summer reads which taken in Adultar - condu-	41.6.08	BUD TO	1.45	2.84	1.08	2	DESIGNATION OF A DAMAGE	
Avenues require a "CARE NUMPERT VI Andorhum - 2008/4	47910	12099-075	845	ALC: N	UNIT!	1	2018/28-28-2018/29-18	1
second ready - Gill Subject 15, Mainton, - 21288-1	04.00	101.04	10	JUL.	100	1.	distant as grower of	
mentate loss de 27Q101 Epilote TA Walkfrow - 6100E-	40.00	40088	1.04	8.63	0.14	10.	2010/04/15 22:00 04:13	
manage results of the last of the Westman - double-	491.44	report-ent	110	0.00	0.04	1	DISTRICT OF REPAIR OF	
money in all COMPANY IN Malelan - 11282-1	white .	14118	1.85	DA1	2.48	*	antribut and tear	
	2.6	44	100	11		a) - 1		
**************************************	8.6	0.8	4.4	4.4			1	
	14.0	8.6	4.4				1	
count are up and by	100.10	1	11.00	-	10	119		the set of an of an A and an and

Abbildung 70: Result of Walkflow-Analysis with full Robustnesstests. The Results looks worse.

The Robustnesstests can't fix the bad results of the generator.

 \Rightarrow The Walkflow is bad.

Or put in other words. The generator is no good. The robustness tests in the SQX work well, as we have already shown in the previous sections. The statement "the generator is not good" does not mean that something is incorrectly implemented in the SQX.

No, that's because we didn't choose the right settings for the generator.

What are the correct settings?

Yes, that's a good question. This is what I want to know from the reader. That's why I'm writing this document here.