



Model Portfolio Monthly Update: October 31, 2017

There are limitations inherent in our theoretical model results, particularly with the fact that such results do not represent actual trading and they may not reflect the impact material economic and market factors might have had on our decision making if we were actually managing client money. Please see additional disclaimers and disclosures at the back of this report.

We highlight stocks that demonstrate solid growth at a reasonable price (GARP). Stocks selected for our model portfolio strategies all rank highly for the following metrics, with an emphasis on proxies for cash flow growth and ROIC:

- Relative Value
- Operating Momentum
- Analyst Revision Momentum
- Fundamental Quality

Pages 2-9 contain brief commentary and highlights of a few stocks that seem particularly attractive.

Page 10 contains rebalancing actions for our long-only model portfolio.

Page 11 contains rebalancing actions for our short-only model portfolio.

Target and stop prices, as well as updated return data, to be provided in our daily reports that will follow.

Notes:

Readers that would like to follow our daily price target changes can follow us on our Seeking Alpha [instablog](#) or on [Tumblr](#). This report is a follow-up to our October 31, 2017 [rebalancing note](#) and [last month's full report](#).

Commentary

Core Model

The theoretical **Core Long Model** portfolio finished October 2017 up +4.22% on a simple cumulative return basis, versus the **S&P 500 Index** up +2.34% and the **S&P Composite 1500 Index** up +2.16%.

Stocks in the theoretical **Core Short Model** portfolio finished up +1.78% for the assumed inverse short sale loss of -1.78%.

The theoretical **Core Long/Short Model** portfolio finished up +2.39% ($4.16\% - 1.78\% = +2.39\%$).

For the ten months through October 31, the **Core Long Model** is up +18.99% on a simple cumulative return basis and up +20.13% on a compound return basis. In contrast the **S&P 500 Index** is up +14.20% and +15.03%, respectively, over the same period. YTD the **Core Long/Short Model** is up +18.43%, ahead of the Barclay Long/Short Index of +7.04% (compound returns).

Opportunistic Model

This theoretical model uses the same basket of stocks and stock price targets of the Core model, but assumes a 30% base cash position or 100% base cash position during extreme market volatility, or when certain portfolio target returns or losses are achieved.

The **Opportunistic Long Model** outperformed the **Core Long Model** in 2010 and 2011, and has underperformed since then. The **Opportunistic Long/Short Model** outperformed the **Core Long/Short Model** in 2009, 2010, 2011, 2015 and has lagged in other years.

Cumulatively since inception, the **Core Model** has significantly outperformed the Opportunistic Model. However, the Sharpe Ratio, which is one measure of risk/return, is higher for the Opportunistic Model.

During October 2017, the theoretical **Opportunistic Long Model** portfolio assumed a 30% base cash position from the first trading day of the month through just prior to the October 12 close, when it then assumed a 0% base cash position. For October 2017 on a simple cumulative return basis, the **Opportunistic Long Model** portfolio was up +3.83%, and the **Opportunist Long/Short Model** portfolio was up +2.05%.

Theoretical long stock returns October 5-31, 2017

We had two favorite long ideas last month, **Micron Technology (MU)** and **Agilent Technologies (A)**, which appreciated +12.55% and +3.55% since the October 5 model portfolio rebalancing date, respectively.

The best performing stock in the long model since was **TREX Company Inc.** up +25.80% for the October 5-31 period. The worst performing stock was **Teck Resources Limited (TECK)**, down -11.17%.

Theoretical short sale stock returns for October 5-31, 2017

The best short sale idea for October was **Under Armour Inc. (UAA)**, which was down -24.26% for an assumed short sale gain of +24.26%. The worst idea was **Cree Inc. (CREE)**, which appreciated 15.59% through its stop loss date of October 19 for the assumed short sale loss of -15.59%.

Long MU / Short CREE underperformed

Also on October 5, we suggested a long/short pair trade of MU/CREE, which performed poorly. Optimism expressed by CREE's new CEO, who has turnaround experience, during CREE's October 17 quarterly conference call drove short sale covering and the theoretical pair trade lost -3.04% (+12.55% -15.59% = -3.04%). We continue to believe the pair trade has merit and we are highlighting it once again for November.

12-month returns for the October 31, 2016 long model portfolio

This is an update to last year's model portfolio report, [23 Stocks for November 2016](#). Our theoretical model portfolios, which rebalance every month, can also work well as a 12-month idea list.

Last year's theoretical equal-weighted model portfolio returned 36.8% from the assumed rebalancing date of October 31, 2016 through October 31, 2017. The portfolio outperformed the S&P 500 Index return of 21.1% by 15.7 percentage points. 16 stocks performed better than the S&P 500 and 7 underperformed. In last year's report, we highlighted **Vantiv, Inc. (VNTV)** as our favorite long idea. VNTV was the 18th best performer with a return of 16.4% over 12 months.

Major sell side revisions to the October 2017 long model

The October 2017 long model of 35 stocks received at least 14 positive sell side price target revisions and 3 ratings upgrades, led by 3 positive price target revisions to Micron Technology (MU).

Contradicting the long thesis, the long model realized at least 1 negative price target revision and 2 ratings downgrades.

Major sell side revisions to the October 2017 short sale model

The October 2017 short sale model of 25 stocks received at least 14 negative sell side price target revisions and 6 ratings downgrades, led by 10 negative price target revisions to **Under Armour Inc. (UAA)**.

Contradicting the short sale thesis, stocks in the short sale model received at least 11 positive price target revision and 4 ratings upgrades. **Integrated Device Technology Inc. (IDTI)** led with 4 positive price target revisions.

Notes

Except for extremely unusual circumstances, our long model portfolios are composed of high-quality stocks and our short model portfolios are composed of low-quality stocks.

As a simple quantitative model based on fundamental rankings, the portfolio models do not take into account rumors or pending M&A transactions.

Theoretical return data does not assume the impact of costs such as execution fees, margin fees, slippage, the availability of stocks for short selling, or any other kind of cost.

We favor reporting theoretical model portfolio returns data on a on a simple cumulative basis. Cumulatively adding daily returns allows for the easy comparison of returns from one period to another. Simple cumulative returns are significantly lower than compound returns over time.

Since the March 31, 2009 inception, the theoretical Core Long Model portfolio has returned 195.10% on a simple cumulative return basis and 474.4% on a compound return basis. The S&P 500 Index over that same period returned 127.45%% on a simple cumulative return basis and 222.77% on a compound return basis.

In many cases the models are created just prior to the market close each month.

Looking ahead for the balance November 2017

Long portfolio rebalancing actions

As noted in our [abbreviated report](#), just prior to the close on October 31, 2017, we assumed 18 stocks left the long-only model, 19 were added, and 17 were rebalanced. This 36-stock theoretical long model assumes a 2.78% weight for each stock. The long model portfolios are composed of high-quality stocks.

Short sale portfolio rebalancing actions

Just prior to the October 31, 2017 close, we assumed that 11 stocks left the short-sale model portfolio, 7 were added, and 14 were rebalanced. This 21-stock theoretical model portfolio assumed a 4.76% weight for each stock.

This short sale model is composed of low-quality stocks, and only tends to work well during periods of high uncertainty or volatility in the market. Low-quality stocks do tend to outperform high-quality stocks during market rallies as the market prices in expectations for a sharp recovery in fundamentals.

Our favorite ideas for the balance of November

Our favorite long idea this month is **Illinois Tool Works Inc. (ITW)**. This stock stands out because it shares a ranking profile of previously very successful names, and Industrials in general seem to be names seem to be looking more attractive. In addition, it appears the sell side consensus estimates may be too conservative for 2018. If ROIC continues to improve through 2018 instead of flattening out as currently implied by consensus, the stock may experience another leg higher.

Ranking Data as of October 31, 2017

Illinois Tool Works Inc.
NYSE:ITW

Industrials
Industrial Machinery

Ascendere Ranking	Price 10/31/17	157.51	Cash	(2,785)	EV/LTM EBITDA	15.7
	Shares	343	Debt	8,137	Price/Book	10.7
	Market Cap	53,908	Other	3		
5 = Best	Rank		Enterprise Value	59,263		
Relative Value	3					
Operating Momentum	4	CY1 Consensus EPS Est.	\$ 6.60	CY1 PE	23.9	Total Capital \$ 13,163
Analyst Revisions Mome	5	CY2 Consensus EPS Est.	\$ 7.20	CY2 PE	21.9	Debt/Capital 41%
Fundamental Quality	4	Latest Annualized Dividend	\$ 3.12	Div Yield	1.7%	Debt/Enterprise Value 14%

Source: Capital IQ data and estimates, and Ascendere Associates LLC data and estimates.

NYSE:ITW	Estimate	Estimate	Estimate	Estimate					
	LTM+4Q	LTM+3Q	LTM +2Q	LTM +1Q	Last LTM	LTM-1	LTM-2	LTM -3	LTM -4
NOPLAT	2,778	2,731	2,692	2,647	2,616	2,591	2,432	2,399	2,392
Economic Charge	1,093	1,090	1,086	1,082	1,082	1,071	1,035	952	937
Economic Profit	1,685	1,641	1,606	1,565	1,534	1,520	1,397	1,447	1,455
Y/Y change	2.7%	2.2%	2.6%	2.0%	0.9%	8.8%	-3.5%	-0.6%	-2.0%
NOPLAT	2,778	2,731	2,692	2,647	2,616	2,591	2,432	2,399	2,392
Operating Capital	12,996	12,959	12,910	12,861	12,856	12,855	12,388	11,443	12,303
ROIC (NOPLAT / Operating Capital)	21.4%	21.1%	20.9%	20.6%	20.3%	20.2%	19.6%	21.0%	19.4%
NOPLAT	2,778	2,731	2,692	2,647	2,616	2,591	2,432	2,399	2,392
5 Qtr Average Operating Capital	12,931	12,897	12,871	12,740	12,369	12,181	12,102	11,943	12,111
ROIC (NOPLAT / Operating Capital)	21.5%	21.2%	20.9%	20.8%	21.2%	21.3%	20.1%	20.1%	19.7%

Source: Ascendere Associates assumptions and estimates, and S&P Capital IQ data and consensus estimates.

Micron Technology (MU) remains one of the strongest long ideas in the industry, and **Cree, Inc. (CREE)** remains one of the weakest -- despite the optimism expressed by its CEO during its October 17 financial report. Therefore, we are once again suggesting a long MU / short CREE pair trade.

Ranking Data as of October 31, 2017

Micron Technology, Inc.
NasdaqGS:MU

Information Technology
Semiconductors

Ascendere Ranking	Price 10/31/17	44.22	Cash	(5,428)	EV/LTM EBITDA	5.5	
	Shares	1,153	Debt	11,155	Price/Book	2.6	
	Market Cap	48,033	Other	849			
5 = Best	Rank		Enterprise Value	54,609			
Relative Value	5						
Operating Momentum	4	CY1 Consensus EPS Est.	\$ 6.71	CY1 PE	6.6	Total Capital	\$ 30,625
Analyst Revisions Mome	5	CY2 Consensus EPS Est.	\$ 7.42	CY2 PE	6.0	Debt/Capital	19%
Fundamental Quality	4	Latest Annualized Dividend	\$ -	Div Yield	0.0%	Debt/Enterprise Value	20%

Source: Capital IQ data and estimates, and Ascendere Associates LLC data and estimates.

NasdaqGS:MU	Estimate	Estimate	Estimate	Estimate	Last LTM	LTM-1	LTM-2	LTM-3	LTM-4
	LTM+4Q	LTM+3Q	LTM+2Q	LTM+1Q					
NOPLAT	10,214	10,381	10,092	8,902	6,660	4,053	2,137	859	863
Economic Charge	4,387	4,297	4,192	4,059	3,884	3,610	3,318	2,673	2,334
Economic Profit	5,827	6,084	5,899	4,843	2,776	443	(1,181)	(1,814)	(1,471)
Y/Y change	-4.2%	3.1%	21.8%	74.4%	526.5%	-137.5%	-34.9%	23.3%	107.8%
NOPLAT	10,214	10,381	10,092	8,902	6,660	4,053	2,137	859	863
Operating Capital	39,468	38,661	37,720	36,521	34,948	33,705	32,714	27,260	26,847
ROIC (NOPLAT / Operating Capital)	25.9%	26.9%	26.8%	24.4%	19.1%	12.0%	6.5%	3.2%	3.2%
NOPLAT	10,214	10,381	10,092	8,902	6,660	4,053	2,137	859	863
5 Qtr Average Operating Capital	38,093	36,963	35,724	34,472	31,095	29,229	27,454	25,909	25,443
ROIC (NOPLAT / Operating Capital)	26.8%	28.1%	28.2%	25.8%	21.4%	13.9%	7.8%	3.3%	3.4%

Source: Ascendere Associates assumptions and estimates, and S&P Capital IQ data and consensus estimates.

Ranking Data as of October 31, 2017

Cree, Inc.
NasdaqGS:CREE

Information Technology
Semiconductors

Ascendere Ranking		Price 10/31/17	36.08	Cash	(625)	EV/LTM EBITDA	28.4
		Shares	97	Debt	141	Price/Book	1.6
		Market Cap	3,336	Other	5		
5 = Best	Rank						
Relative Value	1						
Operating Momentum	2	CY1 Consensus EPS Est.	\$ 0.11	CY1 PE	322.4	Total Capital	\$ 2,357
Analyst Revisions Mome	1	CY2 Consensus EPS Est.	\$ 0.36	CY2 PE	101.1	Debt/Capital	-21%
Fundamental Quality	1	Latest Annualized Dividend	\$ -	Div Yield	0.0%	Debt/Enterprise Value	5%
		Enterprise Value	2,857				

Source: Capital IQ data and estimates, and Ascendere Associates LLC data and estimates.

NasdaqGS:CREE	Estimate	Estimate	Estimate	Estimate					
	LTM+4Q	LTM+3Q	LTM +2Q	LTM +1Q	Last LTM	LTM-1	LTM-2	LTM -3	LTM -4
NOPLAT	12	8	5	(9)	32	43	18	58	62
Economic Charge	258	258	256	254	255	248	256	263	239
Economic Profit	(246)	(250)	(251)	(263)	(223)	(204)	(238)	(205)	(177)
Y/Y change	-1.7%	-0.4%	-4.5%	18.0%	9.1%	-14.3%	16.2%	15.8%	-11.6%
NOPLAT	12	8	5	(9)	32	43	18	58	62
Operating Capital	2,792	2,789	2,770	2,753	2,761	2,780	2,793	2,845	2,897
ROIC (NOPLAT / Operating Capital)	0.4%	0.3%	0.2%	-0.3%	1.2%	1.6%	0.6%	2.1%	2.1%
NOPLAT	12	8	5	(9)	32	43	18	58	62
5 Qtr Average Operating Capital	2,776	2,768	2,766	2,772	2,815	2,836	2,860	2,877	2,888
ROIC (NOPLAT / Operating Capital)	0.4%	0.3%	0.2%	-0.3%	1.1%	1.5%	0.6%	2.0%	2.1%

Source: Ascendere Associates assumptions and estimates, and S&P Capital IQ data and consensus estimates.

Long running advice regarding the use of our model portfolio report

Wayne Gretzky said it best – “skate to where the puck is going to be, not where it has been.” Quantitative screens like the one in this report show where a stock has been and assume the trajectory is fixed. Of course, this is not always the case. The best investors will use this model portfolio as guidance, and not the end all. At the same time, the model does well enough on its own, often beating the indices with ease (though not this past month). With a little effort, we hope that active fundamental portfolio managers will do even better.

Long Model Portfolio -- Rebalancing Actions

10/31/2017 Rebalancing					
Core and Opportunistic Long Portfolio:					
36 stocks in the model portfolio = 2.78% weight per position					
Close Position		Hold/Rebalance		Open Position	
Burlington Stores, Inc.	BURL	Thor Industries, Inc.	THO	TEGNA Inc.	TGNA
Compañía Cervecerías Unidas S.	CCU	Kohl's Corporation	KSS	Yum! Brands, Inc.	YUM
TC PipeLines, LP	TCP	Evercore Inc.	EVR	Peabody Energy Corporation	BTU
SVB Financial Group	SIVB	East West Bancorp, Inc.	EWBC	Ameriprise Financial, Inc.	AMP
Exelixis, Inc.	EXEL	American Equity Investment Li	AEL	Federated Investors, Inc.	FII
Agilent Technologies, Inc.	A	Raymond James Financial, Inc	RJF	Synovus Financial Corp.	SNV
Masimo Corporation	MASI	MasTec, Inc.	MTZ	JPMorgan Chase & Co.	JPM
ManpowerGroup Inc.	MAN	Trex Company, Inc.	TREX	Western Alliance Bancorporation	WAL
Graco Inc.	GGG	Allison Transmission Holdings,	ALSN	Cullen/Frost Bankers, Inc.	CFR
EMCOR Group, Inc.	EME	Micron Technology, Inc.	MU	Cathay General Bancorp	CATY
Donaldson Company, Inc.	DCI	Vishay Intertechnology, Inc.	VSH	Armstrong World Industries, Inc.	AWI
Valmont Industries, Inc.	VMI	YY Inc.	YY	Illinois Tool Works Inc.	ITW
Applied Industrial Technologies, I	AIT	Facebook, Inc.	FB	Norfolk Southern Corporation	NSC
InterDigital, Inc.	IDCC	Arista Networks, Inc.	ANET	Cirrus Logic, Inc.	CRUS
Advanced Energy Industries, Inc.	AEIS	Norbord Inc.	OSB	MKS Instruments, Inc.	MKSI
Intuit Inc.	INTU	Kronos Worldwide, Inc.	KRO	Teradyne, Inc.	TER
Teck Resources Limited	TECK	Trinseo S.A.	TSE	Cabot Corporation	CBT
United States Steel Corporation	X			Huntsman Corporation	HUN
				Methanex Corporation	MEOH
Source: Ascendere Associates LLC					

Short Model Portfolio -- Rebalancing Actions

When the market anticipates an improving economy from low price levels, low-quality stocks will at times out-perform high-quality stocks as the expected improvements in fundamentals are discounted from a relatively more depressed price level.

10/31/2017 Rebalancing					
Core and Opportunistic Short Portfolio:					
21 stocks in the model portfolio = 4.76% weight per position					
Close Position		Hold/Rebalance		Open Short Sale	
Penske Automotive Group, Inc.	PAG	Under Armour, Inc.	UA	Mattel, Inc.	MAT
Adient plc	ADNT	MetLife, Inc.	MET	Spark Therapeutics, Inc.	ONCE
National Oilwell Varco, Inc.	NOV	Puma Biotechnology, Inc.	PBYI	Portola Pharmaceuticals, Inc.	PTLA
Voya Financial, Inc.	VOYA	Agios Pharmaceuticals, Inc.	AGIO	UniFirst Corporation	UNF
Alnylam Pharmaceuticals, Inc.	ALNY	Penumbra, Inc.	PEN	Symantec Corporation	SYMC
Jacobs Engineering Group Inc.	JEC	ZTO Express (Cayman) Inc.	ZTO	Summit Materials, Inc.	SUM
Textron Inc.	TXT	Colfax Corporation	CFX	Axalta Coating Systems Ltd.	AXTA
KBR, Inc.	KBR	Univar Inc.	UNVR		
Integrated Device Technology, Inc.	IDTI	Fluor Corporation	FLR		
PTC Inc.	PTC	Flowserve Corporation	FLS		
		MACOM Technology Solutions	MTSI		
		ViaSat, Inc.	VSAT		
		Cree, Inc.	CREE		
Source: Ascendere Associates LLC		The Mosaic Company	MOS		

Return Data

Core & Opportunistic Long Model					MTD						
10/05/2017 to 10/31/2017									Target/	Date+1	
Sector	Company	Ticker	10/5/2017	10/31/2017	Performance	Price Target	Stop Target	Stop Date	Sell Price	Return	
Industrials	Trex Company, Inc.	TREX	87.00	109.45	25.80%	\$ 109.48	None				
Financials	SVB Financial Group	SIVB	187.26	219.28	17.10%		None	10/30/2017	\$ 219.28	17.10%	
Industrials	Allison Transmission Holdings, Inc.	ALSN	36.81	42.49	15.43%		None	10/25/2017	\$ 40.97	11.30%	
Industrials	EMCOR Group Inc.	EME	70.35	80.51	14.44%		None	10/27/2017	\$ 79.34	12.78%	
Information Technology	Micron Technology Inc.	MU	39.37	44.31	12.55%	\$ 45.88	None				
Information Technology	Vishay Intertechnology Inc.	VSH	20.10	22.25	10.70%		None	10/27/2017	\$ 21.60	7.46%	
Materials	Kronos Worldwide Inc.	KRO	23.83	26.31	10.41%	\$ 27.80	None				
Consumer Discretionary	Thor Industries Inc.	THO	127.12	136.22	7.16%	\$ 139.00	None				
Industrials	Graco Inc.	GGG	124.61	131.79	5.76%	\$ 134.25	None				
Information Technology	Intuit Inc.	INTU	142.86	151.02	5.71%		None	10/26/2017	\$ 153.46	7.42%	
Information Technology	Facebook, Inc.	FB	171.24	180.06	5.15%	\$ 186.00	None				
Information Technology	Arista Networks, Inc.	ANET	190.36	199.89	5.01%	\$ 229.53	None				
Consumer Staples	Compania Cervecerias Unidas S.A.	CCU	27.27	28.48	4.44%	\$ 29.31	None				
Healthcare	Agilent Technologies Inc.	A	65.70	68.03	3.55%	\$ 70.38	None				
Materials	Trinseo S.A.	TSE	69.30	71.00	2.45%	\$ 79.42	None				
Industrials	Donaldson Company Inc.	DCI	46.21	47.21	2.16%	\$ 50.22	None				
Information Technology	Advanced Energy Industries, Inc.	AEIS	83.07	84.72	1.99%	\$ 96.77	None				
Information Technology	YY Inc.	YY	88.95	90.39	1.62%	\$ 107.11	None				
Industrials	ManpowerGroup Inc.	MAN	121.57	123.28	1.41%	\$ 130.92	None				
Healthcare	Masimo Corporation	MASI	87.11	87.76	0.75%	\$ 97.98	None				
Financials	East West Bancorp Inc.	EWBC	59.67	59.84	0.28%	\$ 66.33	None				
Financials	American Equity Investment Life Holdin	AEL	29.50	29.51	0.03%	\$ 32.73	None				
Consumer Discretionary	Burlington Stores, Inc.	BURL	94.38	93.89	-0.52%	\$ 106.10	None				
Industrials	Valmont Industries, Inc.	VMI	160.15	158.90	-0.78%	\$ 171.47	None				
Financials	Evercore Inc.	EVR	80.80	80.10	-0.87%	\$ 88.86	None				
Information Technology	InterDigital, Inc.	IDCC	74.00	73.35	-0.88%	\$ 82.84	None				
Financials	Raymond James Financial Inc.	RJF	86.01	84.78	-1.43%	\$ 92.75	None				
Industrials	Applied Industrial Technologies Inc.	AIT	65.35	63.65	-2.60%	\$ 70.79	None				
Energy	TC Pipelines LP	TCP	54.12	52.32	-3.32%	\$ 59.06	None				
Healthcare	Exelixis, Inc.	EXEL	25.73	24.79	-3.65%	\$ 32.21	None				
Materials	United States Steel Corp.	X	26.54	25.32	-4.60%	\$ 30.99	None				
Industrials	MasTec, Inc.	MTZ	45.95	43.55	-5.22%	\$ 52.94	None				
Consumer Discretionary	Kohl's Corp.	KSS	44.27	41.76	-5.67%	\$ 49.76	None				
Materials	Norbord Inc.	OSB	39.56	36.05	-8.87%	\$ 44.96	None				
Materials	Teck Resources Limited	TECK	23.01	20.44	-11.17%	\$ 27.06	None				

Ascendere Associates LLC

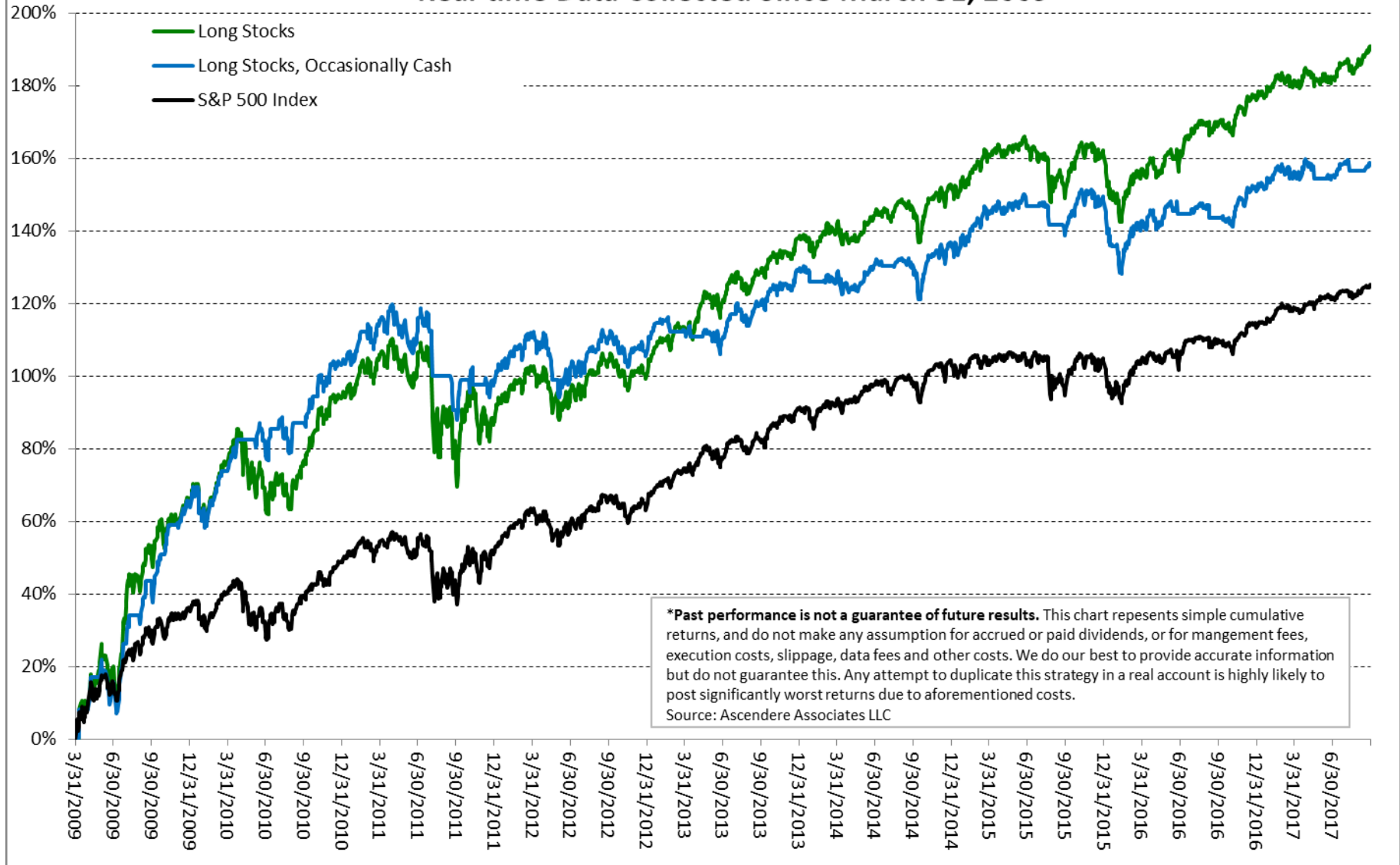
Core & Opportunistic Short Model					MTD					
10/05/2017 to 10/31/2017								Target/	Date+1	
Sector	Company	Ticker	10/5/2017	10/31/2017	Performance	Price Target	Stop Target	Stop Date	Sell Price	Return
Consumer Discretionary	Under Armour, Inc.	UAA	16.53	12.52	-24.26%			10/31/2017	\$ 12.05	-27.10%
Healthcare	Agios Pharmaceuticals, Inc.	AGIO	70.82	64.27	-9.25%	\$ 64.26	\$ 77.38			
Industrials	Textron Inc.	TXT	55.65	52.74	-5.23%			10/17/2017	\$ 53.57	-3.74%
Energy	National Oilwell Varco, Incorporated	NOV	36.03	34.19	-5.11%			10/23/2017	\$ 33.81	-6.16%
Information Technology	MACOM Technology Solutions Holding	MTSI	42.74	40.88	-4.35%	\$ 34.37	\$ 51.11			
Financials	Voya Financial, Inc.	VOYA	40.80	40.16	-1.57%	\$ 38.30	\$ 43.30			
Industrials	Colfax Corporation	CFX	42.30	41.71	-1.39%	\$ 39.84	\$ 44.76			
Industrials	Jacobs Engineering Group, Inc.	JEC	58.79	58.21	-0.99%	\$ 55.97	\$ 61.61			
Industrials	Fluor Corporation	FLR	43.10	42.99	-0.26%	\$ 40.41	\$ 45.79			
Consumer Discretionary	Penske Automotive Group, Inc.	PAG	46.69	46.62	-0.15%	\$ 43.49	\$ 49.89			
Information Technology	ViaSat Inc.	VSAT	65.12	65.10	-0.03%	\$ 60.55	\$ 69.69			
Consumer Discretionary	Adient plc	ADNT	84.15	84.36	0.25%	\$ 78.95	\$ 89.35			
Healthcare	Alnylam Pharmaceuticals Inc.	ALNY	121.39	121.84	0.37%	\$ 82.35	\$ 160.43			
Industrials	Univar Inc.	UNVR	29.41	29.75	1.16%	\$ 27.64	\$ 31.18			
Financials	MetLife, Inc.	MET	52.58	53.58	1.90%	\$ 48.60	\$ 56.56			
Industrials	Flowserve Corp.	FLS	43.21	44.07	1.99%	\$ 40.98	\$ 45.44			
Healthcare	Puma Biotechnology, Inc.	PBYI	124.25	127.30	2.45%	\$ 106.62	\$ 141.88			
Materials	The Mosaic Company	MOS	21.64	22.34	3.23%	\$ 19.76	\$ 23.52			
Consumer Discretionary	Sherwin-Williams Co.	SHW	379.90	395.15	4.01%	\$ 362.24	\$ 397.56			
Healthcare	Penumbra, Inc.	PEN	93.20	100.55	7.89%			10/27/2017	\$ 99.50	6.76%
Industrials	KBR, Inc.	KBR	17.88	19.63	9.79%	\$ 16.10	\$ 19.66			
Information Technology	Integrated Device Technology Inc.	IDTI	27.05	31.07	14.86%			10/30/2017	\$ 31.07	14.86%
Information Technology	PTC Inc.	PTC	57.75	66.45	15.06%			10/20/2017	\$ 60.76	5.21%
Industrials	ZTO Express (Cayman) Inc.	ZTO	13.84	15.99	15.53%			10/12/2017	\$ 15.63	12.93%
Information Technology	Cree Inc.	CREE	29.57	35.70	20.73%			10/18/2017	\$ 34.18	15.59%

Ascendere Associates LLC

	Theoretical Model Portfolio* 10/31/17	MTD	YTD	Since 03/31/09	Sharpe
	Simple Returns (No Compounding)				
Stock Targets	Core Model				
	Long	4.16%	18.99%	195.1%	1.04
	Short	1.78%	1.75%	66.2%	0.38
	Core Long/Short	2.39%	17.24%	128.9%	0.98
Stock Targets and Portfolio Targets	Opportunistic Model				
	Long	3.83%	11.72%	162.6%	1.11
	Short	1.78%	5.88%	-3.3%	(0.03)
	Opportunistic Long/Short	2.05%	5.85%	165.9%	1.30
Stock Targets and Portfolio Targets	Opportunistic Model III				
	Long Stocks	3.83%	11.72%	162.6%	1.11
	Long Inverse ETF ^SH	-2.28%	-10.78%	-90.8%	(0.82)
	Opportunistic Long/Short III	1.54%	0.94%	71.8%	0.66
	S&P 500 Index	4.13%	14.20%	127.45%	0.95

* Return figures are calculated using cumulative simple returns. This table represents returns of several theoretical portfolios that do not assume any costs. This table is not to be construed as advertising for any investment service. Real portfolios that attempt to exactly replicate these theoretical strategies will generate lower returns relative to these models due to slippage, transaction costs, tax expenses and other costs. There are limitations inherent in our theoretical results, particularly with the fact that such results do not represent actual trading and they may not reflect the impact material economic and market factors might have had on our decision making if we were actually managing client money. We do our best to provide accurate information, but do not guarantee this. Please see additional disclosures and disclaimers.

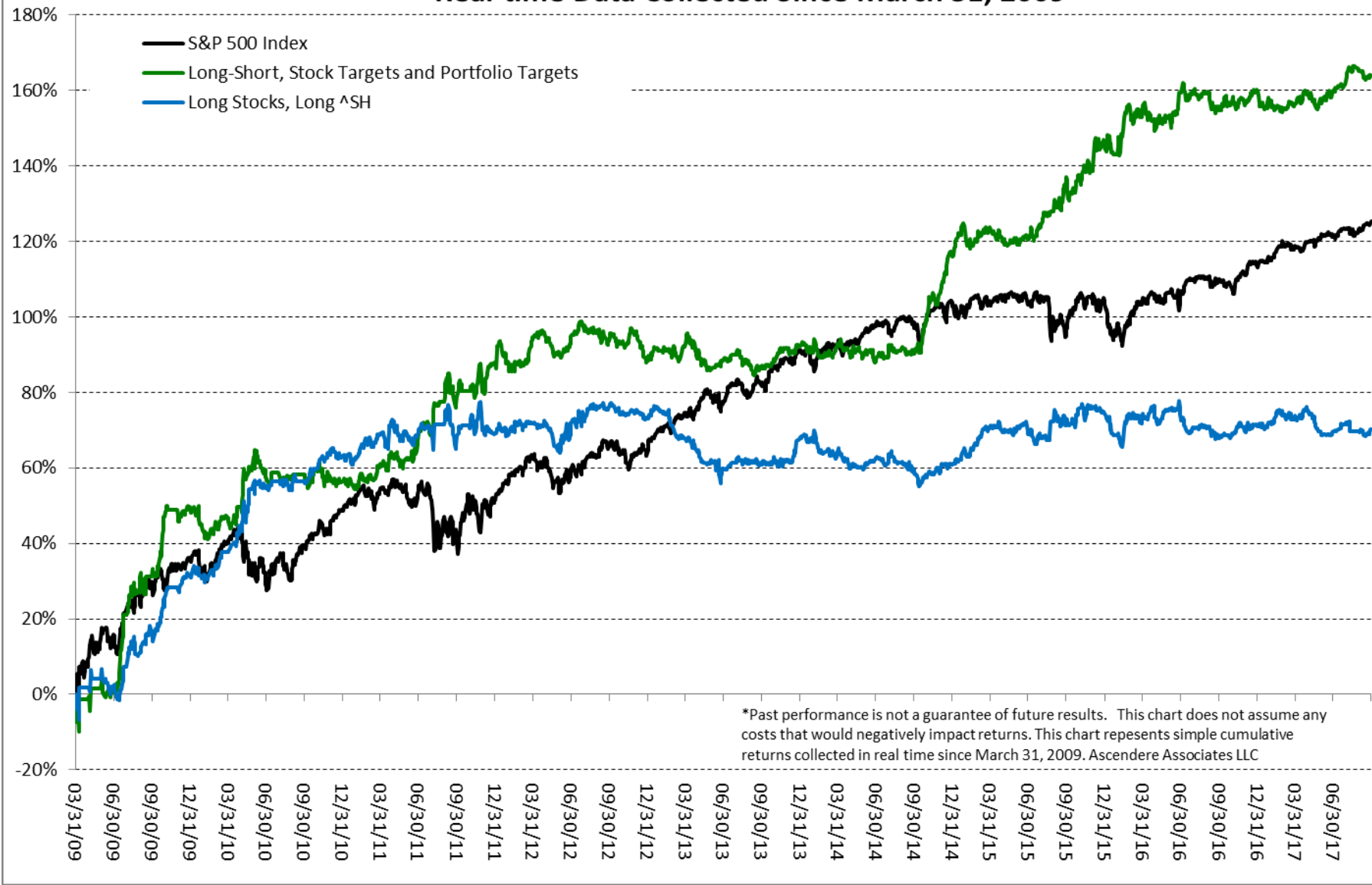
Simple Returns -- Long Theoretical Model Portfolios vs S&P 500 Total Return Index Real-time Data Collected Since March 31, 2009



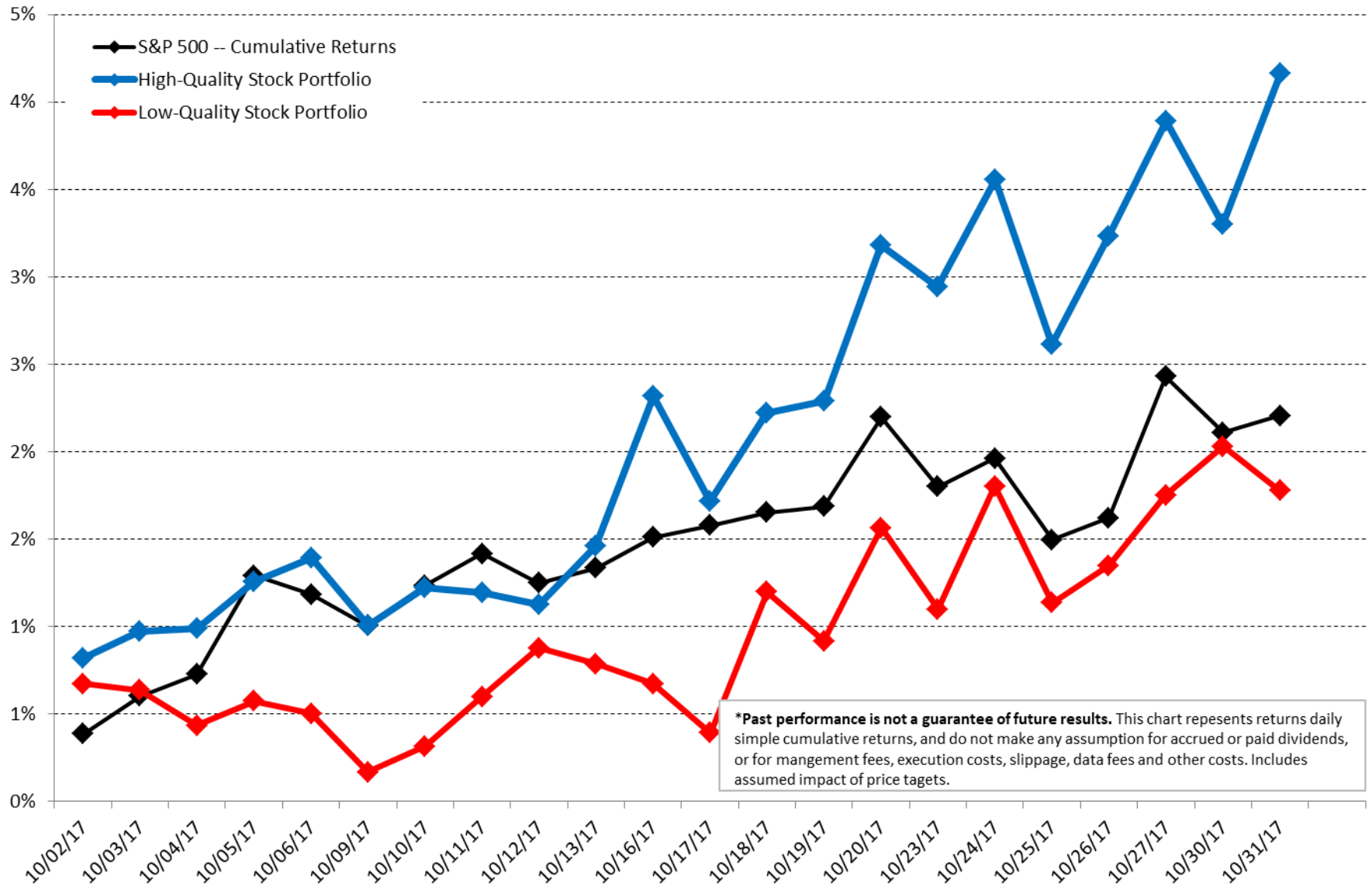
"Theoretical Dollar Neutral" Strategies

Simple Cumulative Returns

Real-time Data Collected Since March 31, 2009

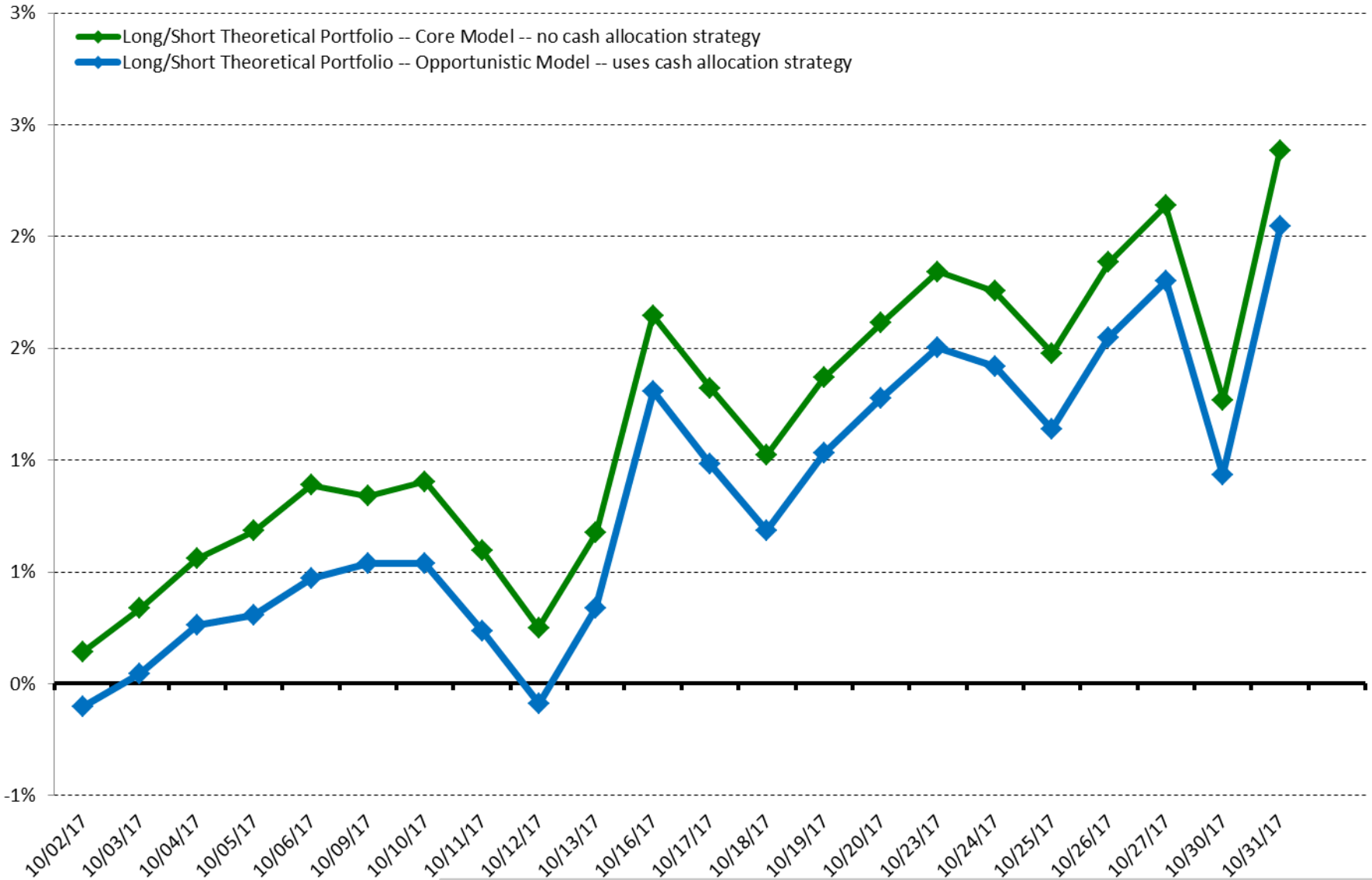


High-Quality vs. Low-Quality Model Portfolios -- October 2017



***Past performance is not a guarantee of future results.** This chart represents returns daily simple cumulative returns, and do not make any assumption for accrued or paid dividends, or for mangement fees, execution costs, slippage, data fees and other costs. Includes assumed impact of price targets.

Theoretical Long/Short Model Portfolio Returns October 2017



***Past performance is not a guarantee of future results.** This chart represents returns daily simple cumulative returns, and do not make any assumption for accrued or paid dividends, or for mangement fees, execution costs, slippage, data fees and other costs.

	Core	Opportunistic	"Dollar Neutral" 1	"Dollar Neutral" 2	
Inception March 31, 2009	Long, Stock Targets	Long, Stock and Portfolio Targets	Long/Short, Stock Targets and Portfolio Targets	Long, Stock and Portfolio Targets / Long ^SH ETF	S&P 500
10/31/2017	Theoretical	Theoretical	Theoretical	Theoretical	
Simple Returns					
Today	0.86%	0.86%	1.12%	0.70%	0.09%
MTD	4.16%	3.83%	2.05%	1.54%	2.21%
YTD	18.99%	11.72%	5.85%	0.94%	14.20%
Cumulative from 3/31/2009	195.10%	162.61%	165.88%	71.85%	127.45%
Absolute Risk					
Daily Average	0.09%	0.08%	0.08%	0.03%	0.06%
Daily Range	16.86%	15.84%	11.84%	12.00%	11.40%
Daily Standard Deviation	1.37%	1.06%	0.93%	0.78%	0.97%
Daily Return/Standard Deviation	6.60%	7.08%	8.26%	4.27%	6.06%
Average 90-Day T-bill	1.18%	1.18%	1.18%	1.18%	1.18%
Annualized Daily Returns	22.73%	18.94%	19.33%	8.37%	14.85%
Annualized Standard Deviation	21.7%	16.9%	14.7%	12.4%	15.4%
Sharpe Ratio	0.99	1.05	1.23	0.58	0.89
Percentage Down Days	45.2%	35.1%	43.1%	44.9%	45.1%
Average Daily Downside Value	-0.96%	-0.85%	-0.63%	-0.52%	-0.68%
Daily Downside Deviation	-1.04%	-0.88%	-0.61%	-0.55%	-0.75%
Daily VAR of 1000 at 95% Conf	-22	-17	-14	-12	-15
Benchmark Relative Risk					
Correlation	0.91	0.71	(0.05)	0.06	
R-Squared	0.83	0.50	0.00	0.00	
Daily Tracking Error	0.63%	0.78%	1.38%	1.21%	
Regression					
Beta	1.28	0.77	-0.05	0.05	
Daily Alpha	0.031%	0.016%	0.018%	-0.026%	
Jensen's Daily Alpha	0.040%	0.013%	-0.001%	-0.001%	
Trading Days	2163	2163	2163	2163	
*Returns calculated by the simple return method (not compounded).					
* Portfolio models are theoretical and assume no costs.					
* Data collected in real time since 3/31/2009					
Source: Ascendere Associates LLC					

23 Stocks for November 2016

One-Year Buy and Hold Returns

Company Name	Ticker	10/31/2016	10/31/2017	Performance
Applied Materials Inc.	AMAT	28.77	56.43	96.1%
Apollo Global Management, LLC	APO	16.97	31.58	86.1%
Teradyne Inc.	TER	23.09	42.89	85.8%
ManpowerGroup Inc.	MAN	75.34	123.28	63.6%
Masimo Corporation	MASI	55.00	87.76	59.6%
Unum Group	UNM	34.78	52.04	49.6%
Regions Financial Corp.	RF	10.49	15.48	47.6%
ING Groep N.V.	ING	12.57	18.52	47.3%
Logitech International SA	LOGI	23.84	35.83	50.3%
Lear Corp.	LEA	121.24	175.59	44.8%
Texas Instruments Inc.	TXN	68.60	96.69	40.9%
Copart, Inc.	CPRT	26.24	36.29	38.3%
First Republic Bank	FRC	73.91	97.40	31.8%
Northrop Grumman Corp.	NOC	225.63	295.53	31.0%
VeriSign Inc.	VRSN	84.02	107.52	28.0%
CalAtlantic Group, Inc.	CAA	32.17	49.34	53.4%
Lowe's Companies Inc.	LOW	65.35	79.95	22.4%
Vantiv, Inc.	VNTV	58.36	70.00	19.9%
NetEase, Inc.	NTES	253.58	281.92	11.2%
Cirrus Logic Inc.	CRUS	53.98	56.00	3.7%
United Therapeutics Corp.	UTHR	120.07	118.59	-1.2%
American Eagle Outfitters Inc.	AEO	16.43	13.02	-20.8%
Vipshop Holdings Limited	VIPS	13.67	7.90	-42.2%
Theoretical Long Model		100.00	136.83	36.8%
S&P 500	^SPX	2,126.15	2,575.26	21.1%

1yr Buy and Hold	Portfolio	S&P 500
Compound Return	36.83%	21.11%
Simple Cumulative Return	32.05%	19.42%
Daily Average	0.1267%	0.0768%
Standard Deviation	0.73%	0.46%
Return/Standard Deviation	17.39%	16.76%
Average 3-Month Libor	0.79%	0.79%
Annualized Daily Returns	31.92%	19.35%
Annualized Standard Deviation	11.6%	7.3%
Sharpe Ratio	2.69	2.55

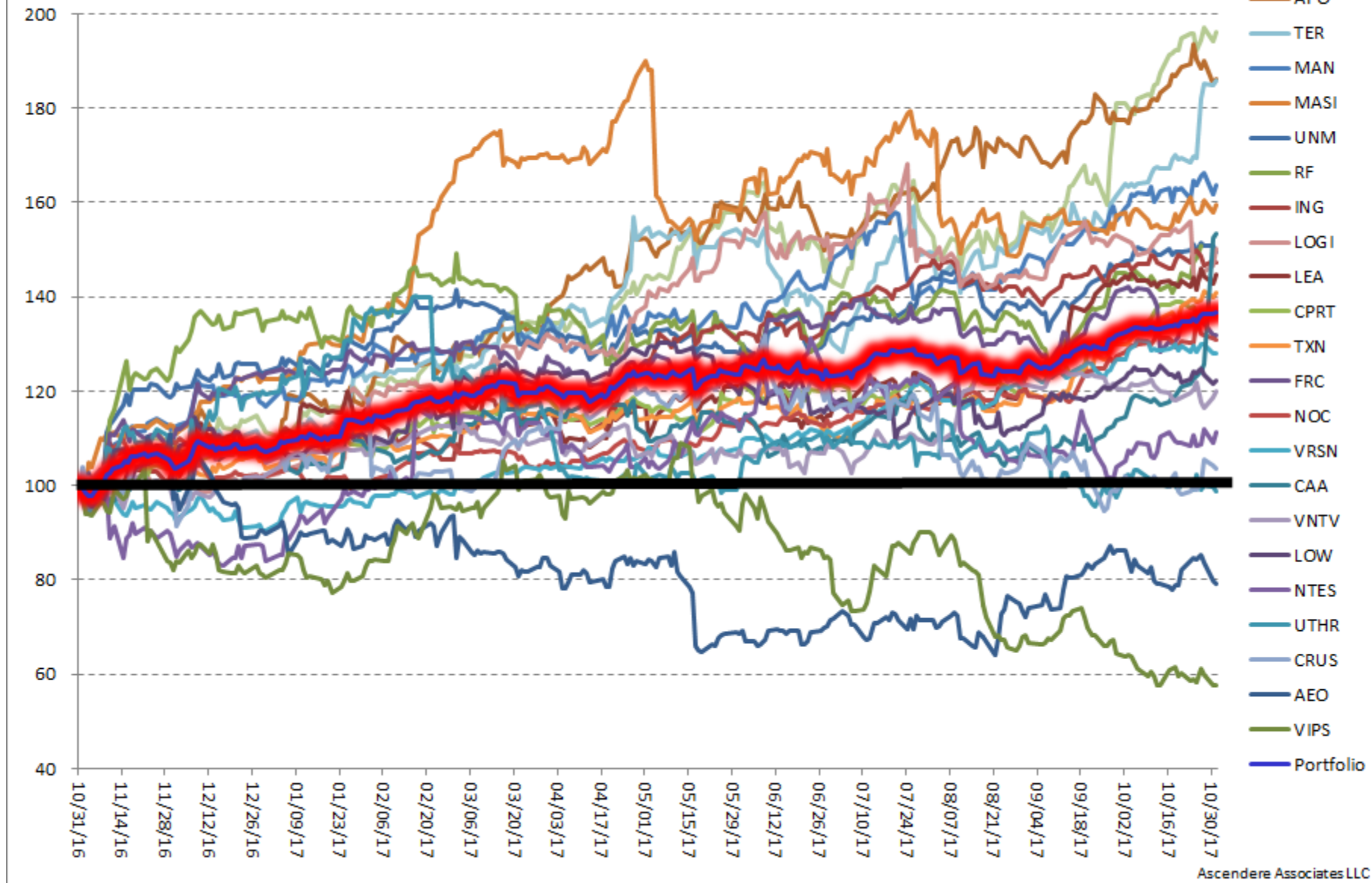
Compound Returns	Ticker	11/30/2016	1/31/2017	4/28/2017	10/31/2017
Vantiv, Inc	VNTV	-3.31%	6.65%	6.31%	19.95%
Buy and Hold Model		4.58%	13.44%	23.25%	36.83%
S&P 500	^SPX	3.42%	7.18%	12.14%	21.11%

Source: Ascendere Associates LLC

Stock prices adjusted for both dividends and splits

23 Stocks for November 2016

Buy and Hold Returns
10/31/2016 to 10/31/2017



Ascendere Associates LLC

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J. Stephen Castellano – founded Ascendere Associates LLC in 2009 to provide innovative equity research and financial modeling consulting services.

Among the services that Ascendere provides are: 1) detailed custom equity research analysis; 2) valuation scenario analysis studies; 3) supply /demand studies; 4) long and short stock idea generation; 5) portfolio feedback; 6) detailed fundamental financial modeling services; and 7) additional analytical consulting services. Additional information is available at jstephencastellano.tumblr.com.

Mr. Castellano has over 20 years of experience in equity research and related consulting positions. At PaineWebber, Warburg Dillon Read, and Credit Lyonnais Securities he developed fundamental equity valuation models and conducted in-depth research on the steel and telecom services industries. At Boston Private Value Investors, he built sophisticated screens for stock idea generation and also provided general fundamental equity research coverage. He received a MBA from the F. W. Olin School of Business at Babson College (2005) and a BA from Oberlin College (1993). He is a CFA Level 3 candidate, and is on the Board of Advisors of GovBrain, a political intelligence and government analytics company serving the hedge fund industry.

Mr. Castellano's sell side equity research experience includes consulting with investment banking teams on planned equity, debt, and M&A deals. Consulting projects have included the development of detailed corporate budget and valuation forecasts for clients of the risk management division of a global consulting company, xml-based financial models as well as marketing strategies for a financial data provider, equity research reports for a family office equity portfolio, supply/demand models for a telecom consulting firm, cash burn rate scenarios for a key stakeholder in an iconic food manufacturing company, a budget forecast model for a 250,000 bpd oil refining company, a budget forecast and valuation for a risk management software startup, and due diligence of a potential acquisition of a fast-growing fashion apparel boutique, among others.

Mr. Castellano's career history is highlighted below:

- Ascendere Associates, LLC (2009-Present)
- Boston Private Value Investors , Equity Research, Equity Research Analyst (2005-2009)
- Pyramid Research, Contract Consultant, Telecom Services (2002-2003)
- Credit Lyonnais Securities (USA), Equity Research, Telecom Services, Vice President (2000-2001)
- Warburg Dillon Read, Equity Research, Telecom Services, Research Associate (1999-2000)
- PaineWebber, Equity Research, Steel and Nonferrous Metals, Research Associate, Editor (1995-1999)