



RotationPro™



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BACK TEST RESULTS

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1.0 RotationPro system back test

Although RotationPro™ was not designed as a stand alone black box system, we figured it needed to actually test well for users to have confidence in it as a market visualisation tool. To that end, a Long only back test was conducted on daily price data in December 2016.

A universe of 40 large cap stocks drawn from four separate indices (FTSE 100, S&P 500, Euro Stoxx 50 and Topix 500) were tested separately.

The results excerpt on the right shows average performance over the entire test from 22 October 2010 to 9 December 2016 (roughly 2,400 daily bars of data for each security or 96,000 daily bars in all).

The test period was deemed long enough and the stock selection sufficiently geographically spread to capture multiple market regimes and therefore be representative.

Overall (average) CAGR 19.1% with the system only in the market 50.7% of the time. Buy Hold strategy outperformed by 134.9%. Average trade duration 17.9 days, average win 5.9%, average loss -2.7% (2.2 : 1). Percentage of winning trades 58%.

Full results in excel form are to be found on our website: www.rotationPro.com.

Overall backtest results showing average values over the entire dataset.

	Mean
SampleDays	2,418
CAGR	19.1%
Perform	255.4%
AvgDuration	17.9
Avg Win	5.9%
Avg Loss	-2.7%
Avg Max Win	24.5%
Avg Max Loss	-9.3%
In Market	50.7%
Average Nr Trades	77
Wins	58.0%
Loss	42.0%
Win/LossSize	2.22
Win Ratio	1.22
vs BuyHold Perform	134.9%

2.0 Eurostoxx Index random large cap members backtest

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	Mean	DAI GY Equity	SAF FP Equity	FRE GY Equity	EOAN GY Equity	ADS GY Equity	DG FP Equity	VIV FP Equity	EI FP Equity	ASML NA Equity	ORA FP Equity
SampleDays	2,455	2,475	2,410	2,463	2,467	2,478	2,478	2,453	2,445	2,475	2,408
CAGR	16.5%	33.1%	15.0%	26.7%	9.1%	15.3%	11.4%	6.5%	13.1%	23.9%	10.9%
Perform	209.7%	595.2%	151.0%	393.4%	80.6%	163.1%	107.5%	52.6%	128.1%	327.2%	97.9%
AvgDuration	16.7	18.7	16.8	16.8	15.5	19.8	14.1	13.7	17.6	18.3	15.3
Avg Win	5.6%	8.0%	5.0%	4.7%	5.6%	6.9%	4.4%	4.1%	5.1%	6.2%	5.9%
Avg Loss	-2.8%	-3.0%	-3.6%	-2.2%	-3.5%	-3.6%	-2.3%	-2.4%	-2.4%	-2.8%	-2.4%
Max Win	25.3%	42.3%	19.6%	19.0%	33.4%	30.1%	19.0%	12.5%	18.4%	24.9%	33.5%
Max Loss	-10.0%	-13.6%	-13.2%	-5.4%	-14.9%	-9.4%	-9.1%	-8.1%	-10.6%	-6.2%	-9.1%
In Market	50.1%	54.0%	54.3%	53.8%	41.8%	54.5%	50.9%	43.9%	51.5%	55.0%	41.4%
Total Trades	82	79	88	87	74	74	100	89	78	81	74
Wins	56.0%	58.2%	62.5%	66.7%	56.8%	55.4%	51.0%	51.7%	51.3%	60.5%	45.9%
Loss	44.0%	41.8%	37.5%	33.3%	43.2%	44.6%	49.0%	48.3%	48.7%	39.5%	54.1%
Win/LossSize	2.00	2.65	1.37	2.12	1.58	1.92	1.95	1.67	2.13	2.21	2.39
Win Ratio	1.11	1.21	1.36	1.72	1.06	1.03	0.90	0.88	0.95	1.25	0.78
vs BuyHold Perform	69.8%	477.3%	-102.0%	80.2%	153.4%	-133.7%	45.3%	51.8%	8.8%	8.5%	108.7%

Random sample of ten names selected from top 100 market caps in SX5E Index. Nominal trade USD 1,000,000. Sizing 0.5x, 0.7x, 1.1x, 1.2x. Individual statistics in following tabs.

False positives: instances of 1,2 and 3 bar blue/up phases representing attempted trend regimes that go nowhere. Over the entire data set's uptrend phases these occur taken only 1.78% of the time. Average position size taken by the system is 0.88. Average loss -1.93%.

2.1 Orange SA backtest trades - example

	StartDt	StartVal	EndDt	EndVal	Perform	Days							
1	07/05/2010	1,000,000	20/05/2010	948,081	-5.2%	13	38	25/06/2013	793,068	28/06/2013	791,911	-0.1%	3
2	08/06/2010	948,081	14/06/2010	944,389	-0.4%	6	39	08/07/2013	791,911	25/07/2013	813,146	2.7%	17
3	05/07/2010	944,389	16/07/2010	937,014	-0.8%	11	40	08/08/2013	813,146	19/08/2013	844,073	3.8%	11
4	21/07/2010	937,014	20/08/2010	1,023,516	9.2%	30	41	02/09/2013	844,073	23/10/2013	1,127,247	33.5%	51
5	05/10/2010	1,023,516	12/10/2010	1,009,360	-1.4%	7	42	17/12/2013	1,127,247	21/01/2014	1,208,390	7.2%	35
6	12/10/2010	1,009,360	03/11/2010	1,066,233	5.6%	22	43	05/02/2014	1,208,390	26/02/2014	1,259,734	4.2%	21
7	08/11/2010	1,066,233	10/11/2010	1,059,409	-0.6%	2	44	05/03/2014	1,259,734	14/03/2014	1,342,530	6.6%	9
8	31/12/2010	1,059,409	10/01/2011	1,060,436	0.1%	10	45	27/03/2014	1,342,530	07/04/2014	1,353,620	0.8%	11
9	20/01/2011	1,060,436	09/02/2011	1,081,343	2.0%	20	46	08/04/2014	1,353,620	11/04/2014	1,332,280	-1.6%	3
10	15/02/2011	1,081,343	24/02/2011	1,058,321	-2.1%	9	47	16/04/2014	1,332,280	21/05/2014	1,521,589	14.2%	35
11	18/03/2011	1,058,321	12/04/2011	1,073,857	1.5%	25	48	04/06/2014	1,521,589	11/06/2014	1,513,993	-0.5%	7
12	27/04/2011	1,073,857	01/06/2011	1,070,395	-0.3%	35	49	30/06/2014	1,513,993	02/07/2014	1,482,798	-2.1%	2
13	20/06/2011	1,070,395	24/06/2011	1,055,472	-1.4%	4	50	23/07/2014	1,482,798	01/08/2014	1,441,830	-2.8%	9
14	29/06/2011	1,055,472	11/07/2011	1,024,179	-3.0%	12	51	22/08/2014	1,441,830	15/09/2014	1,441,830	0.0%	24
15	19/07/2011	1,024,179	02/08/2011	1,012,984	-1.1%	14	52	29/09/2014	1,441,830	02/10/2014	1,384,293	-4.0%	3
16	12/08/2011	1,012,984	19/08/2011	961,820	-5.1%	7	53	13/10/2014	1,384,293	15/10/2014	1,368,334	-1.2%	2
17	30/08/2011	961,820	05/09/2011	874,634	-9.1%	6	54	22/10/2014	1,368,334	09/12/2014	1,772,122	29.5%	48
18	05/10/2011	874,634	18/10/2011	878,131	0.4%	13	55	17/12/2014	1,772,122	02/01/2015	1,797,977	1.5%	16
19	26/10/2011	878,131	01/11/2011	836,373	-4.8%	6	56	09/01/2015	1,797,977	30/01/2015	1,969,238	9.5%	21
20	25/11/2011	836,373	13/12/2011	826,662	-1.2%	18	57	11/02/2015	1,969,238	17/02/2015	1,967,737	-0.1%	6
21	30/12/2011	826,662	09/01/2012	787,659	-4.7%	10	58	25/02/2015	1,967,737	09/03/2015	1,855,176	-5.7%	12
22	31/01/2012	787,659	09/02/2012	782,766	-0.6%	9	59	23/03/2015	1,855,176	26/03/2015	1,840,683	-0.8%	3
23	21/02/2012	782,766	29/02/2012	767,608	-1.9%	8	60	02/04/2015	1,840,683	21/04/2015	1,862,038	1.2%	19
24	16/03/2012	767,608	29/03/2012	742,570	-3.3%	13	61	17/06/2015	1,862,038	06/07/2015	1,838,471	-1.3%	19
25	23/04/2012	742,570	14/05/2012	743,055	0.1%	21	62	14/07/2015	1,838,471	12/08/2015	1,836,722	-0.1%	29
26	21/05/2012	743,055	08/06/2012	690,787	-7.0%	18	63	26/08/2015	1,836,722	11/09/2015	1,854,120	0.9%	16
27	12/07/2012	690,787	20/07/2012	717,315	3.8%	8	64	24/09/2015	1,854,120	29/09/2015	1,835,976	-1.0%	5
28	03/08/2012	717,315	22/08/2012	736,475	2.7%	19	65	05/10/2015	1,835,976	24/11/2015	2,185,751	19.1%	50
29	15/10/2012	736,475	23/10/2012	723,000	-1.8%	8	66	14/12/2015	2,185,751	18/01/2016	2,185,751	0.0%	35
30	20/11/2012	723,000	26/11/2012	720,979	-0.3%	6	67	21/01/2016	2,185,751	03/02/2016	2,217,220	1.4%	13
31	28/11/2012	720,979	19/12/2012	731,381	1.4%	21	68	12/02/2016	2,217,220	18/03/2016	2,258,094	1.8%	35
32	08/01/2013	731,381	16/01/2013	740,920	1.3%	8	69	25/05/2016	2,258,094	14/06/2016	2,104,817	-6.8%	20
33	16/01/2013	740,920	22/01/2013	740,920	0.0%	6	70	22/06/2016	2,104,817	24/06/2016	2,028,124	-3.6%	2
34	01/03/2013	740,920	25/03/2013	817,709	10.4%	24	71	01/09/2016	2,028,124	12/09/2016	1,985,055	-2.1%	11
35	10/04/2013	817,709	17/04/2013	784,060	-4.1%	7	72	16/09/2016	1,985,055	06/10/2016	2,026,346	2.1%	20
36	23/04/2013	784,060	16/05/2013	802,927	2.4%	23	73	17/10/2016	2,026,346	02/11/2016	2,039,835	0.7%	16
37	14/06/2013	802,927	20/06/2013	793,068	-1.2%	6	74	21/11/2016	2,039,835	02/12/2016	1,978,862	-3.0%	11

Backtest abstract, **ORANGE SA (ORA FP Equity)** system trades.

SampleDays	2,408
CAGR	10.90%
Perform	97.89%
Avg Days	15.34
Avg Win	5.86%
Avg Loss	-2.45%
Max Win	33.55%
Max Loss	-9.06%
In Market	41.4%
Total Trades	74
Wins	46%
Loss	54%
Win/LossSize	2.39
Win Ratio	0.78
vs BuyHold Perform	108.72%
Start Date	07/05/2010
End Date	09/12/2016
BuyHold CAGR	-1.72%
BuyHold Perform	-10.83%
ORA FP Equity	
BuyHold Start Price	15.14
BuyHold End Price	13.50

3.0 FTSE 100 Index random large cap members backtest

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	Mean	BLT LN Equity	BA/ LN Equity	LAND LN Equity	WPP LN Equity	INTU LN Equity	DGE LN Equity	BNZL LN Equity	NXT LN Equity	KGF LN Equity	DCC LN Equity
SampleDays	2,465	2,478	2,458	2,475	2,479	2,482	2,417	2,445	2,472	2,466	2,475
CAGR	15.7%	12.7%	9.8%	13.4%	22.9%	5.0%	13.1%	16.7%	21.4%	18.7%	22.9%
Perform	179.5%	125.1%	88.1%	134.5%	305.2%	39.0%	125.6%	181.5%	271.3%	219.3%	305.6%
AvgDuration	16.7	17.8	15.0	16.3	19.9	12.9	16.6	16.6	19.3	16.6	15.5
Avg Win	5.0%	8.3%	4.6%	4.3%	5.9%	3.9%	3.4%	4.5%	5.9%	4.9%	4.7%
Avg Loss	-2.5%	-4.3%	-2.1%	-2.9%	-2.9%	-2.5%	-1.4%	-1.3%	-2.3%	-3.0%	-2.0%
Max Win	20.2%	32.5%	13.5%	14.8%	29.4%	12.5%	18.9%	21.7%	18.8%	18.9%	20.9%
Max Loss	-10.2%	-18.4%	-6.4%	-14.7%	-8.9%	-10.5%	-5.7%	-4.9%	-17.2%	-7.5%	-8.0%
In Market	50.0%	46.2%	46.7%	49.9%	55.9%	43.5%	51.3%	52.7%	54.9%	48.4%	50.3%
Total Trades	83	70	85	84	76	94	84	86	77	80	90
Wins	55.8%	48.6%	48.2%	59.5%	64.5%	51.1%	57.1%	48.8%	58.4%	63.8%	57.8%
Loss	44.2%	51.4%	51.8%	40.5%	35.5%	48.9%	42.9%	51.2%	41.6%	36.3%	42.2%
WinSize/LossSi	2.16	1.94	2.24	1.48	2.07	1.56	2.44	3.37	2.53	1.62	2.40
Win Ratio	1.12	0.86	0.80	1.32	1.44	0.87	1.11	0.86	1.16	1.52	1.26
vs BH Perform	79.4%	152.7%	28.6%	76.0%	108.1%	57.1%	40.5%	-3.5%	113.4%	158.8%	62.8%

Random sample of ten names selected from top 100 market caps in UKX Index. Nominal trade USD 1,000,000. Sizing 0.5x, 0.7x, 1.1x, 1.2x. Individual statistics in following tabs.

False positives: instances of 1,2 and 3 bar blue/up phases representing attempted trend regimes that go nowhere. Over the entire data set's uptrend phases these occur taken only 1.57% of the time. Average position size taken by the system is 0.83. Average loss -1.50%.

3.1 Kingfisher PLC backtest trades - example

	StartDt	StartVal	EndDt	EndVal	Perform	Days							
1	10/03/2010	1,000,000	23/03/2010	1,036,559	3.7%	13	41	03/07/2013	2,077,177	07/08/2013	2,320,936	11.7%	35
2	01/04/2010	1,036,559	28/04/2010	1,120,830	8.1%	27	42	12/08/2013	2,320,936	15/08/2013	2,307,392	-0.6%	3
3	29/04/2010	1,120,830	05/05/2010	1,069,727	-4.6%	6	43	30/08/2013	2,307,392	12/09/2013	2,395,892	3.8%	13
4	07/05/2010	1,069,727	19/05/2010	989,905	-7.5%	12	44	14/10/2013	2,395,892	21/10/2013	2,395,892	0.0%	7
5	27/05/2010	989,905	07/06/2010	976,389	-1.4%	11	45	29/10/2013	2,395,892	28/11/2013	2,451,958	2.3%	30
6	14/06/2010	976,389	29/06/2010	912,771	-6.5%	15	46	13/12/2013	2,451,958	09/01/2014	2,598,551	6.0%	27
7	12/07/2010	912,771	23/07/2010	912,771	0.0%	11	47	10/02/2014	2,598,551	27/02/2014	2,746,700	5.7%	17
8	02/08/2010	912,771	05/08/2010	875,934	-4.0%	3	48	03/03/2014	2,746,700	08/04/2014	3,017,962	9.9%	36
9	26/08/2010	875,934	04/10/2010	1,014,175	15.8%	39	49	29/04/2014	3,017,962	14/05/2014	2,964,788	-1.8%	15
10	12/10/2010	1,014,175	27/10/2010	1,049,274	3.5%	15	50	18/08/2014	2,964,788	09/10/2014	3,035,781	2.4%	52
11	17/11/2010	1,049,274	26/11/2010	1,036,191	-1.2%	9	51	16/10/2014	3,035,781	05/11/2014	2,903,017	-4.4%	20
12	01/12/2010	1,036,191	28/01/2011	1,081,593	4.4%	58	52	18/11/2014	2,903,017	25/11/2014	2,741,796	-5.6%	7
13	17/02/2011	1,081,593	23/02/2011	1,043,285	-3.5%	6	53	27/11/2014	2,741,796	05/01/2015	2,998,942	9.4%	39
14	17/03/2011	1,043,285	16/05/2011	1,240,912	18.9%	60	54	19/01/2015	2,998,942	30/01/2015	3,115,338	3.9%	11
15	18/05/2011	1,240,912	02/06/2011	1,213,555	-2.2%	15	55	11/02/2015	3,115,338	20/02/2015	3,115,338	0.0%	9
16	20/07/2011	1,213,555	29/07/2011	1,157,021	-4.7%	9	56	24/02/2015	3,115,338	09/03/2015	3,239,628	4.0%	13
17	31/08/2011	1,157,021	22/09/2011	1,170,974	1.2%	22	57	13/03/2015	3,239,628	25/03/2015	3,238,643	0.0%	12
18	05/10/2011	1,170,974	18/10/2011	1,230,555	5.1%	13	58	30/03/2015	3,238,643	17/04/2015	3,059,065	-5.5%	18
19	20/10/2011	1,230,555	31/10/2011	1,230,555	0.0%	11	59	23/04/2015	3,059,065	28/04/2015	3,004,011	-1.8%	5
20	25/11/2011	1,230,555	07/12/2011	1,250,353	1.6%	12	60	07/05/2015	3,004,011	12/05/2015	3,057,421	1.8%	5
21	28/12/2011	1,250,353	12/01/2012	1,264,767	1.2%	15	61	27/05/2015	3,057,421	12/06/2015	3,080,133	0.7%	16
22	18/01/2012	1,264,767	27/01/2012	1,264,767	0.0%	9	62	10/07/2015	3,080,133	27/07/2015	3,154,231	2.4%	17
23	31/01/2012	1,264,767	06/03/2012	1,379,039	9.0%	35	63	05/08/2015	3,154,231	21/08/2015	3,044,350	-3.5%	16
24	09/03/2012	1,379,039	04/04/2012	1,527,006	10.7%	26	64	08/09/2015	3,044,350	15/09/2015	3,024,717	-0.6%	7
25	16/04/2012	1,527,006	23/04/2012	1,494,379	-2.1%	7	65	24/09/2015	3,024,717	07/10/2015	3,086,869	2.1%	13
26	18/06/2012	1,494,379	03/07/2012	1,528,649	2.3%	15	66	20/10/2015	3,086,869	22/10/2015	2,955,735	-4.2%	2
27	27/07/2012	1,528,649	22/08/2012	1,644,362	7.6%	26	67	18/11/2015	2,955,735	07/12/2015	2,857,854	-3.3%	19
28	04/09/2012	1,644,362	11/09/2012	1,631,910	-0.8%	7	68	05/01/2016	2,857,854	25/01/2016	2,857,854	0.0%	20
29	03/10/2012	1,631,910	10/10/2012	1,631,910	0.0%	7	69	11/02/2016	2,857,854	22/02/2016	2,919,419	2.2%	11
30	12/10/2012	1,631,910	23/10/2012	1,714,736	5.1%	11	70	29/02/2016	2,919,419	10/03/2016	2,932,798	0.5%	10
31	29/10/2012	1,714,736	08/11/2012	1,741,404	1.6%	10	71	11/03/2016	2,932,798	21/03/2016	2,986,304	1.8%	10
32	21/11/2012	1,741,404	27/11/2012	1,722,391	-1.1%	6	72	22/03/2016	2,986,304	12/04/2016	3,153,798	5.6%	21
33	13/12/2012	1,722,391	08/01/2013	1,787,082	3.8%	26	73	19/05/2016	3,153,798	10/06/2016	3,171,320	0.6%	22
34	11/01/2013	1,787,082	18/01/2013	1,770,603	-0.9%	7	74	17/06/2016	3,171,320	24/06/2016	2,987,412	-5.8%	7
35	05/02/2013	1,770,603	14/02/2013	1,775,899	0.3%	9	75	12/07/2016	2,987,412	22/07/2016	3,047,665	2.0%	10
36	21/02/2013	1,775,899	14/03/2013	1,835,399	3.4%	21	76	27/07/2016	3,047,665	12/09/2016	3,405,420	11.7%	47
37	27/03/2013	1,835,399	18/04/2013	1,835,864	0.0%	22	77	16/09/2016	3,405,420	26/09/2016	3,411,370	0.2%	10
38	22/04/2013	1,835,864	23/05/2013	2,062,881	12.4%	31	78	03/10/2016	3,411,370	12/10/2016	3,265,104	-4.3%	9
39	29/05/2013	2,062,881	11/06/2013	2,133,771	3.4%	13	79	02/11/2016	3,265,104	07/11/2016	3,196,129	-2.1%	5
40	14/06/2013	2,133,771	20/06/2013	2,077,177	-2.7%	6	80	16/11/2016	3,196,129	22/11/2016	3,193,238	-0.1%	6

Backtest abstract,
**KINGFISHER PLC (KGF LN
Equity)** system trades.

SampleDays	2,466
CAGR	18.75%
Perform	219.32%
Avg Days	16.60
Avg Win	4.85%
Avg Loss	-2.99%
Max Win	18.94%
Max Loss	-7.46%
In Market	48.4%
Total Trades	80
Wins	64%
Loss	36%
Win/LossSize	1.62
Win Ratio	1.52
vs BuyHold CAGR	11.49%
vs BuyHold Perform	158.78%
Start Date	10/03/2010
End Date	09/12/2016
BuyHold CAGR	7.26%
BuyHold Perform	60.54%
KGF LN Equity	
BuyHold Start Price	216.70
BuyHold End Price	347.90

4.0 S&P 500 Index random large cap members backtest

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	Mean	LOW US Equity	F US Equity	UPS US Equity	INTC US Equity	ABT US Equity	WBA US Equity	MRK US Equity	ADBE US Equity	NKE US Equity	EA US Equity
SampleDays	2,287	2,481	2,482	2,370	2,478	2,467	692	2,464	2,481	2,481	2,478
CAGR	18.8%	25.0%	26.4%	10.9%	20.2%	13.8%	22.0%	6.5%	19.6%	20.5%	22.8%
Perform	212.8%	354.9%	392.6%	95.6%	249.4%	140.1%	45.8%	53.2%	238.2%	254.5%	303.2%
AvgDuration	17.8	20.8	16.8	16.8	17.0	18.1	18.4	17.3	18.3	19.7	15.1
Avg Win	5.2%	6.3%	8.7%	3.8%	5.0%	3.7%	3.9%	3.9%	5.5%	4.6%	6.7%
Avg Loss	-2.4%	-2.9%	-2.9%	-2.1%	-3.0%	-1.9%	-0.9%	-2.1%	-2.9%	-2.1%	-2.8%
Max Win	19.2%	25.1%	22.0%	14.6%	20.2%	12.2%	16.8%	14.2%	16.9%	20.3%	29.3%
Max Loss	-7.2%	-8.1%	-7.3%	-7.4%	-8.7%	-7.1%	-1.0%	-6.0%	-8.5%	-7.3%	-10.9%
In Market	50.9%	54.4%	44.1%	47.8%	50.1%	51.8%	48.9%	50.0%	54.8%	55.6%	51.1%
Total Trades	72	70	72	77	80	77	20	78	81	76	93
Wins	61.7%	65.7%	52.8%	61.0%	61.3%	63.6%	80.0%	52.6%	63.0%	63.2%	53.8%
Loss	38.3%	34.3%	47.2%	39.0%	38.8%	36.4%	20.0%	47.4%	37.0%	36.8%	46.2%
Win/LossSize	2.35	2.20	2.96	1.86	1.66	1.89	4.57	1.88	1.92	2.15	2.38
Win Ratio	1.40	1.54	0.94	1.17	1.48	1.43	2.75	0.86	1.33	1.54	0.98
vs BuyHold Perform	77.8%	127.4%	375.2%	-0.2%	175.2%	90.6%	34.9%	-11.6%	26.3%	31.9%	-71.8%

Random sample of ten names selected from top 100 market caps in SPX500 Index. Nominal trade USD 1,000,000. Sizing 0.5x, 0.7x, 1.1x, 1.2x. Individual statistics in following tabs.

False positives: instances of 1,2 and 3 bar blue/up phases representing attempted trend regimes that go nowhere. Over the entire data set's uptrend phases these occur taken only 1.65% of the time. Average position size taken by the system is 0.89. Average loss -1.89%.

4.1 Lowe's Co Inc. backtest trades - example

	StartDt	StartVal	EndDt	EndVal	Perform	Days	36	26/06/2013	2,167,045	25/07/2013	2,361,105	9.0%	29
1	23/02/2010	1,000,000	18/03/2010	1,093,305	9.3%	23	37	31/07/2013	2,361,105	14/08/2013	2,362,040	0.0%	14
2	31/03/2010	1,093,305	05/05/2010	1,210,568	10.7%	35	38	20/08/2013	2,362,040	01/11/2013	2,581,131	9.3%	73
3	09/06/2010	1,210,568	16/06/2010	1,202,076	-0.7%	7	39	12/11/2013	2,581,131	20/11/2013	2,373,878	-8.0%	8
4	08/07/2010	1,202,076	16/07/2010	1,192,363	-0.8%	8	40	23/12/2013	2,373,878	06/01/2014	2,385,199	0.5%	14
5	23/07/2010	1,192,363	10/08/2010	1,116,121	-6.4%	18	41	09/01/2014	2,385,199	15/01/2014	2,332,458	-2.2%	6
6	16/08/2010	1,116,121	17/09/2010	1,188,848	6.5%	32	42	13/02/2014	2,332,458	07/04/2014	2,381,416	2.1%	53
7	23/09/2010	1,188,848	13/10/2010	1,188,848	0.0%	20	43	21/04/2014	2,381,416	23/04/2014	2,337,484	-1.8%	2
8	20/10/2010	1,188,848	15/11/2010	1,169,134	-1.7%	26	44	09/05/2014	2,337,484	15/05/2014	2,269,157	-2.9%	6
9	19/11/2010	1,169,134	04/01/2011	1,337,625	14.4%	46	45	21/05/2014	2,269,157	12/06/2014	2,269,157	0.0%	22
10	19/01/2011	1,337,625	28/01/2011	1,349,616	0.9%	9	46	16/06/2014	2,269,157	10/07/2014	2,320,509	2.3%	24
11	16/02/2011	1,349,616	16/03/2011	1,375,460	1.9%	28	47	29/07/2014	2,320,509	30/09/2014	2,584,139	11.4%	63
12	22/03/2011	1,375,460	28/03/2011	1,375,460	0.0%	6	48	07/10/2014	2,584,139	13/10/2014	2,504,814	-3.1%	6
13	26/04/2011	1,375,460	29/04/2011	1,349,979	-1.9%	3	49	17/10/2014	2,504,814	16/12/2014	3,133,422	25.1%	60
14	17/06/2011	1,349,979	08/07/2011	1,402,573	3.9%	21	50	17/12/2014	3,133,422	02/01/2015	3,215,545	2.6%	16
15	23/08/2011	1,402,573	22/09/2011	1,289,254	-8.1%	30	51	07/01/2015	3,215,545	30/01/2015	3,215,545	0.0%	23
16	07/10/2011	1,289,254	01/11/2011	1,314,775	2.0%	25	52	03/02/2015	3,215,545	06/03/2015	3,421,270	6.4%	31
17	04/11/2011	1,314,775	13/12/2011	1,470,301	11.8%	39	53	13/03/2015	3,421,270	26/03/2015	3,334,893	-2.5%	13
18	19/12/2011	1,470,301	20/01/2012	1,555,687	5.8%	32	54	06/05/2015	3,334,893	19/05/2015	3,334,893	0.0%	13
19	16/02/2012	1,555,687	03/04/2012	1,778,198	14.3%	47	55	09/07/2015	3,334,893	17/07/2015	3,334,893	0.0%	8
20	11/04/2012	1,778,198	23/04/2012	1,766,526	-0.7%	12	56	28/07/2015	3,334,893	21/08/2015	3,540,821	6.2%	24
21	01/05/2012	1,766,526	04/05/2012	1,708,376	-3.3%	3	57	30/09/2015	3,540,821	14/10/2015	3,704,511	4.6%	14
22	23/05/2012	1,708,376	31/05/2012	1,708,376	0.0%	8	58	23/10/2015	3,704,511	09/11/2015	3,626,308	-2.1%	17
23	06/06/2012	1,708,376	21/06/2012	1,726,640	1.1%	15	59	16/11/2015	3,626,308	03/12/2015	3,732,738	2.9%	17
24	29/06/2012	1,726,640	11/07/2012	1,619,497	-6.2%	12	60	21/12/2015	3,732,738	31/12/2015	3,785,286	1.4%	10
25	26/07/2012	1,619,497	31/07/2012	1,544,685	-4.6%	5	61	28/01/2016	3,785,286	03/02/2016	3,674,259	-2.9%	6
26	06/08/2012	1,544,685	20/08/2012	1,601,552	3.7%	14	62	12/02/2016	3,674,259	24/03/2016	4,102,607	11.7%	41
27	28/08/2012	1,601,552	11/10/2012	1,777,220	11.0%	44	63	28/03/2016	4,102,607	07/04/2016	4,102,607	0.0%	10
28	12/10/2012	1,777,220	25/10/2012	1,774,105	-0.2%	13	64	12/04/2016	4,102,607	19/04/2016	4,102,607	0.0%	7
29	31/10/2012	1,774,105	07/11/2012	1,772,785	-0.1%	7	65	09/05/2016	4,102,607	11/05/2016	4,031,669	-1.7%	2
30	16/11/2012	1,772,785	05/12/2012	1,858,744	4.8%	19	66	13/05/2016	4,031,669	03/06/2016	4,210,447	4.4%	21
31	14/12/2012	1,858,744	07/01/2013	1,835,216	-1.3%	24	67	17/06/2016	4,210,447	21/07/2016	4,299,188	2.1%	34
32	16/01/2013	1,835,216	20/02/2013	2,000,328	9.0%	35	68	28/09/2016	4,299,188	11/10/2016	4,188,314	-2.6%	13
33	27/02/2013	2,000,328	15/03/2013	2,057,970	2.9%	16	69	04/11/2016	4,188,314	16/11/2016	4,221,367	0.8%	12
34	05/04/2013	2,057,970	17/04/2013	2,000,704	-2.8%	12	70	21/11/2016	4,221,367	09/12/2016	4,548,782	7.8%	18
35	02/05/2013	2,000,704	04/06/2013	2,167,045	8.3%	33							

Backtest abstract, **LOWE'S CO INC (LOW US Equity)** system trades.

SampleDays	2,481
CAGR	24.96%
Perform	354.88%
Avg Days	20.81
Avg Win	6.29%
Avg Loss	-2.86%
Max Win	25.10%
Max Loss	-8.08%
In Market	54.4%
Total Trades	70
Wins	66%
Loss	34%
Win/LossSize	2.20
Win Ratio	1.54
vs BuyHold CAGR	5.90%
vs BuyHold Perform	127.43%
Start Date	23/02/2010
End Date	09/12/2016
BuyHold CAGR	19.07%
BuyHold Perform	227.44%
LOW US Equity	
BuyHold Start Price	22.81
BuyHold End Price	74.69

5.0 TOPIX Index random large cap members backtest

	Mean	8031 JT Equity	6501 JT Equity	5713 JT Equity	8830 JT Equity	7269 JT Equity	7741 JT Equity	4661 JT Equity	8035 JT Equity	6594 JT Equity	9437 JT Equity
SampleDays	2,463	2,389	2,471	2,474	2,471	2,475	2,481	2,471	2,471	2,460	2,471
CAGR	25.7%	26.2%	38.8%	27.9%	15.1%	19.4%	23.4%	24.9%	21.9%	14.8%	44.2%
Perform	419.5%	358.6%	820.6%	429.6%	159.7%	233.3%	316.5%	350.7%	281.3%	153.4%	1091.1%
AvgDuration	20.4	19.7	23.6	18.7	20.3	18.5	23.1	20.0	19.6	21.5	19.5
Avg Win	7.7%	6.0%	10.3%	8.5%	8.4%	6.5%	7.5%	9.8%	6.9%	4.9%	8.6%
Avg Loss	-3.3%	-2.6%	-3.6%	-3.1%	-4.2%	-2.5%	-3.5%	-4.2%	-4.0%	-2.3%	-3.0%
Max Win	33.3%	25.7%	41.4%	49.7%	30.4%	31.0%	35.0%	32.5%	27.7%	26.9%	32.3%
Max Loss	-10.0%	-9.4%	-11.2%	-11.1%	-8.7%	-8.6%	-15.5%	-9.5%	-10.4%	-7.0%	-8.3%
In Market	52.0%	50.9%	58.1%	46.8%	50.6%	51.1%	55.7%	49.6%	52.8%	54.7%	49.3%
Total Trades	69	70	66	68	67	75	64	67	73	68	68
Wins	58.6%	64.3%	60.6%	54.4%	52.2%	52.0%	59.4%	58.2%	61.6%	57.4%	66.2%
Loss	41.4%	35.7%	39.4%	45.6%	47.8%	48.0%	40.6%	41.8%	38.4%	42.6%	33.8%
Win/LossSize	2.37	2.26	2.86	2.75	2.01	2.57	2.16	2.35	1.74	2.09	2.90
Win Ratio	1.26	1.56	1.31	1.10	0.94	0.97	1.31	1.07	1.36	1.21	1.74
vs BuyHold Perform	312.4%	322.9%	706.8%	399.9%	54.7%	132.5%	14.2%	271.7%	159.5%	67.6%	994.4%

Random sample of ten names selected from top 100 market caps in TOPIX Index. Nominal trade USD 1,000,000. Sizing 0.5x, 0.7x, 1.1x, 1.2x. Individual statistics in following tabs.

False positives: instances of 1,2 and 3 bar blue/up phases representing attempted trend regimes that go nowhere. Over the entire data set's uptrend phases these occur taken only 1.20% of the time. Average position size taken by the system is 0.95. Average loss -2.40%.

5.1 Mitsui & Co backtest trades - example

	StartDt	StartVal	EndDt	EndVal	Perform	Days																																																						
1	26/05/2010	1,000,000	01/06/2010	982,037	-1.8%	6	36	02/09/2013	2,362,850	26/09/2013	2,534,651	7.3%	24	Backtest abstract, MITSUI & CO. (8031 JT Equity) system trades. <table><tr><td>SampleDays</td><td>2,389</td></tr><tr><td>CAGR</td><td>26.20%</td></tr><tr><td>Perform</td><td>358.55%</td></tr><tr><td>Avg Days</td><td>19.66</td></tr><tr><td>Avg Win</td><td>5.96%</td></tr><tr><td>Avg Loss</td><td>-2.64%</td></tr><tr><td>Max Win</td><td>25.68%</td></tr><tr><td>Max Loss</td><td>-9.40%</td></tr><tr><td>In Market</td><td>50.9%</td></tr><tr><td>Total Trades</td><td>70</td></tr><tr><td>Wins</td><td>64%</td></tr><tr><td>Loss</td><td>36%</td></tr><tr><td>Win/LossSize</td><td>2.26</td></tr><tr><td>Win Ratio</td><td>1.56</td></tr><tr><td>vs BuyHold CAGR</td><td>21.43%</td></tr><tr><td>vs BuyHold Perform</td><td>322.94%</td></tr><tr><td>Start Date</td><td>26/05/2010</td></tr><tr><td>End Date</td><td>09/12/2016</td></tr><tr><td>BuyHold CAGR</td><td>4.76%</td></tr><tr><td>BuyHold Perform</td><td>35.61%</td></tr><tr><td>8031 JT Equity</td><td></td></tr><tr><td>BuyHold Start Price</td><td>1251.00</td></tr><tr><td>BuyHold End Price</td><td>1696.50</td></tr></table>	SampleDays	2,389	CAGR	26.20%	Perform	358.55%	Avg Days	19.66	Avg Win	5.96%	Avg Loss	-2.64%	Max Win	25.68%	Max Loss	-9.40%	In Market	50.9%	Total Trades	70	Wins	64%	Loss	36%	Win/LossSize	2.26	Win Ratio	1.56	vs BuyHold CAGR	21.43%	vs BuyHold Perform	322.94%	Start Date	26/05/2010	End Date	09/12/2016	BuyHold CAGR	4.76%	BuyHold Perform	35.61%	8031 JT Equity		BuyHold Start Price	1251.00	BuyHold End Price	1696.50
SampleDays	2,389																																																											
CAGR	26.20%																																																											
Perform	358.55%																																																											
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Avg Win	5.96%																																																											
Avg Loss	-2.64%																																																											
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Max Loss	-9.40%																																																											
In Market	50.9%																																																											
Total Trades	70																																																											
Wins	64%																																																											
Loss	36%																																																											
Win/LossSize	2.26																																																											
Win Ratio	1.56																																																											
vs BuyHold CAGR	21.43%																																																											
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BuyHold CAGR	4.76%																																																											
BuyHold Perform	35.61%																																																											
8031 JT Equity																																																												
BuyHold Start Price	1251.00																																																											
BuyHold End Price	1696.50																																																											
2	18/06/2010	982,037	29/06/2010	912,614	-7.1%	11	37	08/10/2013	2,534,651	24/10/2013	2,552,626	0.7%	16																																															
3	06/07/2010	912,614	20/07/2010	940,587	3.1%	14	38	14/11/2013	2,552,626	27/11/2013	2,552,626	0.0%	13																																															
4	27/07/2010	940,587	25/08/2010	908,228	-3.4%	29	39	28/11/2013	2,552,626	04/12/2013	2,493,010	-2.3%	6																																															
5	03/09/2010	908,228	20/10/2010	1,049,317	15.5%	47	40	17/12/2013	2,493,010	24/01/2014	2,641,026	5.9%	38																																															
6	04/11/2010	1,049,317	10/12/2010	1,098,458	4.7%	36	41	04/02/2014	2,641,026	10/03/2014	3,073,115	16.4%	34																																															
7	30/12/2010	1,098,458	14/01/2011	1,160,041	5.6%	15	42	28/03/2014	3,073,115	08/04/2014	3,094,097	0.7%	11																																															
8	18/01/2011	1,160,041	21/01/2011	1,133,659	-2.3%	3	43	07/05/2014	3,094,097	20/05/2014	3,122,897	0.9%	13																																															
9	01/02/2011	1,133,659	23/02/2011	1,213,155	7.0%	22	44	26/05/2014	3,122,897	27/06/2014	3,242,661	3.8%	32																																															
10	22/03/2011	1,213,155	06/04/2011	1,286,598	6.1%	15	45	30/06/2014	3,242,661	10/07/2014	3,249,875	0.2%	10																																															
11	20/04/2011	1,286,598	06/05/2011	1,261,769	-1.9%	16	46	28/07/2014	3,249,875	28/08/2014	3,356,934	3.3%	31																																															
12	24/05/2011	1,261,769	02/06/2011	1,278,256	1.3%	9	47	02/09/2014	3,356,934	30/09/2014	3,355,242	-0.1%	28																																															
13	20/06/2011	1,278,256	25/07/2011	1,446,635	13.2%	35	48	24/10/2014	3,355,242	06/11/2014	3,431,801	2.3%	13																																															
14	29/08/2011	1,446,635	05/09/2011	1,446,635	0.0%	7	49	25/11/2014	3,431,801	01/12/2014	3,315,072	-3.4%	6																																															
15	14/10/2011	1,446,635	01/11/2011	1,446,635	0.0%	18	50	19/12/2014	3,315,072	05/01/2015	3,392,049	2.3%	17																																															
16	29/11/2011	1,446,635	15/12/2011	1,439,393	-0.5%	16	51	21/01/2015	3,392,049	27/01/2015	3,334,219	-1.7%	6																																															
17	22/12/2011	1,439,393	10/02/2012	1,602,206	11.3%	50	52	02/02/2015	3,334,219	11/03/2015	3,633,834	9.0%	37																																															
18	14/02/2012	1,602,206	06/03/2012	1,700,654	6.1%	21	53	20/03/2015	3,633,834	27/03/2015	3,519,242	-3.2%	7																																															
19	09/03/2012	1,700,654	21/03/2012	1,711,823	0.7%	12	54	07/04/2015	3,519,242	01/06/2015	3,771,889	7.2%	55																																															
20	26/03/2012	1,711,823	28/03/2012	1,675,995	-2.1%	2	55	22/06/2015	3,771,889	29/06/2015	3,695,465	-2.0%	7																																															
21	12/04/2012	1,675,995	27/04/2012	1,613,836	-3.7%	15	56	05/08/2015	3,695,465	24/08/2015	3,389,691	-8.3%	19																																															
22	05/06/2012	1,613,836	26/06/2012	1,649,020	2.2%	21	57	27/08/2015	3,389,691	28/09/2015	3,071,038	-9.4%	32																																															
23	28/06/2012	1,649,020	12/07/2012	1,643,571	-0.3%	14	58	08/10/2015	3,071,038	27/10/2015	3,071,038	0.0%	19																																															
24	30/07/2012	1,643,571	24/08/2012	1,657,514	0.8%	25	59	28/10/2015	3,071,038	02/11/2015	3,020,372	-1.6%	5																																															
25	07/09/2012	1,657,514	26/09/2012	1,676,735	1.2%	19	60	09/11/2015	3,020,372	13/11/2015	3,020,372	0.0%	4																																															
26	12/10/2012	1,676,735	06/11/2012	1,691,853	0.9%	25	61	25/12/2015	3,020,372	07/01/2016	2,902,663	-3.9%	13																																															
27	15/11/2012	1,691,853	16/01/2013	2,126,394	25.7%	62	62	26/01/2016	2,902,663	03/02/2016	2,891,730	-0.4%	8																																															
28	30/01/2013	2,126,394	14/02/2013	2,161,782	1.7%	15	63	12/02/2016	2,891,730	09/03/2016	3,288,852	13.7%	26																																															
29	19/02/2013	2,161,782	22/02/2013	2,096,010	-3.0%	3	64	12/04/2016	3,288,852	02/05/2016	3,321,094	1.0%	20																																															
30	07/03/2013	2,096,010	14/03/2013	2,089,812	-0.3%	7	65	17/05/2016	3,321,094	06/06/2016	3,252,404	-2.1%	20																																															
31	09/04/2013	2,089,812	16/04/2013	2,089,373	0.0%	7	66	20/06/2016	3,252,404	24/06/2016	3,252,404	0.0%	4																																															
32	23/04/2013	2,089,373	01/05/2013	2,066,221	-1.1%	8	67	01/07/2016	3,252,404	25/07/2016	3,275,532	0.7%	24																																															
33	02/05/2013	2,066,221	23/05/2013	2,222,616	7.6%	21	68	03/08/2016	3,275,532	12/09/2016	3,713,126	13.4%	40																																															
34	01/07/2013	2,222,616	29/07/2013	2,340,817	5.3%	28	69	28/09/2016	3,713,126	02/11/2016	3,849,245	3.7%	35																																															
35	01/08/2013	2,340,817	20/08/2013	2,362,850	0.9%	19	70	09/11/2016	3,849,245	09/12/2016	4,585,502	19.1%	30																																															

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