



How To Use Portfolio123

Part 13

Evaluating Your Simulations

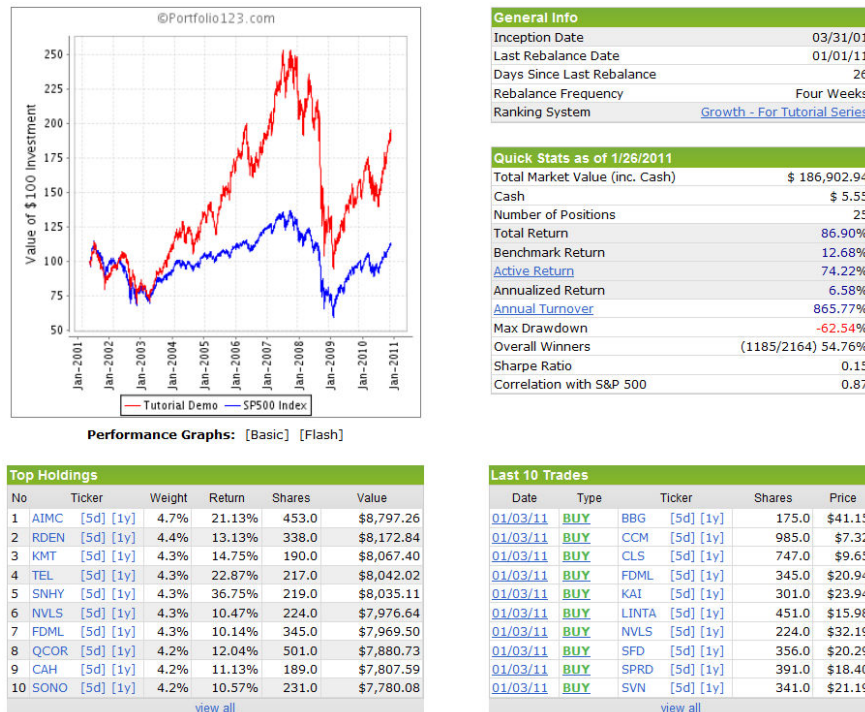
By, Marc H. Gerstein

In Parts 11 and 12 of this tutorial series, we saw how simulation adds much to the familiar testing capabilities we previously saw in screening and ranking, and we learned how to set up simulations. Another benefit to Simulation is the level of information we get regarding our test. We'll examine that here.

SUMMARY

As soon as a Portfolio123 finishes running a simulation, you are taken to the summary page, as depicted in Figure 1.

Figure 1



This material is self-explanatory. It gives you a quick sense of what the simulation has accomplished. Sometimes, you can look quickly at the performance graphs in the upper left and see right away that you need to go back to the drawing board.

In this example, it looks like we might have something which, although very much imperfect, is at least worthy further study. (In Part 12, we've already seen that we could improve results with a 15% trailing stop, and that we could likely have mitigated the 2008 drawdown via some very simple hedging.) But for purposes of illustration, I'll assume we want to look more closely at what we have right now.

There are three kinds of information available to you:

1. Information about the stocks that make it into the portfolio
2. Information about the transactions executed by the simulation
3. Information about performance (returns, risk, and trading data)

We'll examine all of these items in the order presented by the menu that runs down the left side of the page.

HOLDINGS

This section provides information about the stocks that have made it into your simulated portfolio.

Current

If you click on “Current,” you’ll see a list of stocks you’d now be holding if you were actually investing with this model.

Figure 2

[Yahoo! Quotes...](#) [MSN Quotes...](#)

[download](#)

Holdings - Current												
No	Ticker	Weight	Return	Return \$	Rank	Shares	Avg Shr Cost	Current Price	Value	Days Held	Sector	
1	VECO [5d] [1y]	3.9%	1.15%	82.51	99.9	163.0	\$44.21	\$44.71	\$7,288.14	24	Technology	
2	UPL [5d] [1y]	3.6%	-5.49%	-394.42	99.3	149.0	\$48.26	\$45.61	\$6,795.89	24	Energy	
3	TVL [5d] [1y]	3.5%	-9.55%	-690.84	98.3	1,335.0	\$5.42	\$4.90	\$6,541.50	24	Services	
4	TEL [5d] [1y]	4.3%	22.87%	1,497.08	87.8	217.0	\$30.16	\$37.06	\$8,042.02	108	Technology	
5	SVN [5d] [1y]	3.4%	-11.29%	-816.46	96.3	341.0	\$21.21	\$18.82	\$6,417.62	24	Conglomerates	
6	STN [5d] [1y]	4.1%	8.24%	580.45	96.1	263.0	\$26.78	\$28.99	\$7,624.37	52	Services	
7	SSL [5d] [1y]	3.9%	4.74%	333.11	97.5	146.0	\$48.16	\$50.44	\$7,364.24	52	Basic Materials	
8	SPRD [5d] [1y]	4.0%	3.74%	269.58	99.4	391.0	\$18.43	\$19.11	\$7,473.96	24	Technology	
9	SONO [5d] [1y]	4.2%	10.57%	743.65	95.9	231.0	\$30.46	\$33.68	\$7,780.08	52	Healthcare	
10	SNHY [5d] [1y]	4.3%	36.75%	2,159.42	95.5	219.0	\$26.83	\$36.69	\$8,035.11	136	Basic Materials	
11	SFD [5d] [1y]	3.8%	-0.83%	-59.83	97.0	356.0	\$20.32	\$20.15	\$7,173.40	24	Consumer/Non-Cyclical	
12	RDEN [5d] [1y]	4.4%	13.13%	948.24	99.9	338.0	\$21.37	\$24.18	\$8,172.84	80	Consumer/Non-Cyclical	
13	QCOR [5d] [1y]	4.2%	12.04%	846.72	96.9	501.0	\$14.04	\$15.73	\$7,880.73	52	Healthcare	
14	PAY [5d] [1y]	3.9%	3.56%	248.73	99.5	176.0	\$39.74	\$41.15	\$7,242.40	52	Technology	
15	NVL5 [5d] [1y]	4.3%	10.47%	756.09	99.3	224.0	\$32.23	\$35.61	\$7,976.64	24	Technology	
16	MEAS [5d] [1y]	3.8%	1.80%	126.51	99.8	260.0	\$26.97	\$27.46	\$7,139.60	52	Technology	
17	LINTA [5d] [1y]	3.8%	-0.97%	-69.75	99.1	451.0	\$16.00	\$15.85	\$7,146.10	24	Services	
18	KMT [5d] [1y]	4.3%	14.75%	1,036.91	96.4	190.0	\$37.00	\$42.46	\$8,067.40	52	Capital Goods	
19	KAI [5d] [1y]	3.7%	-3.75%	-270.36	99.5	301.0	\$23.98	\$23.08	\$6,947.08	24	Capital Goods	
20	FDML [5d] [1y]	4.3%	10.14%	733.48	95.9	345.0	\$20.97	\$23.10	\$7,969.50	24	Consumer Cyclical	
21	CLS [5d] [1y]	3.7%	-3.40%	-245.30	99.3	747.0	\$9.66	\$9.33	\$6,959.51	24	Technology	
22	CCM [5d] [1y]	3.9%	1.50%	108.21	99.4	985.0	\$7.33	\$7.44	\$7,328.40	24	Healthcare	
23	CAH [5d] [1y]	4.2%	11.13%	781.92	97.1	189.0	\$37.17	\$41.31	\$7,807.59	52	Healthcare	
24	BBG [5d] [1y]	3.7%	-4.11%	-296.11	99.5	175.0	\$41.21	\$39.52	\$6,916.00	24	Energy	
25	AIMC [5d] [1y]	4.7%	21.13%	1,534.76	98.3	453.0	\$16.03	\$19.42	\$8,797.26	80	Capital Goods	

(*) Avg Shr Cost includes commissions

There are two especially noteworthy aspects of this display. First, note the download link just above the upper right corner. As is often the case in Portfolio123, you can download all of this information into an Excel spreadsheet. Notice, too, the “Yahoo! Quotes . . .” and “MSN Quotes . . .” buttons just above the table. Clicking either of these will open a separate browser window in which all of your current holdings are displayed in the portfolio module of the site you selected. If you like, you can save there and continue to monitor progress on the site you chose based on the content it offers.

Return and Fundamental

Like “Current,” these next two choices can be used to show the simulation’s current holdings, but using different report formats.

Figure 3 – Current

Holdings - Return										
No	Ticker	1 Day	Last	Chg	Weight	1 Week	4 Weeks	8 Weeks	1 Qtr	
1	VECO [5d] [1y]	-0.9%	\$44.71	-0.42	3.9%	-9.0%	2.6%	1.7%	18.6%	
2	UPL [5d] [1y]	-1.7%	\$45.61	-0.80	3.6%	-5.5%	-3.4%	-2.9%	13.5%	
3	TVL [5d] [1y]	4.0%	\$4.90	0.10	3.5%	1.4%	-1.17%	2.7%	2.7%	

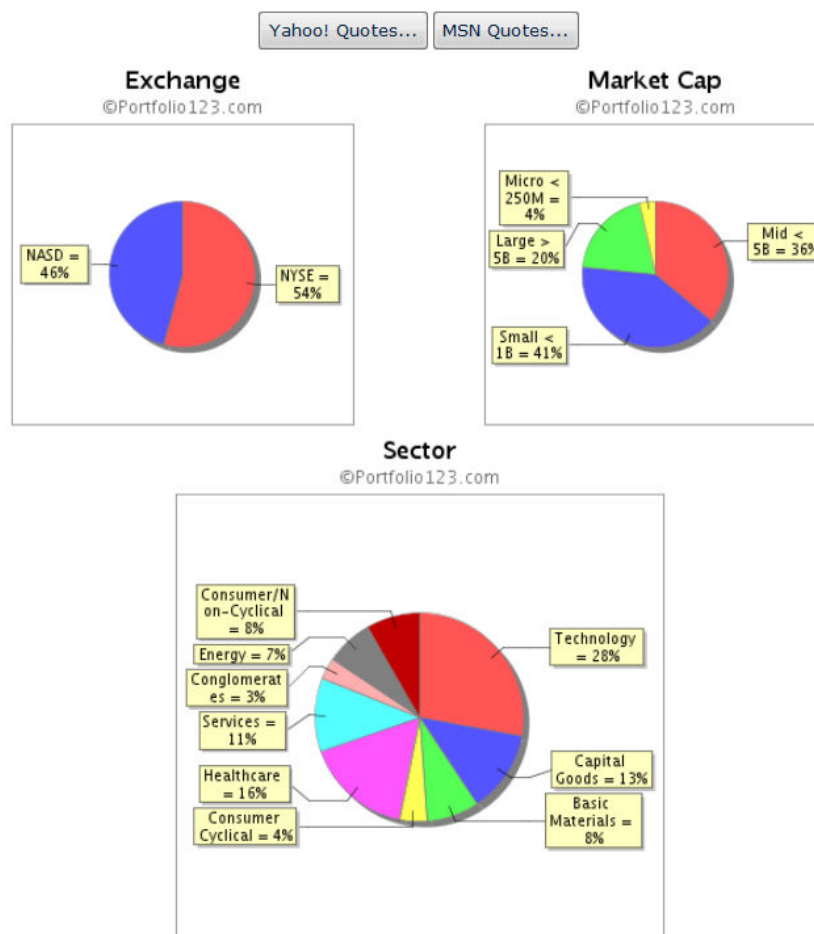
Figure 4 – Fundamental

Holdings - Fundamental											
No	Ticker	Return	Market Cap	Yield	PE	PEG	ROE TTM(%)	ROI TTM(%)	Tot Debt to Eq Ratio	Pr2CFI per	Shr TTM
1	AIMC [5d] [1y]	21.13%	526	N/A	31.5	0.48	10.96%	3.99%	1.34		13.85
2	BBG [5d] [1y]	-4.11%	1,819	N/A	17.8	1.98	9.18%	5.55%	0.35		5.11
3	CAH [5d] [1y]	11.13%	14,412	1.89%	15.2	3.01	18.53%	11.22%	0.41		12.01

Allocation

This presents a different view of your portfolio.

Figure 5



Recall from Part 12 that one of our Buy rules capped sector weight at 30%. We see in Figure 5 that Technology, at 28%, is bumping up against that limit. It's possible that one more tech stock might would put us over the top.

I decided to go back to the Buy rules, turn off the sector-limit rule, and re-run the simulation to see exactly what our diversification mandate did. I found that Technology jumped to 61% but the overall return increased very modestly: The present market value rose from \$186,902.94 to \$192,284.95. Speaking for myself, I'm not impressed with the overall gain. I don't think it's worth the extra risk inherent in the now-huge exposure to just one sector.

Historical

This gives you an opportunity to see what stocks were included in the portfolio previous points in time.

Figure 6

Historical Holdings As of (mm/dd/yyyy)

Holdings as of 5/30/2006									
No	Ticker	Shares	Cost	Value	Open Dt	No Days	Last	Pct	
1	TELNY [5d] [1y]	224.0	\$7,780.55	\$8,252.16	05/01/06	29	36.84	6.06%	
2	NCTY [5d] [1y]	252.0	\$6,967.71	\$7,058.52	05/30/06	0	28.01	1.30%	
3	FLI [5d] [1y]	285.0	\$6,965.41	\$6,999.60	05/30/06	0	24.56	0.49%	
4	SMSI [5d] [1y]	517.0	\$6,961.05	\$6,984.67	05/30/06	0	13.51	0.34%	
5	CITP [5d] [1y]	518.0	\$6,969.32	\$6,977.46	05/30/06	0	13.47	0.12%	
6	CVO [5d] [1y]	371.0	\$6,969.64	\$6,967.38	05/30/06	0	18.78	-0.03%	

Ranks

Here, you can see the information about the rank for each stock that makes it into your portfolio.

Figure 7

Rank Detail As of (mm/dd/yyyy)

Color Coded Rank Ranges 100-80 80-60 60-40 40-20 20-0 NA

Growth - For Tutorial Series - rank data as of 01/26/11							
Ticker	# NA's	Final Stmt	100% Stock Rank				
			EPS%ChgPYQ	EPS%ChgTTM	EPS Acceleration		
1 VECO [5d] [1y]	0	Y	99.93	99.97	89.44	99.87	
2 RDEN [5d] [1y]	0	Y	99.90	99.90	91.50	98.87	
3 MEAS [5d] [1y]	0	Y	99.83	99.77	96.16	96.82	
4 KAI [5d] [1y]	0	Y	99.57	99.54	78.03	98.58	
5 BBG [5d] [1y]	0	Y	99.50	99.44	77.63	98.21	
6 SPRD [5d] [1y]	0	N	99.47	99.27	80.81	97.29	
7 CUS [5d] [1y]	0	Y	99.44	99.67	73.86	99.04	

Notice the drop-down menu in the upper left area. This is similar to the one you've already seen in the Ranking area, which allows you to determine how much detail you'd like to see regarding the ranks.

Notice, too, the date menu in the upper right. You can use this to see rank information about groups of stocks previously held in the simulated portfolio.

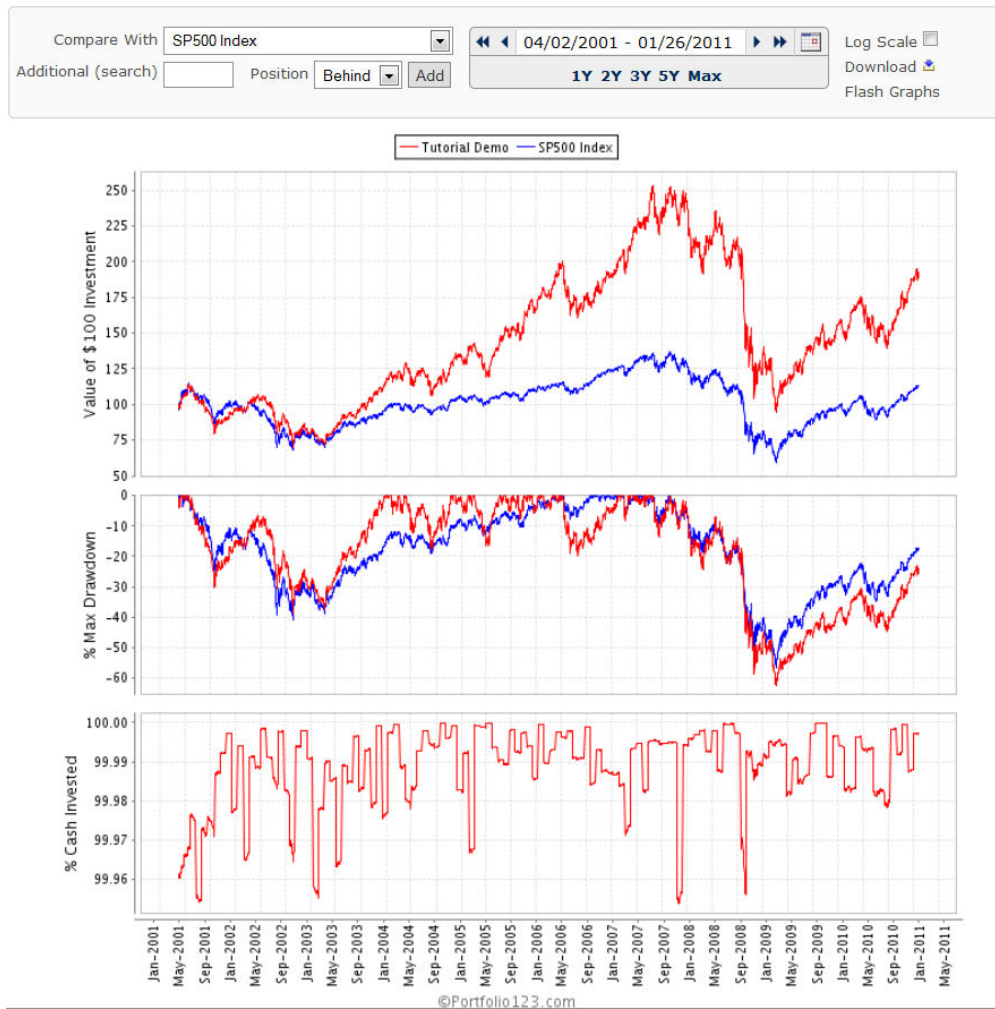
PERFORMANCE

Here, you can get good answers to the most basic question you're likely to have about your simulation: How did it do?

Graphs

We can start the way investors often like to start when the how-did-it-do question surfaces: by clicking on Graphs. Figure 8 shows what we'll see.

Figure 8



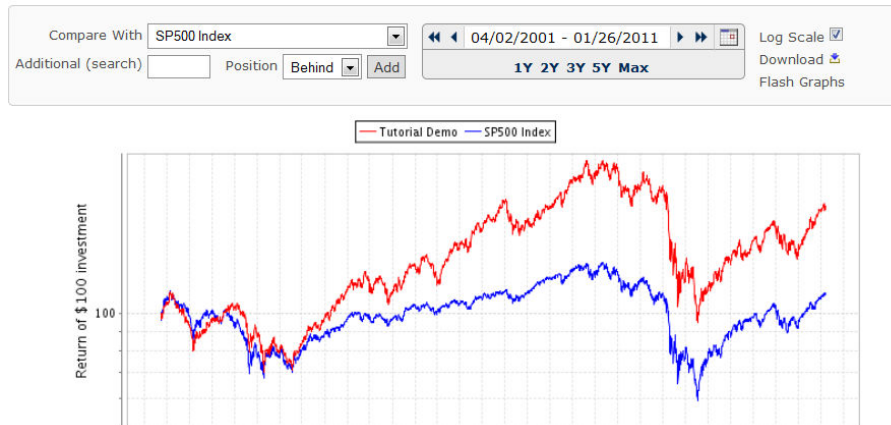
As you can see, the graphs present the value of a \$100 investment, the % drawdown, and the % cash invested over time.

You can use the interface at the top to make adjustments that should already be familiar from other areas of Portfolio123; the time period and the benchmark. Another familiar feature to the right of that interface is the download link, that lets you create an Excel spreadsheet containing the data upon which the top graph is based.

Now let's look at some less-familiar features.

Notice the check box to the right next to "Log Scale." You can check this to see the charts presented according to a logarithmic scale. Figure 9 shows what a logarithmic price chart looks like.

Figure 9



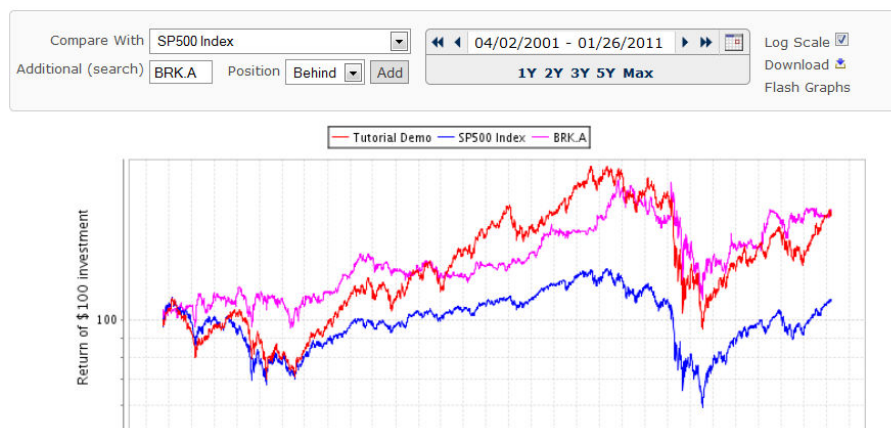
With an ordinary numeric price chart, the distance between, say, 100 and 200 would look the same as the distance between 400 and 500. Numerically, both differences amount to 100.

With a logarithmic price chart, the difference between 400 and 500 (which amounts to 25%) would appear much smaller than the difference between 100 and 200 (100%). That is atypical of the way many news organizations and web sites present charts, but it is a more accurate reflection of performance.

Notice, now, the input box to the left labeled "Additional (search)." You can chart another ticker for comparison purposes, as a supplement to you chosen benchmark.

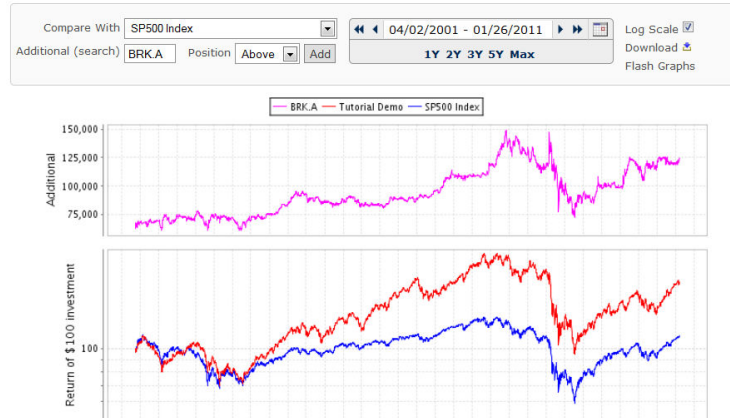
Figure 10 shows what this would look like if I choose to compare my simulation to, say, Berkshire Hathaway (BRK.A).

Figure 10



Notice that the drop-down menu next to the label "Position" is set, by default, to "Behind." Figure 11 shows what you'd see with the other choice, "Above."

Figure 11



Whichever view you prefer, I think we can say the result is intriguing. Berkshire seems to get the edge because it delivered comparable return with what appears to be less volatility. But the fact that we're even in the ballpark makes for an impressive conversation piece considering this simulation was patched together quickly just for demonstration purposes.

Stats

The Stats menu choice starts out by giving us a numerical presentation that should be self explanatory and familiar to anyone who has looked at a report of mutual fund performance.

Figure 12

Performance		
Return	Model	S&P 500
Total	90.18 %	13.16 %
Annualized	6.76 %	1.27 %
Year To Date	2.87 %	3.10 %
4 Week	2.39 %	2.93 %
13 Week	15.29 %	9.66 %
1 Year	28.18 %	18.72 %
3 Year	-7.83 %	-4.23 %

Annualized Performance by Calendar Year											
	2001*	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011**
Model	-5.61 %	-17.72 %	44.07 %	18.27 %	22.63 %	14.23 %	27.65 %	-46.18 %	19.40 %	19.91 %	- %
S&P 500	-1.38 %	-23.37 %	26.38 %	8.99 %	3.00 %	13.62 %	3.53 %	-38.49 %	23.45 %	12.78 %	- %
Excess Return	-4.23 %	5.64 %	17.69 %	9.28 %	19.63 %	0.61 %	24.12 %	-7.70 %	-4.05 %	7.12 %	- %

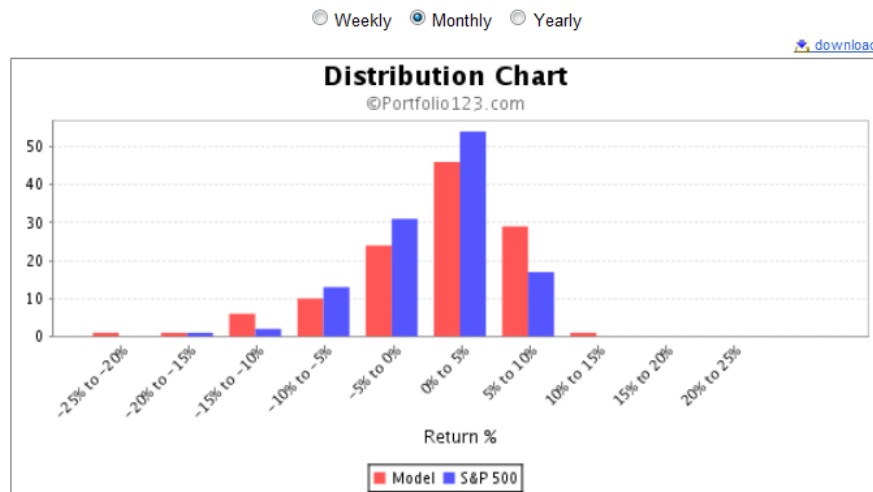
33% of annual data is required to calculate annualized return.

(*) Inception Date: 03/31/01

(**) End Date: 01/26/11

Scrolling further down, on that page, we can see the distribution of monthly (the default choice), weekly, or annual returns for our simulated portfolio and the S&P 500.

Figure 13



Notice the download link on the upper right. Figure 14 shows the Excel histogram you'll get if you use this feature.

Figure 14

	A	B	C
1	Tutorial Demo		
2	Monthly Performance Distribution		
3			
4	Return Range	Model	S&P 500
5	-0.25 to -0.2	1	0
6	-0.2 to -0.15	1	1
7	-0.15 to -0.1	6	2
8	-0.1 to -0.05	10	13
9	-0.05 to 0.0	24	31
10	0.0 to 0.05	46	54
11	0.05 to 0.1	29	17
12	0.1 to 0.15	1	0
13	0.15 to 0.2	0	0
14	0.2 to 0.25	0	0
15	0.25 and over	0	0
16			

It's hard to say how widely-used this feature was when it was introduced on Portfolio123, but the 2007-08 financial crisis and the increased attention it brought not just to overall returns but the way they are distributed (particularly increased awareness of negative extremes) definitely brought this sort of inquiry to the forefront. As you can see, this particular simulated portfolio has been a bit more prone to particularly poor months, but not enough so to suggest cause for worry.

The monthly returns graph at the bottom of this page (Figure 15) and the spreadsheet we can download based on it (Figure 16) support this assessment.

Figure 15

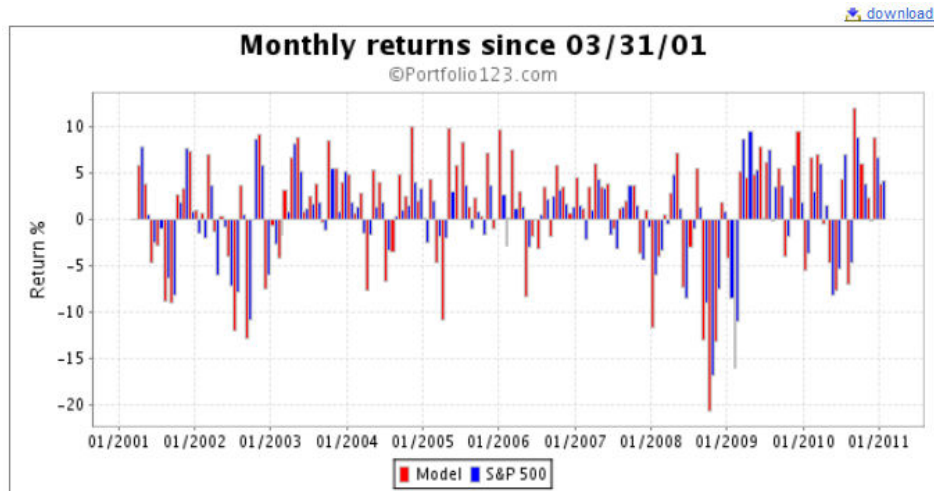


Figure 16

	A	B	C	D	E
1	Tutorial Demo				
2	Performance by Month				
3					
4	*NOTE: 33% of period data is required to calculate annualized return.				
5					
6	Period Start Date	Model	S&P 500	Excess Return	
7	3/30/2001	N/A	N/A	N/A	
8	4/2/2001	0.05844681	0.07681436	-1.8367552	
9	5/1/2001	0.03757534	0.005090187	3.2485154	
10	6/1/2001	-0.04688269	-0.025035389	-2.18473	
11	7/2/2001	-0.028865112	-0.01074015	-1.8124962	
12	8/1/2001	-0.0887246	-0.06410841	-2.461619	
13	9/4/2001	-0.089855075	-0.08172341	-0.8131668	
14	10/1/2001	0.025670256	0.01809911	0.7571146	
15	11/1/2001	0.03196685	0.075175904	-4.320905	
16	12/3/2001	0.07241581	0.007573834	6.484197	
17	1/2/2002	0.009436861	-0.015573832	2.5010693	
18	2/1/2002	0.006396487	-0.020766212	2.71627	
19	3/1/2002	0.069460645	0.03673889	3.2721753	
20	4/1/2002	-0.014584158	-0.061417624	4.6833467	
21	5/1/2002	0.003367855	-0.009081481	1.2449335	
22	6/3/2002	-0.040747263	-0.072455354	3.1708093	
23	7/1/2002	-0.12102195	-0.07900427	-4.2017674	
24	8/1/2002	0.03572624	0.004475568	3.1250675	

TRANSACTIONS

The next group of items fulfill what can be described as an audit function. They allow us to look in depth at what, exactly, the simulation has done.

All

This does exactly what the label suggests: It provides a record of all transactions executed in our simulated portfolio. Figure 17 shows a small portion of the total, those executed on the most recent re-balancing date.

Figure 17

Page 1 of 87 Rows Per Page 50 Total: 4304 [download](#)

No	Date	Type	Ticker	Shares	Price	Amount	Tot Fees	Rank	Note
4304	01/03/11	BUY	FDML [5d] [1y]	345.0	\$20.94	\$-7,236.02	\$-9.99	95.9	
4303	01/03/11	BUY	SVN [5d] [1y]	341.0	\$21.19	\$-7,234.08	\$-9.99	96.3	
4202	01/03/11	BUY	SFD [5d] [1y]	356.0	\$20.29	\$-7,233.23	\$-9.99	97.0	
4301	01/03/11	BUY	TVL [5d] [1y]	1,335.0	\$5.41	\$-7,232.34	\$-9.99	98.3	
4300	01/03/11	BUY	LINTA [5d] [1y]	451.0	\$15.98	\$-7,215.84	\$-9.99	99.1	
4299	01/03/11	BUY	UPL [5d] [1y]	149.0	\$48.19	\$-7,190.31	\$-9.99	99.3	
4298	01/03/11	BUY	NVLS [5d] [1y]	224.0	\$32.19	\$-7,220.55	\$-9.99	99.3	
4297	01/03/11	BUY	CLS [5d] [1y]	747.0	\$9.65	\$-7,214.81	\$-9.99	99.3	
4296	01/03/11	BUY	CCM [5d] [1y]	985.0	\$7.32	\$-7,220.19	\$-9.99	99.4	
4295	01/03/11	BUY	SPRD [5d] [1y]	391.0	\$18.40	\$-7,204.39	\$-9.99	99.4	
4294	01/03/11	BUY	BBG [5d] [1y]	175.0	\$41.15	\$-7,212.11	\$-9.99	99.5	
4293	01/03/11	BUY	KAI [5d] [1y]	301.0	\$23.94	\$-7,217.44	\$-9.99	99.5	
4292	01/03/11	BUY	VECO [5d] [1y]	163.0	\$44.15	\$-7,205.62	\$-9.99	99.9	
4291	01/03/11	SELL	ANN [5d] [1y]	-261.0	\$26.06	\$6,790.37	\$-9.99	98.6	Sell4
4290	01/03/11	SELL	ALOG [5d] [1y]	-142.0	\$50.32	\$7,135.88	\$-9.99	94.2	Sell5
4289	01/03/11	SELL	BW [5d] [1y]	-201.0	\$38.93	\$7,815.94	\$-9.99	99.9	Sell4
4288	01/03/11	SELL	VSH [5d] [1y]	-461.0	\$14.99	\$6,900.40	\$-9.99	99.6	Sell5
4287	01/03/11	SELL	BMRN [5d] [1y]	-258.0	\$26.90	\$6,930.21	\$-9.99	96.2	Sell4
4286	01/03/11	SELL	KYO [5d] [1y]	-64.0	\$102.99	\$6,581.37	\$-9.99	67.4	Rank
4285	01/03/11	SELL	UTHR [5d] [1y]	-118.0	\$64.28	\$7,574.46	\$-9.99	82.8	Sell4
4284	01/03/11	SELL	MICC [5d] [1y]	-79.0	\$97.30	\$7,677.10	\$-9.99	97.0	Sell4
4283	01/03/11	SELL	PSEC [5d] [1y]	-703.0	\$10.89	\$7,642.17	\$-9.99	95.9	Sell3
4282	01/03/11	SELL	OXM [5d] [1y]	-249.0	\$26.10	\$6,488.91	\$-9.99	98.7	Sell5
4281	01/03/11	SELL	MEOH [5d] [1y]	-234.0	\$30.49	\$7,123.50	\$-9.99	98.0	Sell4
4280	01/03/11	SELL	XL [5d] [1y]	-344.0	\$22.14	\$7,606.17	\$-9.99	97.9	Sell4
4279	01/03/11	SELL	CRZO [5d] [1y]	-218.0	\$34.69	\$7,553.52	\$-9.99	96.9	Sell4
4278	12/06/10	BUY	SONO [5d] [1y]	231.0	\$30.42	\$-7,036.43	\$-9.99	95.8	
4277	12/06/10	BUY	P5FC [5d] [1y]	703.0	\$10.02	\$-7,057.56	\$-9.99	95.8	

We see what was bought, what was sold, and probably most interestingly, why the sales occurred. ANN, for example, ran afoul of Sell rule 4 which, as we learned in Part 12, was an analyst rating downgrade. KYO was sold because its rank fell below 80, the sell threshold we chose.

There's a lot of information here. Most users find it more convenient to use the download link at the top of the table to create an Excel spreadsheet.

Figure 18

	A	B	C	D	E	F	G	H	I	
1	Tutorial Demo									
2										
3	Date	Symbol	Type	Shares	Price	Amount	TotFees	Rank	Notes	
4	1/3/2011	FDML	BUY	345	20.94	-7,236.02	-9.99	95.87		
5	1/3/2011	SVN	BUY	341	21.19	-7,234.08	-9.99	96.3		
6	1/3/2011	SFD	BUY	356	20.29	-7,233.23	-9.99	96.99		
7	1/3/2011	TVL	BUY	1,335.00	5.41	-7,232.34	-9.99	98.31		
8	1/3/2011	LINTA	BUY	451	15.98	-7,215.84	-9.99	99.11		
9	1/3/2011	UPL	BUY	149	48.19	-7,190.31	-9.99	99.27		
10	1/3/2011	NVLS	BUY	224	32.19	-7,220.55	-9.99	99.31		
11	1/3/2011	CLS	BUY	747	9.65	-7,214.81	-9.99	99.34		
12	1/3/2011	CCM	BUY	985	7.32	-7,220.19	-9.99	99.37		
13	1/3/2011	SPRD	BUY	391	18.4	-7,204.39	-9.99	99.44		
14	1/3/2011	BBG	BUY	175	41.15	-7,212.11	-9.99	99.5		
15	1/3/2011	KAI	BUY	301	23.94	-7,217.44	-9.99	99.54		
16	1/3/2011	VECO	BUY	163	44.15	-7,205.62	-9.99	99.93		
17	1/3/2011	ANN	SELL	-261	26.06	6,790.37	-9.99	98.61	Sell4	
18	1/3/2011	ALOG	SELL	-142	50.32	7,135.88	-9.99	94.18	Sell5	
19	1/3/2011	BW	SELL	-201	38.93	7,815.94	-9.99	99.87	Sell4	
20	1/3/2011	VSH	SELL	-461	14.99	6,900.40	-9.99	99.57	Sell5	
21	1/3/2011	BMRN	SELL	-258	26.9	6,930.21	-9.99	96.17	Sell4	
22	1/3/2011	KYO	SELL	-64	102.99	6,581.37	-9.99	67.42	Rank	
23	1/3/2011	UTHR	SELL	-118	64.28	7,574.46	-9.99	82.82	Sell4	

Realized

This feature allows us to see all realized transactions.

Figure 19

Show All Realized Transactions

Page 1 of 43 Rows Per Page 50 Total: 2139

No	Ticker	Open	Close	Days	Cost	Proceeds	Return	Pct	Close Rank	Note
2139	RIMM	04/30/07	07/23/07	84	\$8,817.02	\$15,123.13	\$6,306.11	71.5%	73.8	Rank
2138	CAEID	04/28/08	05/27/08	29	\$8,275.87	\$13,865.41	\$5,589.54	67.5%	87.5	Sell3
2137	MTRK	10/16/06	04/30/07	196	\$7,044.62	\$11,822.61	\$4,777.99	67.8%	63.1	Rank
2136	SPWRA	03/05/07	06/23/07	112	\$7,379.66	\$12,007.56	\$4,627.90	62.7%	85.6	Sell3
2135	ATT	11/14/05	07/06/06	84	\$6,963.54	\$10,983.91	\$4,020.37	72.6%	64.8	Rank

Notice the drop-down menu at the top. It allows us to aggregate the individual items by symbol (often, individual stocks are bought and sold on several separate occasions), by Industry, by Sector or by Transaction Note or Sell Rule.

Figure 20 shows that the most frequently invoked sell rule was Sell3, the one involving a deteriorating moving average trend.

Figure 20

Rows Per Page 50 Total: 7

No	Note	Total	Average Return	Winners	Winners Average Return	Losers	Losers Average Return
1	Sell5	213	2.02%	123	10.42%	90	-9.47%
2	Multiple Rules	31	2.61%	21	9.97%	10	-12.84%
3	NO RANK	70	-15.10%	10	5.11%	60	-18.47%
4	Sell2	41	4.00%	22	15.51%	19	-9.33%
5	Sell4	410	3.87%	256	11.91%	154	-9.48%
6	Rank	600	2.78%	356	11.93%	244	-10.55%
7	Sell3	774	-0.88%	380	9.94%	394	-11.31%

We also see, though, that the moving average sell rule wasn't overly productive. The winner-loser ratio is unimpressive as is the average return. Perhaps we should consider eliminating that rule. The high-PEG ratio sell rule (Sell2) was invoked so rarely as to hardly be worth considering. The sell rules based on rank deterioration, recommendation downgrade and reduction in estimate seemed reasonably productive.

Figure 21, which depicts the sector aggregation, shows that while tech was important in terms of portfolio allocation, it's not what drove positive performance. Services and Basic Materials were our primary winners.

Figure 21

Rows Per Page 50 Total: 12

No	Sector	Total	Avg No. Days	Tot Cost	Tot Proceeds	Tot Return	Avg Pct
1	Technology	456	41.00	\$2,705,845.75	\$2,718,831.00	\$12,985.35	0.8%
2	Services	422	42.00	\$2,351,696.50	\$2,401,932.00	\$50,235.66	2.6%
3	Financial	252	42.00	\$1,338,185.50	\$1,338,768.12	\$582.59	0.5%
4	Healthcare	248	39.00	\$1,467,465.75	\$1,483,145.38	\$15,679.62	1.5%
5	Energy	220	38.00	\$1,227,437.88	\$1,218,200.38	-\$9,237.61	-0.3%
6	Basic Materials	134	42.00	\$806,516.75	\$819,967.69	\$13,450.92	2.1%
7	Capital Goods	101	39.00	\$567,399.38	\$574,216.00	\$6,816.63	1.4%
8	Consumer Cyclical	99	48.00	\$536,350.81	\$520,704.50	-\$15,646.30	-2.6%
9	Consumer/Non-Cyclical	77	42.00	\$409,899.84	\$412,925.06	\$3,025.22	0.9%
10	Transportation	74	39.00	\$439,020.03	\$437,049.28	-\$1,970.74	0.6%
11	Utilities	55	38.00	\$280,807.84	\$280,740.56	-\$67.25	-0.6%
12	Conglomerates	1	112.00	\$3,745.61	\$4,850.15	\$1,104.53	29.5%

By Symbol

This provides the ultimate drill-down. We can examine individual stocks, see the time(s) when they entered and exited the portfolio, and how well they did while they were held.

Figure 22

Enter Symbol Show Transactions

Here's an example with Tyco Electronics (TEL), one of the stocks appearing in this simulation as of this writing.

Figure 23



The first time TEL entered the portfolio, August 16, 2010, it didn't accomplish much. It was sold at the next (September 13th) re-balancing based on a diminishing moving-average trend and as often happened with that particular sell rule (see Figure 20), the experience was not productive. The stock came back at the next re-balancing (October 11th) and stayed through this writing (early 2011) and so far in its second tenure, it appears to be contributing well to portfolio performance.

STATISTICS

Although this is at the bottom of the menu, this section is arguably the most intriguing, offering up some of the most sought-after information.

Trading

This section, illustrated by Figure 24, presents information many traders cherish. It evaluates the simulation in terms of winners versus losers.

Figure 24

Main Parameters		Trading Summary	
Starting Capital	\$100,000.00	Total Buy Trades	2,164
Total Cash Added	\$0.00	Total Sell Trades	2,139
Ending Market Value	\$190,177.55	Annualized Turnover	865.41 %
Start Date	03/31/01	Total Trading Cost	\$42,986.97
End Date	01/26/11	Realized Winners	54.60 %
Days Since Inception	3588	Unrealized Winners	72.00 %
		Overall Winners	54.81 %

	Realized			Unrealized		
	All	Winners	Losers	All	Winners	Losers
Trades	2,139	1,168	971	25	18	7
Avg Return	1.03 %	11.09 %	-11.08 %	7.78 %	12.39 %	-4.06 %
Avg Days Held	41.39	42.90	39.59	44.28	52.56	23.00
Total Amount \$	76,958.62	702,498.06	-625,539.44	13,218.93	15,274.08	-2,055.15
Biggest Winner/Loser \$	-	6,306.11	-5,491.12	-	2,369.66	-871.02
Biggest Winner/Loser	-	106.59 %	-76.03 %	-	40.33 %	-12.04 %

Generally, this content is self-explanatory. But there are a few points worth noting in terms of what all this says about the demonstration simulation.

Some may dream of getting a bigger percentage of realized winners but often, 50-50 is what most achieve over time. Here, the realized winning percentage is 54.6%, is actually quite reasonable. Superior returns tend to come when average-winner gain dwarf average-loser declines. But among realized transactions, that's not heavily present: We see an average gain of 11.09% for winners versus an average 11.08% loss for losers. This simulation's performance was dependent, perhaps unusually so, on the win-loos percentage.

The balance among unrealized positions raises an eyebrow. The winning percent here is quite high, 72%, and the average percent gap is more appealing; +12.39% on average for winners, versus -4.06% on average for losers.

What happens between Realized and Unrealized? Is the present situation involving Unrealized transactions a fluke? Clearly, although the simulation has some good qualities, we're not yet ready to pronounce if a finished product.

Risk

With this content, all the way at the bottom of the menu, Portfolio123 arguably saves the best for last.

Figure 25

Risk Measurements - Since Inception: 03/31/01		
	Model	S&P 500
Standard Deviation	31.30 %	26.16 %
Sharpe Ratio	0.16	-0.03
Sortino Ratio	0.21	-0.03
Correlation with S&P 500	0.87	-
R-Squared	0.76	-
Beta	1.04	-
Alpha (annualized)	5.52 %	-

Risk Measurements - Trailing 3 Year		
	Model	S&P 500
Standard Deviation	43.70 %	36.23 %
Sharpe Ratio	-0.07	-0.04
Sortino Ratio	-0.09	-0.05
Correlation with S&P 500	0.93	-
R-Squared	0.86	-
Beta	1.12	-
Alpha (annualized)	-1.51 %	-

Notice, here, the A-word: Alpha. It's what every portfolio manager today dreams of. It's a measure of how much annualized return the portfolio exhibits above and beyond the level of risk assumed by the portfolio manager. A manager who subjects the portfolio to above-average risk would have no right to brag about above-average returns unless the return was higher than what investors had a right to expect based on the excess risk. Conversely, a manager with below-average return would still earn respect if the level of conservatism was such as to generate an expectation that the returns would come in lower than what we saw.

In interpreting the data, be aware that Standard Deviation (a measure of the volatility of portfolio returns) is computed by Portfolio123 based on daily returns. Many other sources tend to use monthly numbers, which are typically much lower. It's important to recognize this lest you be shocked by what at first might look like an unduly high standard deviation. The key is to focus on the comparison between the Model and the S&P 500. The same holds true of the Sharpe Ratio, return divided by standard deviation, and the Sortino Ratio, return divided by the negative portions of standard deviation (NOTE: Strictly speaking, these are Sharpe-like and Sortino-like ratios since, which differ from the classic versions in that we do not subtract the risk-free rate from the portfolio return). Use of daily computations will often make those ratios appear lower than they might if they were calculated using monthly returns. So again, the portfolio-versus-market return is the one upon which you should focus on.

Viewed from inception, this demonstration simulation produces good results in terms of Alpha, Standard Deviation, Sharpe Ratio and Sortino Ratio. The last three years, however, were not favorable, suggesting a need for more refinement, and possibly some use of market timing and hedging.

Correlation with the S&P 500 and R-Squared (the percent of portfolio changes that can be associated with movements of S&P 500) are unremarkable. Many like to see lower numbers, which would suggest a portfolio that tends to a larger extent to chart its own path as opposed to largely imitating the market. Beta is another indication of the extent to which the portfolio mimics the market. Our above-1.00 Betas tell us the portfolio is more volatile than the S&P 500 (only moderately so), which would be fine as long as we're getting enough additional return to offset the increased risk (the Alphas tell us we have seen this on a long-term basis, but not during the past three years).

IN CONCLUSION

As you have seen from this material as well as Parts 11 and 12, Portfolio123 simulation is a very powerful tool. It's more intricate than the testing we do with screens and ranking systems, but the payoff is great in terms of the realistic way simulated portfolios mimic the market, the flexibility they embrace (hedging, sell protocols, stop loss) and the depth of information you get regarding your strategy.