



Model Portfolio Monthly Update: May 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 2-5 contain brief commentary and highlights of a few stocks that seem particularly attractive.

Page 6 contains rebalancing actions for our long-only model portfolio.

Page 7 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 May 31, 2017 [abbreviated report](#) and [last month's full report](#).

Commentary

The theoretical **Core Long Model**, composed of high-quality stocks, declined -3.37% in May 2017 versus a +1.18% increase in the S&P 500. Stocks in the theoretical **Core Short Model**, composed of low-quality stocks, declined -3.11% for the assumed equivalent inverse short sale gain of +3.11%. The **Core Long/Short Model** declined by -0.26% for the month ($-3.37\% + 3.11\% = -0.26\%$).

The theoretical **Opportunistic Long Model** declined by -4.08% and the assumed short sale gain of the theoretical **Core Short Model** was +3.11%. The **Opportunistic Long/Short Model** declined by -0.97% ($-4.08\% + 3.11\% = -0.97\%$).

Both the theoretical "Core" and "Opportunistic" portfolios use the same basket of stocks but the Opportunistic model moves to 70% and 100% cash allocations during periods of high volatility or when portfolio return targets are met. The Opportunistic Long Model assumed a 100% cash position at the May 17, 2017 close.

The best and worst long model portfolio stocks for May 2017

Last month we chose **McDonald's Corp. (MCD)** as our favorite long idea, and highlighted **Ulta Beauty, Inc. (ULTA)** and **Norbord Inc. (OSB)** as solid long ideas as well.

The best performing stock in the theoretical long models was **Ulta Beauty, Inc.**, up +8.31% for the month. In second place was **McDonald's Corp.**, with a +7.04% return after achieving its price target on May 24 with an assumed close the next day. **Norbord** declined -8.40% for the month.

The worst performing long idea was **Dycom Industries Inc. (DY)** with a -20.32% return. (Dycom Industries was the best performing model portfolio stock in April 2017 with a +13.67% return).

The best and worst short sale model portfolio stocks for May 2017

In the theoretical short model, the best performing stock was **Neurocrine Biosciences, Inc. (NBIX)**, down -18.60% for the month with an assumed inverse short sale gain of +18.60%. (Neurocrine was the worst performing short sale model portfolio stock in April 2017 with an assumed short sale loss of -23.30%.) The worst performing short sale idea was **Summit Materials, Inc. (SUM)**, which was assumed stopped out at the May 4, 2017 close with an assumed short sale loss of -11.50%.

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.

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. Since March 31, 2017 the S&P 500 has returned 120.74% on a simple cumulative return basis and 202.28% on compounded return basis. Over the same period, the theoretical Core Long Model has returned 180.46% on a simple cumulative return basis and 397.38% on a compounded return basis. 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.

The models are created just prior to the market close each month, but we usually do not publish until after the close due to time constraints.

Looking ahead to June

As noted in our [abbreviated report](#), just prior to the close as of May 31, 2017, we assume 16 stocks have left the long-only model, 16 have been added, and 17 positions have been rebalanced. This 33-stock theoretical long model assumes a 3.03% weight for each stock. The long model portfolios are composed of high-quality stocks.

Short Sale Rebalancing Actions

Just prior to the May 31, 2017 close, we assume that 14 stocks have left the theoretical short-sale model portfolios, 18 have been added, and 6 have been rebalanced. This 24-stock theoretical model portfolio assumes a 4.17% 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 long idea for June 2017

Our favorite long idea this month is **Amkor Technology, Inc. (AMKR)**. We like AMKR primarily for its high positive consensus estimate revisions, an expected transition to positive economic profit by the end of 2017 and the associated expected surge in ROIC. The stock is trading at a very attractive relative value, which indicates the market does not buy into this ROIC momentum story. If investor sentiment changes due to positive news flow or another solid quarter there is a a lot of upside potential for this stock.

Ranking Data as of May 31, 2017

Amkor Technology, Inc.
NasdaqGS:AMKR

Information Technology
Semiconductor Equipment

Ascendere Ranking	Price 05/31/17	11.39	Cash	(614)	EV/LTM EBITDA	4.5
	Shares	239	Debt	1,523	Price/Book	2.0
	Market Cap	2,782	Other	21		
			Enterprise Value	3,711		
5 = Best	Rank					
Relative Value	5					
Operating Momentum	3	CY1 Consensus EPS Est.	\$ 0.68	CY1 PE	16.7	Total Capital \$ 2,932
Analyst Revisions Momm	5	CY2 Consensus EPS Est.	\$ 0.84	CY2 PE	13.6	Debt/Capital 31%
Fundamental Quality	4	Latest Annualized Dividend	\$ -	Div Yield	0.0%	Debt/Enterprise Value 41%

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

NasdaqGS:AMKR	Estimate	Estimate	Estimate	Estimate					
	LTM+4Q	LTM+3Q	LTM +2Q	LTM +1Q	Last LTM	LTM-1	LTM-2	LTM -3	LTM -4
NOPLAT	473	442	370	333	308	300	179	130	121
Economic Charge	372	375	375	379	380	393	355	253	274
Economic Profit	101	66	(5)	(46)	(71)	(93)	(175)	(123)	(153)
Y/Y change	52.4%	-1390.9%	-88.9%	-35.1%	-23.0%	-47.1%	42.3%	-19.4%	26.5%
NOPLAT	473	442	370	333	308	300	179	130	121
Operating Capital	3,085	3,113	3,112	3,146	3,149	3,305	3,367	3,337	3,288
ROIC (NOPLAT / Operating Capital)	15.3%	14.2%	11.9%	10.6%	9.8%	9.1%	5.3%	3.9%	3.7%
NOPLAT	473	442	370	333	308	300	179	130	121
5 Qtr Average Operating Capital	3,114	3,130	3,178	3,242	3,289	3,310	3,367	3,404	3,437
ROIC (NOPLAT / Operating Capital)	15.2%	14.1%	11.6%	10.3%	9.4%	9.1%	5.3%	3.8%	3.5%

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

Our other favorite stock idea is **Louisiana-Pacific Corporation (LPX)**. Operating momentum, as defined by improvements in ROIC, seem likely to continue for another few quarters. Relative value is decent enough to allow further upside, especially if consensus estimate revisions stay positive.

Ranking Data as of May 31, 2017

Louisiana-Pacific Corporation
NYSE:LPX

Materials
Forest Products

Ascendere Ranking	Price 05/31/17	22.26	Cash	(650)	EV/LTM EBITDA	8.1
	Shares	145	Debt	376	Price/Book	2.6
	Market Cap	3,250	Other	-		
5 = Best	Rank		Enterprise Value	2,976		
Relative Value	3					
Operating Momentum	5	CY1 Consensus EPS Est. \$	1.69	CY1 PE	13.2	Total Capital \$ 1,630
Analyst Revisions Mon	4	CY2 Consensus EPS Est. \$	1.74	CY2 PE	12.8	Debt/Capital -17%
Fundamental Quality	5	Latest Annualized Dividend \$	-	Div Yield	0.0%	Debt/Enterprise Value 13%

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

NYSE:LPX	Estimate	Estimate	Estimate	Estimate					
	LTM+4Q	LTM+3Q	LTM +2Q	LTM +1Q	Last LTM	LTM-1	LTM-2	LTM -3	LTM -4
NOPLAT	394	382	353	311	237	187	129	45	(22)
Economic Charge	149	147	143	139	134	134	150	113	116
Economic Profit	245	235	209	172	103	53	(21)	(68)	(139)
Y/Y change	4.2%	12.4%	21.9%	67.2%	94.0%	-353.5%	-69.2%	-51.1%	-28.6%
NOPLAT	394	382	353	311	237	187	129	45	(22)
Operating Capital	1,518	1,495	1,458	1,412	1,362	1,354	1,879	1,408	1,426
ROIC (NOPLAT / Operating Capital)	26.0%	25.6%	24.2%	22.0%	17.4%	13.8%	6.9%	3.2%	-1.6%
NOPLAT	394	382	353	311	237	187	129	45	(22)
5 Qtr Average Operating Capital	1,471	1,432	1,396	1,502	1,486	1,488	1,492	1,392	1,394
ROIC (NOPLAT / Operating Capital)	26.8%	26.7%	25.3%	20.7%	15.9%	12.6%	8.6%	3.3%	-1.6%

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

5/31/2017 Rebalancing					
Core and Opportunistic Long Portfolio:					
33 stocks in the model portfolio = 3.03% weight per position					
Close Position		Hold/Rebalance		Open Position	
Meredith Corporation	MDP	Burlington Stores, Inc.	BURL	H&R Block, Inc.	HRB
Ulta Beauty, Inc.	ULTA	Apollo Global Management, LL	APO	Vipshop Holdings Limited	VIPS
McDonald's Corporation	MCD	Morgan Stanley	MS	The Blackstone Group L.P.	BX
KKR & Co. L.P.	KKR	Bank of America Corporation	BAC	Bristol-Myers Squibb Company	BMY
Federated Investors, Inc.	FII	East West Bancorp, Inc.	EWBC	Anthem, Inc.	ANTM
Nomura Holdings, Inc.	NMR	JPMorgan Chase & Co.	JPM	Agilent Technologies, Inc.	A
Banco Santander, S.A.	SAN	Masco Corporation	MAS	InterDigital, Inc.	IDCC
Cullen/Frost Bankers, Inc.	CFR	The Brink's Company	BCO	Intuit Inc.	INTU
Raymond James Financial, Inc.	RJF	MasTec, Inc.	MTZ	Advanced Energy Industries, Inc.	AEIS
Huntington Ingalls Industries, Inc.	HII	EnerSys	ENS	Amkor Technology, Inc.	AMKR
Dycom Industries, Inc.	DY	Teradyne, Inc.	TER	CDW Corporation	CDW
Valmont Industries, Inc.	VMI	Norbord Inc.	OSB	Teck Resources Limited	TECK
HP Inc.	HPQ	Steel Dynamics, Inc.	STLD	ArcelorMittal	MT
Facebook, Inc.	FB	Nucor Corporation	NUE	Trinseo S.A.	TSE
Eagle Materials Inc.	EXP	Cabot Corporation	CBT	Louisiana-Pacific Corporation	LPX
CoreCivic, Inc.	CXW	Worthington Industries, Inc.	WOR	Telecom Italia S.p.A.	TI
		RLJ Lodging Trust	RLJ		
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.

5/31/2017 Rebalancing					
Core and Opportunistic Short Portfolio:					
24 stocks in the model portfolio = 4.17% weight per position					
Close Position		Hold/Rebalance		Open Short Sale	
Boyd Gaming Corporation	BYD	John Wiley & Sons, Inc.	JW.A	Mattel, Inc.	MAT
PBF Energy Inc.	PBF	Under Armour, Inc.	UA	Liberty Broadband Corporation	LBRD.A
Encana Corporation	ECA	The Medicines Company	MDCO	Hess Corporation	HES
Willis Towers Watson Public Lim	WLTW	Nektar Therapeutics	NKTR	CIT Group Inc.	CIT
American International Group, Inc	AIG	ZTO Express (Cayman) Inc.	ZTO	Incyte Corporation	INCY
Kite Pharma, Inc.	KITE	Autodesk, Inc.	ADSK	Jacobs Engineering Group Inc.	JEC
Ultragenyx Pharmaceutical Inc.	RARE			Genesee & Wyoming Inc.	GWR
Neurocrine Biosciences, Inc.	NBIX			Sensata Technologies Holding N.V.	ST
ACADIA Pharmaceuticals Inc.	ACAD			John Bean Technologies Corporation	JBT
Penumbra, Inc.	PEN			Ritchie Bros. Auctioneers Incorporated	RBA
Flowserve Corporation	FLS			Splunk Inc.	SPLK
Qorvo, Inc.	QRVO			Guidewire Software, Inc.	GWRE
Summit Materials, Inc.	SUM			Snap Inc.	SNAP
CF Industries Holdings, Inc.	CF			Workday, Inc.	WDAY
				PTC Inc.	PTC
				Tableau Software, Inc.	DATA
				Agrium Inc.	AGU
				The Mosaic Company	MOS
Source: Ascendere Associates LLC					

Return Data

Core & Opportunistic Long Model					MTD			
4/30/2017 to 5/31/2017							Target/	Date+1
Sector	Company	Ticker	4/30/2017	5/31/2017	Performance	Stop Date	Sell Price	Return
Consumer Discretionary	Ulta Beauty, Inc.	ULTA	281.44	304.84	8.31%			
Consumer Discretionary	McDonald's Corp.	MCD	139.93	150.89	7.83%	5/24/2017	\$ 149.78	7.04%
Industrials	The Brink's Company	BCO	61.40	63.10	2.77%			
Financials	Apollo Global Management, LLC	APO	26.77	27.03	0.97%			
Financials	East West Bancorp Inc.	EWBC	54.27	54.73	0.85%			
Information Technology	Facebook, Inc.	FB	150.25	151.46	0.81%			
Information Technology	Teradyne Inc.	TER	35.27	35.55	0.79%			
Industrials	Masco Corp.	MAS	37.02	37.25	0.62%			
Financials	Banco Santander, S.A.	SAN	6.52	6.54	0.31%			
Information Technology	HP Inc.	HPQ	18.82	18.76	-0.32%			
Financials	Nomura Holdings Inc.	NMR	6.04	5.99	-0.83%			
Financials	Federated Investors Inc.	FII	26.82	26.56	-0.97%			
Consumer Discretionary	Burlington Stores, Inc.	BURL	98.92	97.85	-1.08%			
Materials	Eagle Materials Inc.	EXP	95.97	94.30	-1.74%			
Industrials	Huntington Ingalls Industries, Inc.	HII	200.89	195.81	-2.53%			
Financials	Cullen/Frost Bankers, Inc.	CFR	94.39	91.66	-2.89%			
Financials	KKR & Co. L.P.	KKR	18.98	18.42	-2.95%			
Financials	Raymond James Financial Inc.	RJF	74.52	72.27	-3.02%			
Materials	Worthington Industries, Inc.	WOR	43.50	41.97	-3.52%			
Financials	Morgan Stanley	MS	43.37	41.74	-3.76%			
Industrials	Valmont Industries, Inc.	VMI	152.35	146.40	-3.91%			
Industrials	MasTec, Inc.	MTZ	44.15	42.40	-3.96%			
Financials	Bank of America Corporation	BAC	23.34	22.41	-3.98%			
Materials	Nucor Corp.	NUE	61.33	58.10	-5.27%			
Real Estate	RLJ Lodging Trust	RLJ	21.49	20.35	-5.30%			
Financials	JPMorgan Chase & Co.	JPM	87.00	82.15	-5.57%			
Materials	Steel Dynamics Inc.	STLD	36.14	33.99	-5.95%			
Consumer Discretionary	Meredith Corp.	MDP	58.55	54.10	-7.60%			
Materials	Norbord Inc.	OSB	31.07	28.46	-8.40%			
Industrials	EnerSys	ENS	83.11	74.06	-10.89%			
Materials	Cabot Corporation	CBT	60.19	52.23	-13.22%			
Real Estate	CoreCivic, Inc.	CXW	34.45	28.75	-16.55%			
Industrials	Dycom Industries Inc.	DY	105.66	84.19	-20.32%			

Ascendere Associates LLC

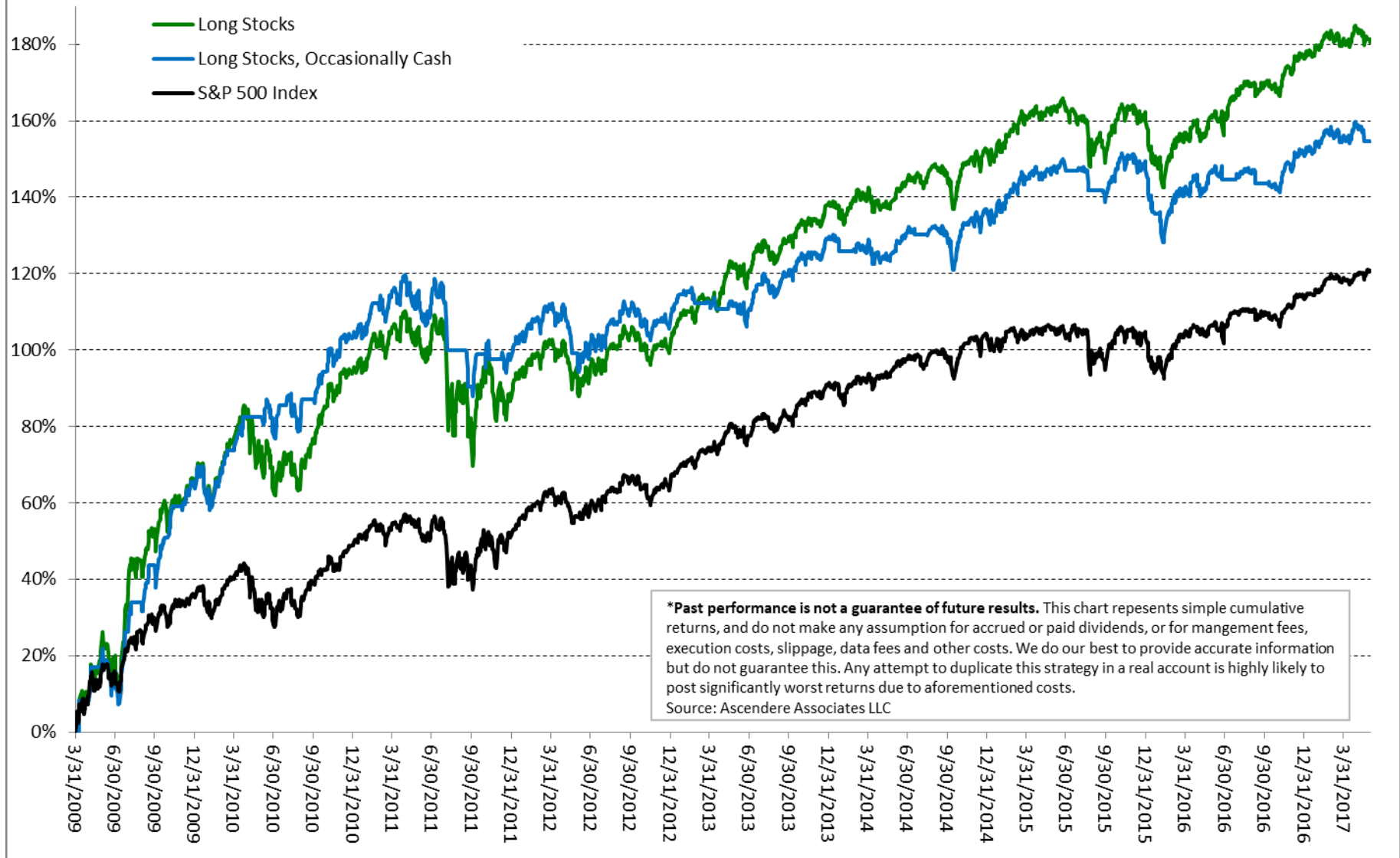
Core & Opportunistic Short Model				MTD					
4/30/2017 to 5/31/2017									
Sector	Company	Ticker	4/30/2017	5/31/2017	Performance	Target/ Stop Date	Date+1 Sell Price	Return	
Healthcare	Acadia Pharmaceuticals Inc.	ACAD	34.33	25.71	-25.11%	5/10/2017	\$ 28.80	-16.11%	
Healthcare	Medicines Co.	MDCO	49.32	39.77	-19.36%	5/17/2017	\$ 43.39	-12.02%	
Healthcare	Neurocrine Biosciences, Inc.	NBIX	53.40	43.47	-18.60%	5/31/2017	NA		
Healthcare	Ultragenyx Pharmaceutical Inc.	RARE	64.39	53.85	-16.37%	5/30/2017	\$ 53.85	-16.37%	
Energy	PBF Energy Inc.	PBF	22.32	19.32	-13.44%	5/30/2017	\$ 19.32	-13.44%	
Healthcare	Kite Pharma, Inc.	KITE	82.08	72.32	-11.89%				
Energy	EnCana Corp.	ECA	10.70	9.72	-9.16%				
Consumer Discretionary	Under Armour, Inc.	UA	19.41	17.83	-8.14%				
Industrials	Flowserve Corp.	FLS	50.87	48.50	-4.66%				
Consumer Discretionary	John Wiley & Sons Inc.	JW-A	52.70	50.70	-3.80%				
Healthcare	Penumbra, Inc.	PEN	85.45	82.85	-3.04%				
Materials	CF Industries Holdings, Inc.	CF	26.74	26.90	0.60%				
Industrials	ZTO Express (Cayman) Inc.	ZTO	13.93	14.29	2.58%				
Financials	American International Group, Inc.	AIG	60.91	63.63	4.47%	5/26/2017	\$ 63.55	4.33%	
Materials	Summit Materials, Inc.	SUM	25.66	26.86	4.68%	5/3/2017	\$ 28.61	11.50%	
Healthcare	Nektar Therapeutics	NKTR	18.97	19.88	4.80%				
Financials	Willis Towers Watson Public Limited C	WLTW	132.62	146.63	10.56%	5/4/2017	\$ 144.20	8.73%	
Consumer Discretionary	Boyd Gaming Corp.	BYD	22.68	25.41	12.04%	5/9/2017	\$ 24.85	9.57%	
Information Technology	Qorvo, Inc.	QRVO	68.03	77.95	14.58%	5/16/2017	\$ 72.54	6.63%	
Information Technology	Autodesk, Inc.	ADSK	90.07	111.77	24.09%	5/10/2017	\$ 95.41	5.93%	

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	Theoretical Model Portfolio* 05/31/17	MTD	YTD	Since 03/31/09	Sharpe
Simple Returns (No Compounding)					
Stock Targets	Core Model				
	Long	-3.37%	4.34%	180.5%	0.99
	Short	-3.11%	1.59%	66.1%	0.40
	Core Long/Short	-0.26%	2.75%	114.4%	0.90
Stock Targets and Portfolio Targets	Opportunistic Model				
	Long	-4.08%	3.63%	154.5%	1.09
	Short	-3.11%	5.72%	-3.4%	(0.03)
	Opportunistic Long/Short	-0.97%	-2.10%	157.9%	1.28
Stock Targets and Portfolio Targets	Opportunistic Model III				
	Long Stocks	-4.08%	3.63%	154.5%	1.09
	Long Inverse ETF ^SH	-1.36%	-4.75%	-84.7%	(0.78)
	Opportunistic Long/Short III	-5.44%	-1.13%	69.8%	0.67
	S&P 500 Index	1.18%	7.54%	120.74%	0.93

* 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.

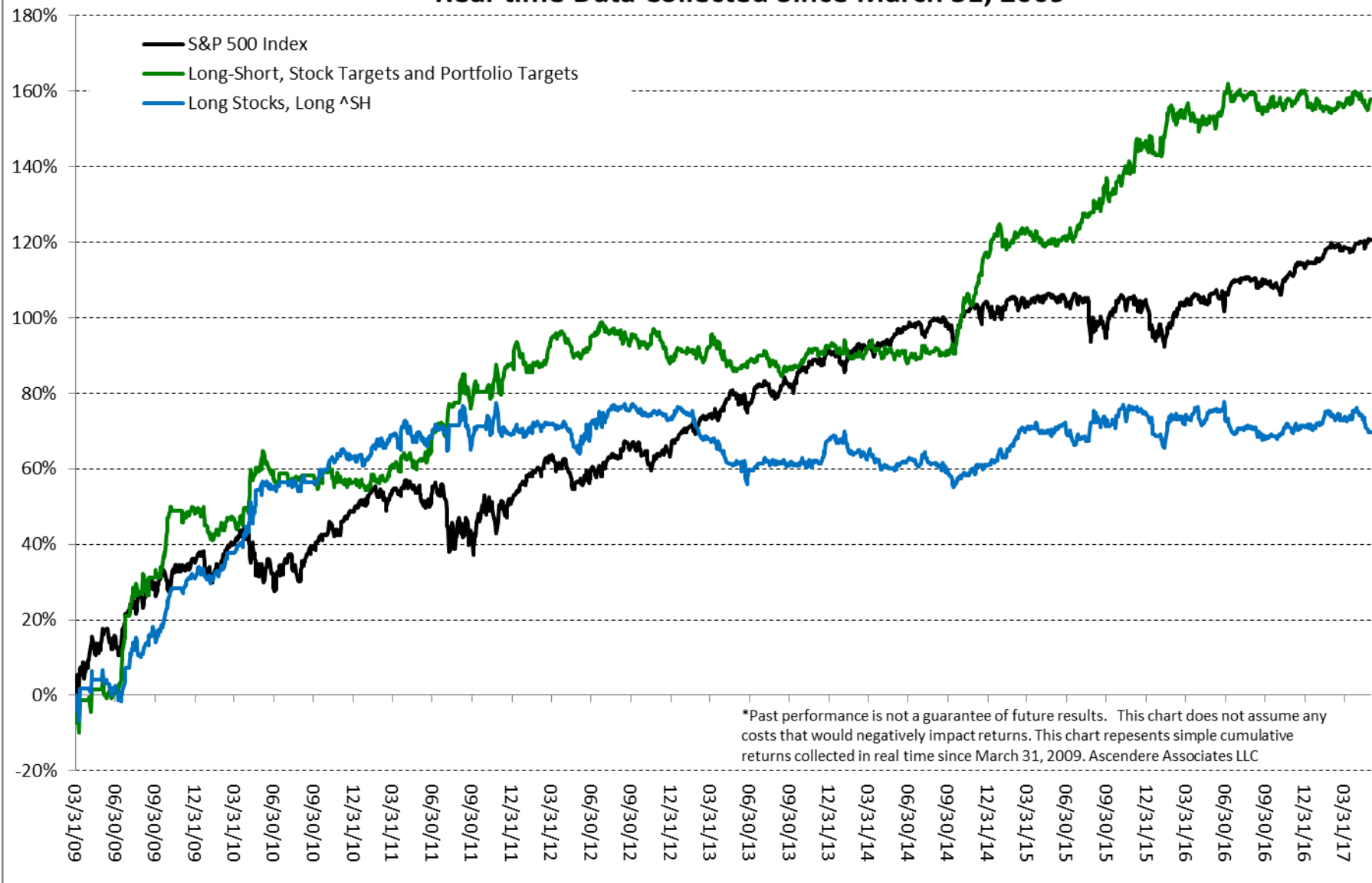
Simple Returns -- Long Theoretical Model Portfolios vs S&P 500 Total Return Index Real-time Data Collected Since March 31, 2009



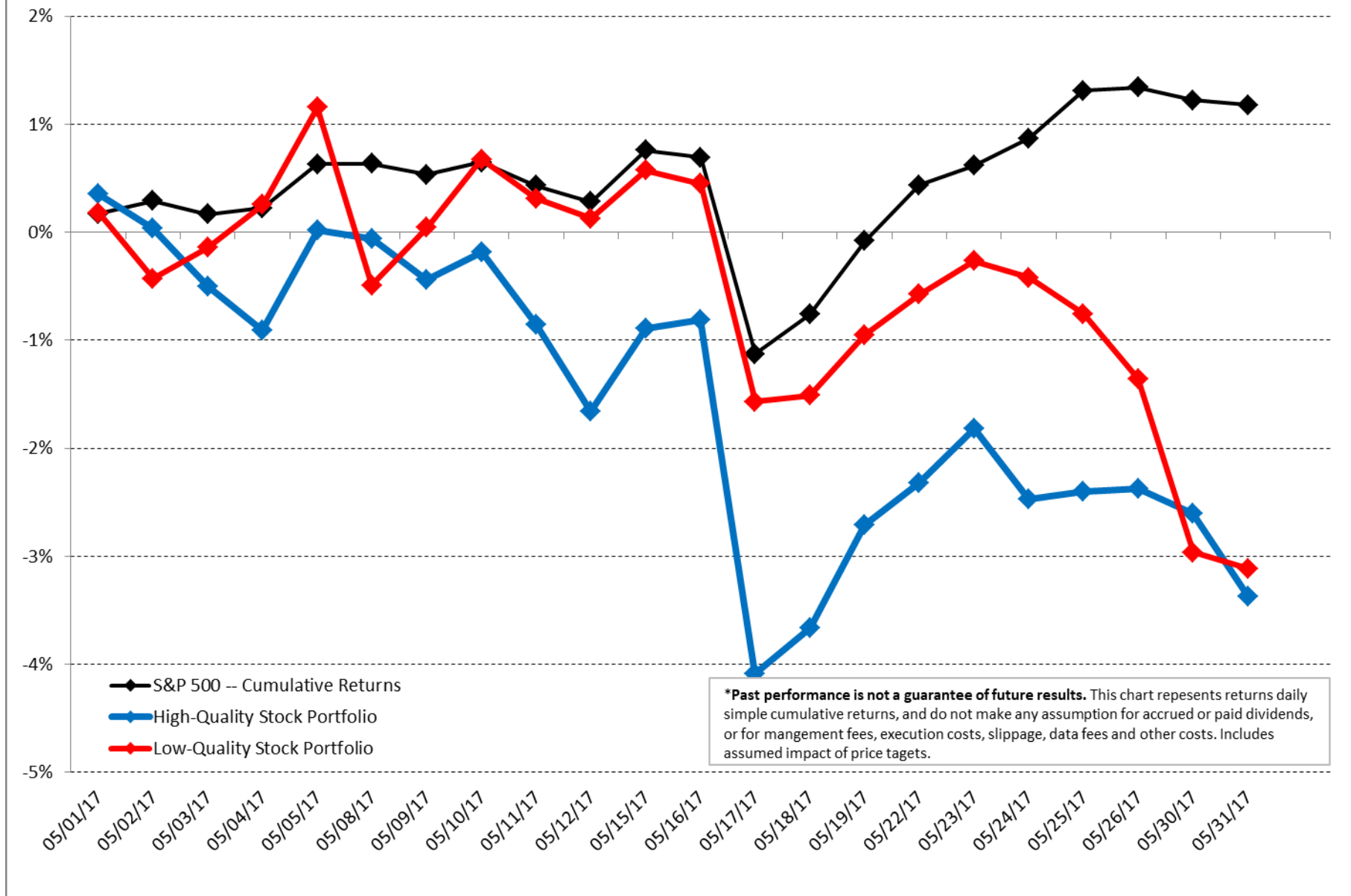
"Theoretical Dollar Neutral" Strategies

Simple Cumulative Returns

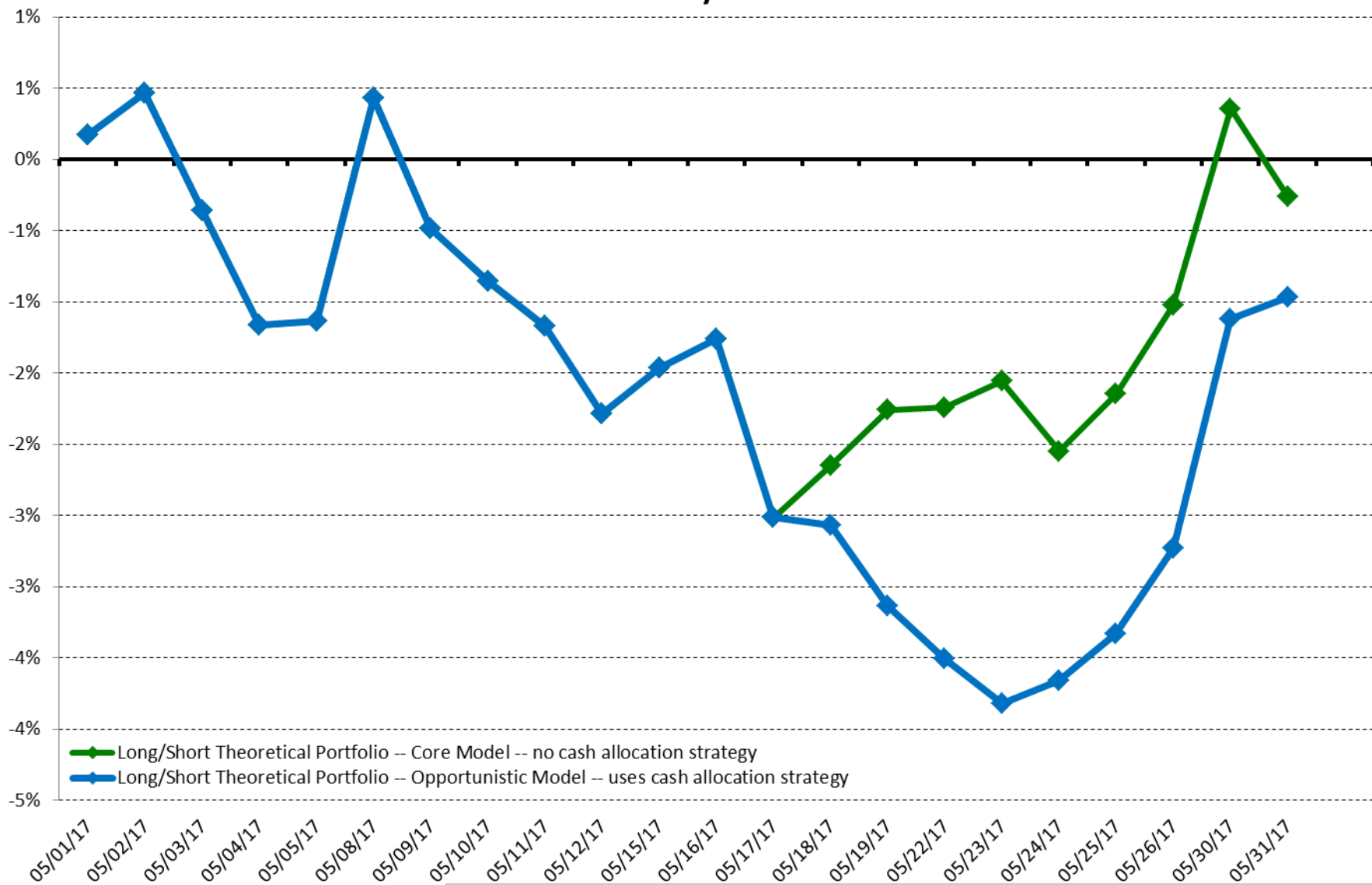
Real-time Data Collected Since March 31, 2009



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



Theoretical Long/Short Model Portfolio Returns May 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
5/31/2017	Theoretical	Theoretical	Theoretical	Theoretical	
Simple Returns					
Today	-0.76%	0.00%	0.15%	0.09%	-0.05%
MTD	-3.37%	-4.08%	-0.97%	-5.44%	1.18%
YTD	4.34%	3.63%	-2.10%	-1.13%	7.54%
Cumulative from 3/31/2009	180.46%	154.51%	157.93%	69.78%	120.74%
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	1.39%	1.09%	0.94%	0.79%	0.99%
Daily Return/Standard Deviation	6.30%	6.93%	8.13%	4.28%	5.93%
Average 90-Day T-bill	1.19%	1.19%	1.19%	1.19%	1.19%
Annualized Daily Returns	22.12%	18.94%	19.36%	8.55%	14.80%
Annualized Standard Deviation	22.1%	17.2%	15.0%	12.6%	15.7%
Sharpe Ratio	0.95	1.03	1.21	0.58	0.87
Percentage Down Days	45.4%	35.7%	43.1%	45.2%	45.3%
Average Daily Downside Value	-0.99%	-0.87%	-0.65%	-0.53%	-0.70%
Daily Downside Deviation	-1.05%	-0.89%	-0.61%	-0.55%	-0.76%
Daily VAR of 1000 at 95% Conf	-22	-17	-15	-13	-16
Benchmark Relative Risk					
Correlation	0.90	0.70	(0.04)	0.05	
R-Squared	0.82	0.49	0.00	0.00	
Daily Tracking Error	0.65%	0.81%	1.40%	1.24%	
Regression					
Beta	1.27	0.77	-0.04	0.04	
Daily Alpha	0.029%	0.016%	0.018%	-0.025%	
Jensen's Daily Alpha	0.037%	0.013%	-0.001%	-0.001%	
Trading Days	2056	2056	2056	2056	
*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					

DISCLOSURES

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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)