# **Innovative Long/Short Equity Research**



## Model Portfolio Monthly Update: August 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 2-7 contain brief commentary and highlights of a few stocks that seem particularly attractive.

Page 8 contains rebalancing actions for our long-only model portfolio.

Page 9 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 <u>instablog</u> or on <u>Tumblr</u>. This report is a follow-up to our July 31, 2017 <u>abbreviated report and last month's full report</u>.

## **Commentary**

#### **Core Model**

The theoretical **Core Long Model** portfolio finished August 2017 down -0.01%, versus the **S&P 500** up +0.09% and the **SPDR S&P 500 ETF (SPY)** up +0.33%.

Stocks in the theoretical **Core Short Model** portfolio finished down -5.06% for the assumed inverse short sale gain of +5.06%.

The theoretical **Core Long/Short Model** portfolio finished up +5.05% (-0.01% +5.06% = 5.05%), ahead of the **Barclay Equity Long/Short Index** average of +1.24%. This index has collected return data on 165 hedge funds for August so far, compared to the return data it has collected from 409 hedge funds in July.

For the year through August 31, on a simple cumulative return basis, the Core Long Model is up +10.44% versus the S&P 500 up +10.07%.

### **Opportunistic Model**

The theoretical Opportunistic Long Model portfolio assumed a 100% cash position at the August 10 close, and will remain that way through at least September 15. Just prior to the close on September 15, it is expected to assume a 70% stock/30% cash position. The **Opportunistic Long/Short Model** finished August 2017 up +2.83%.

#### **Theoretical long stock returns for August 2017**

Our favorite long idea for August was **Facebook**, **Inc. (FB)**. The stock finished the month up +1.61%. The best performing stock in the long model for August was **Stamps.com Inc. (STMP)**, which reached its price target on August 3 and was assumed closed the next day for a return of +42.64%. The worst performing stock in the long model was **MasTec**, **Inc. (MTZ)**, down +11.69% for the month.

On August 18 we published our <u>deeper look</u> into **Dollar General Corp (DG)**, which was in the model portfolio. We had suspected DG might be a good long-term idea because it held up very well during the August 10 market volatility. We learned that the company is in the process of digesting acquisitions and refurbishing stores, and has increased the compensation of its managers. Once it demonstrates

operating efficiencies from all these measures, which most likely won't occur for at least two quarters, we think the stock could rapidly appreciate to the \$80-86 level. Meanwhile, we expect little volatility in the stock either on the upside or on the downside. DG finished the month down -3.46%.

#### Theoretical short sale stock returns for August 2017

The best short sale idea for August was **Nektar Therapeutics (NKTR)**, which declined -16.35% through August 11 when the position was assumed closed for the inverse short sale gain of +16.35%.

The worst short sale idea for August was **Kite Pharma, Inc (KITE)**. This stock position hit a stop loss on August 14 and was assumed closed the next day a short sale loss of -16.96%. This stock continued to move higher and finished the month up +64.18%. This is not the first time we have seen low-quality stock prices to move higher following a stop loss trigger, so it is worth taking a special look of at these kind of stocks – low-quality stocks that exceed their short-sale stop loss levels -- as potential long ideas.

#### **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.

In most cases 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 for the balance September 2017

#### **Long Portfolio Rebalancing Actions**

As noted in our <u>abbreviated report</u>, we assume that just prior to the September 8, 2017 close that 14 stocks have left the long-only model, 12 have been added, and 19 positions have been rebalanced. This 31-stock theoretical long model assumes a 3.23% weight for each stock. The long model portfolios are composed of high-quality stocks.

#### **Short Sale Portfolio Rebalancing Actions**

We also assume that just prior to the September 8, 2017 close that 13 stocks have left the theoretical short-sale model portfolios, 11 have been added, and 9 have been rebalanced. This 20-stock theoretical model portfolio assumes a 5.00% 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 idea for the balance of September 2017 is Yum! Brands, Inc. (YUM).

YUM has been in the model portfolio since July 5. While we try to highlight our favorite ideas from new stocks to the model portfolio, none of them seem as compelling as YUM. This stock has held up well during bouts of recent volatility, the forecast surge in ROIC is far greater relative to other model portfolio stocks.

### Ranking Data as of September 8, 2017

Yum! Brands, Inc. Consumer Discretionary

NYSE: YUM Restaurants

Ascendere Ranking		Price 09/10/17	76.48	Cash	(973)	EV/LTM EBITDA	14.9
		Shares	345	Debt	9,849	Price/Book	(4.3)
_		Market Cap	26,368	Other			
5 = Best	Rank			Enterprise Value	35,244		
Relative Value	4						
Operating Momentum	3	CY1 Consensus EPS Est.	\$ 2.82	CY1 PE	27.1	Total Capital	\$ 3,747
Analyst Revisions Mom	4	CY2 Consensus EPS Est.	\$ 3.18	CY2 PE	24.0	Debt/Capital	237%
Fundamental Quality	4	Latest Annualized Dividend	\$ 1.73	Div Yield	1.8%	Debt/Enterprise Value	28%

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

NYSE:YUM	Estimate	<b>Estimate</b>	<b>Estimate</b>	<b>Estimate</b>					
	LTM+4Q	LTM+3Q	LTM +2Q	LTM +1Q	Last LTM	LTM-1	LTM-2	LTM -3	LTM -4
NOPLAT	1,571	1,553	1,502	1,524	1,736	1,723	1,538	1,296	1,070
Economic Charge	518	521	522	517	517	527	536	1,045	1,106
Economic Profit	1,053	1,032	980	1,007	1,219	1,196	1,002	251	(36)
Y/Y change	2.0%	5.3%	-2.7%	-17.4%	1.9%	19.3%	299.5%	-795.9%	-32.2%
NOPLAT	1,571	1,553	1,502	1,524	1,736	1,723	1,538	1,296	1,070
Operating Capital	4,598	4,620	4,631	4,586	4,591	4,628	4,779	9,434	9,294
ROIC (NOPLAT / Operating Capital)	34.2%	33.6%	32.4%	33.2%	37.8%	37.2%	32.2%	13.7%	11.5%
NOPLAT	1,571	1,553	1,502	1,524	1,736	1,723	1,538	1,296	1,070
5 Qtr Average Operating Capital	4,609	4,607	4,609	4,646	6,545	7,531	8,434	9,438	9,494
ROIC (NOPLAT / Operating Capital)	34.1%	33.7%	32.6%	32.8%	26.5%	22.9%	18.2%	13.7%	11.3%
Source: Ascendere Associates assumption	ons and estimate	s, and S&P Cap	ital IQ data an	d consensus es	stimates.				

### 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**

9/8/2017 Rebalancing					
Core and Opportunistic Long I	Portfolio:				
31 stocks in the model portfolio =	= 3.23% weig	th per position			
Close Position		Hold/Rebalance		Open Position	
Dollar General Corporation	DG	Yum! Brands, Inc.	YUM	Burlington Stores, Inc.	BURL
KKR & Co. L.P.	KKR	Evercore Inc.	EVR	Kohl's Corporation	KSS
Morgan Stanley	MS	First Horizon National Corpora	t FHN	LVMH Moët Hennessy Louis Vuitton	S LVMU.Y
East West Bancorp, Inc.	EWBC	Cathay General Bancorp	CATY	Peabody Energy Corporation	BTU
Home Bancshares, Inc. (Conway HOMB Raymond James Financial,		Raymond James Financial, Inc	RJF	Allison Transmission Holdings, Inc.	ALSN
The PNC Financial Services Grou	PNC	SVB Financial Group	SIVB	Cirrus Logic, Inc.	CRUS
Bristol-Myers Squibb Company	BMY	Agilent Technologies, Inc.	Α	YY Inc.	YY
Amgen Inc.	AMGN	Masimo Corporation	MASI	CDW Corporation	CDW
ManpowerGroup Inc.	MAN	Celgene Corporation	CELG	Alphabet Inc.	GOOG
Graco Inc.	GGG	MasTec, Inc.	MTZ	Ansys, Inc.	ANSS
InterDigital, Inc.	IDCC	EMCOR Group, Inc.	EME	Arista Networks, Inc.	ANET
Stamps.com Inc.	STMP	Valmont Industries, Inc.	VMI	Teck Resources Limited	TECK
Trinseo S.A.	TSE	Advanced Energy Industries, In	AEIS		
Worthington Industries, Inc.	WOR	Vishay Intertechnology, Inc.	VSH		
		Facebook, Inc.	FB		
		Norbord Inc.	OSB		
		Louisiana-Pacific Corporation	LPX		
		Cabot Corporation	CBT		
		United States Steel Corporation	o X	Source: Ascendere A	ssociates LL

# **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.

9/8/2017 Rebalancing					
Core and Opportunistic Short I	Portfolio:				
20 stocks in the model portfolio =	5.00% weig	ht per position			
Close Position		Hold/Rebalance		Open Short Sale	
Vail Resorts, Inc.	MTN	Under Armour, Inc.	UAA	Adient plc	ADNT
Penske Automotive Group, Inc.	PAG	MetLife, Inc.	MET	DISH Network Corporation	DISH
Liberty Broadband Corporation	LBRD.A	Kite Pharma, Inc.	KITE	Voya Financial, Inc.	VOYA
National Oilwell Varco, Inc.	NOV	Jacobs Engineering Group Inc.	JEC	Sage Therapeutics, Inc.	SAGE
Allergan plc	AGN	ZTO Express (Cayman) Inc.	ZTO	Agios Pharmaceuticals, Inc.	AGIO
Ultragenyx Pharmaceutical Inc.	RARE	Flowserve Corporation	FLS	Penumbra, Inc.	PEN
Nektar Therapeutics	NKTR	Alliance Data Systems Corpor	ADS	Univar Inc.	UNVR
The Medicines Company	MDCO	PTC Inc.	PTC	Fluor Corporation	FLR
Ritchie Bros. Auctioneers Incorpo	RBA	The Mosaic Company	MOS	MACOM Technology Solutions Holding	MTSI
Johnson Controls International ple	JCI	·		Integrated Device Technology, Inc.	IDTI
Cree, Inc.	CREE			ViaSat, Inc.	VSAT
Symantec Corporation	SYMC				
Agrium Inc.	AGU			Source: Ascendere As	sociates LL0

# **Return Data**

<b>Core &amp; Opportur</b>	nistic Long Model				MTD			
7/31/2017 to 8/31/2017								
						Target/	Date+1	
Sector	Company	Ticker	7/31/2017	8/31/2017	Performance	Stop Date	Sell Price	Return
Information Technology	Stamps.com Inc.	STMP	148.10	191.25	29.14%	8/3/2017		42.64%
Materials	United States Steel Corp.	Χ	23.49	26.61	13.28%			
Healthcare	Agilent Technologies Inc.	Α	59.79	64.72	8.25%	8/31/2017	NA	
Healthcare	Bristol-Myers Squibb Co.	BMY	56.90	60.48	6.29%			
Industrials	ManpowerGroup Inc.	MAN	107.15	111.51	4.07%			
Healthcare	Celgene Corporation	CELG	135.41	138.93	2.60%			
Healthcare	Amgen Inc.	AMGN	174.51	177.77	1.87%			
Consumer Discretionary	Yum! Brands Inc.	YUM	75.48	76.82	1.78%			
Information Technology	Facebook, Inc.	FB	169.25	171.97	1.61%			
Materials	Louisiana-Pacific Corp.	LPX	25.11	25.48	1.47%			
Information Technology	Advanced Energy Industries, Inc.	AEIS	72.55	73.54	1.36%			
Industrials	Graco Inc.	GGG	116.04	115.51	-0.46%			
Information Technology	Vishay Intertechnology Inc.	VSH	17.85	17.70	-0.84%			
Financials	First Horizon National Corp.	FHN	17.43	17.21	-1.26%			
Materials	Worthington Industries, Inc.	WOR	50.67	49.96	-1.40%			
Financials	KKR & Co. L.P.	KKR	19.38	19.01	-1.91%			
Information Technology	InterDigital, Inc.	IDCC	72.85	71.35	-2.06%			
Industrials	EMCOR Group Inc.	EME	67.50	66.04	-2.16%			
Financials	PNC Financial Services Group Inc.	PNC	128.80	125.41	-2.63%			
Financials	East West Bancorp Inc.	EWBC	56.98	55.37	-2.83%			
Materials	Norbord Inc.	OSB	35.46	34.43	-2.90%			
Financials	Morgan Stanley	MS	46.90	45.50	-2.99%			
Materials	Cabot Corporation	CBT	54.33	52.68	-3.04%			
Consumer Discretionary	Dollar General Corp.	DG	75.16	72.56	-3.46%			
Financials	Evercore Partners Inc.	EVR	78.65	75.45	-4.07%			
Materials	Trinseo S.A.	TSE	70.30	66.90	-4.84%			
Financials	SVB Financial Group	SIVB	178.44	169.34	-5.10%			
Financials	Cathay General Bancorp	CATY	37.45	35.27	-5.82%			
Financials	Raymond James Financial Inc.	RJF	83.19	78.32	-5.85%			
Industrials	Valmont Industries, Inc.	VMI	152.70	143.55	-5.99%			
Financials	Home Bancshares, Inc. (Conway, AR)	HOMB	24.80	23.31	-6.01%			
Healthcare	Masimo Corporation	MASI	94.60	84.38	-10.80%			
Industrials	MasTec, Inc.	MTZ	46.20	40.80	-11.69%			

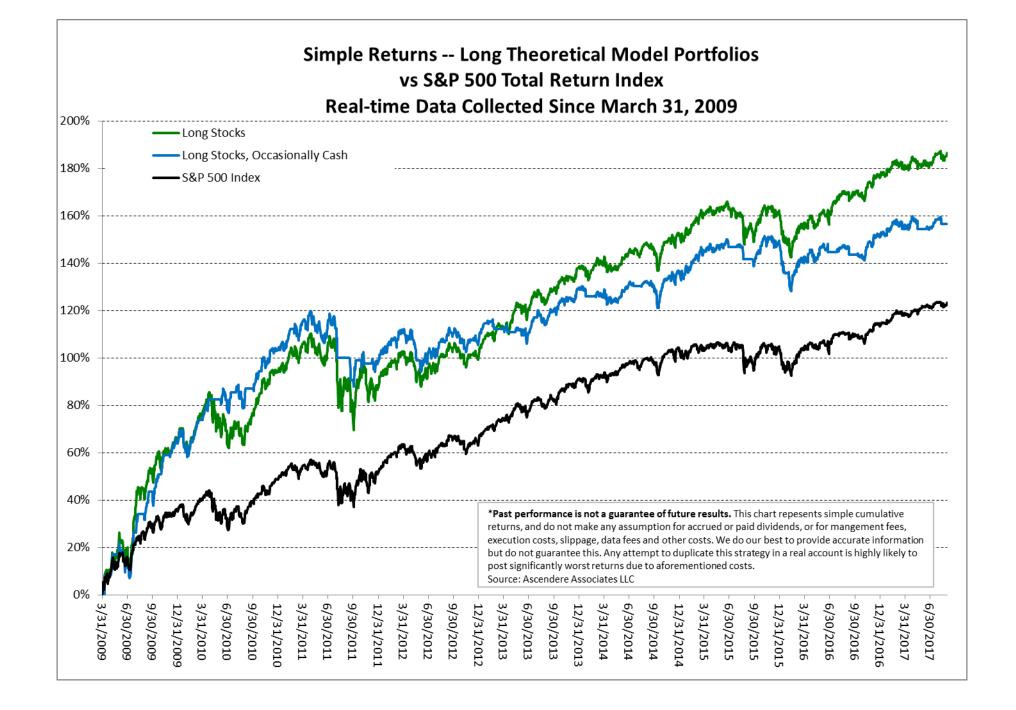
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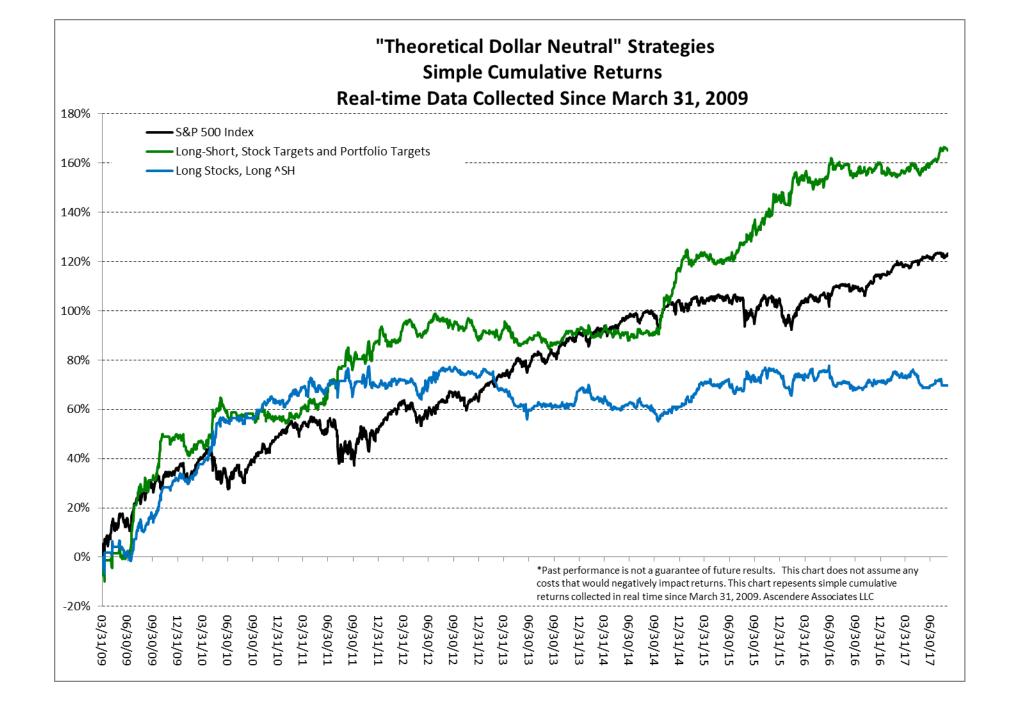
Core & Opportui	nistic Short Model				MTD			
7/31/2017 to 8/31/2017								
						Target/	Date+1	
Sector	Company	Ticker	7/31/2017	8/31/2017	Performance	Stop Date	Sell Price	Return
Consumer Discretionary	Under Armour, Inc.	UAA	20.02	16.15	-19.33%	8/17/2017	\$ 17.12	-14.49%
Materials	Mosaic Co.	MOS	24.14	19.98	-17.23%	8/8/2017	\$ 21.26	-11.93%
Financials	MetLife, Inc.	MET	55.00	46.83	-14.85%	8/7/2017	\$ 48.77	-11.33%
Healthcare	Ultragenyx Pharmaceutical Inc.	RARE	66.32	57.06	-13.96%	8/18/2017	\$ 56.91	-14.19%
Healthcare	Allergan plc	AGN	252.33	229.48	-9.06%	8/8/2017	\$ 237.97	-5.69%
Industrials	ZTO Express (Cayman) Inc.	ZTO	14.98	13.65	-8.88%	8/11/2017	\$ 13.67	-8.74%
Information Technology	Alliance Data Systems Corporation	ADS	241.43	225.50	-6.60%	8/14/2017	\$ 226.45	-6.20%
Energy	National Oilwell Varco, Incorporated	NOV	32.71	30.67	-6.24%			
Information Technology	Cree Inc.	CREE	25.91	24.33	-6.10%	8/9/2017	\$ 22.80	-12.00%
Healthcare	Medicines Co.	MDCO	38.45	36.69	-4.58%			
Industrials	Flowserve Corp.	FLS	41.13	39.28	-4.50%			
Healthcare	Nektar Therapeutics	NKTR	21.83	21.03	-3.66%	8/10/2017	\$ 18.26	-16.35%
Information Technology	Symantec Corporation	SYMC	30.99	29.98	-3.26%	8/8/2017	\$ 28.60	-7.71%
Consumer Discretionary	Penske Automotive Group, Inc.	PAG	43.54	42.36	-2.71%	8/17/2017	\$ 39.70	-8.82%
Materials	Agrium Inc.	AGU	100.10	98.04	-2.06%			
Information Technology	PTC Inc.	PTC	55.19	56.00	1.47%			
Industrials	Johnson Controls International plc	JCI	38.95	39.59	1.64%			
Consumer Discretionary	Liberty Broadband Corporation	LBRDA	98.92	101.43	2.54%			
Industrials	Jacobs Engineering Group, Inc.	JEC	52.72	54.49	3.36%	8/21/2017	\$ 50.87	-3.51%
Industrials	Ritchie Bros. Auctioneers Incorporated	RBA	28.23	29.74	5.35%			
Consumer Discretionary	Vail Resorts Inc.	MTN	210.76	227.95	8.16%	8/16/2017	\$ 219.55	4.17%
Healthcare	Kite Pharma, Inc.	KITE	108.41	177.99	64.18%	8/14/2017	\$ 126.80	16.96%

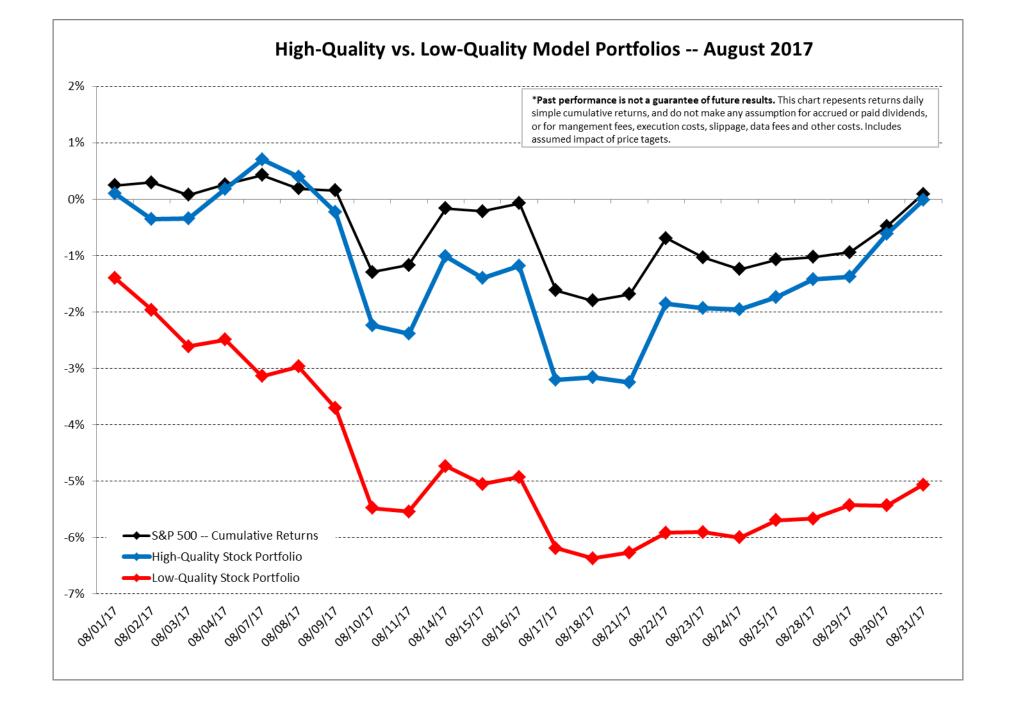
**Ascendere Associates LLC** 

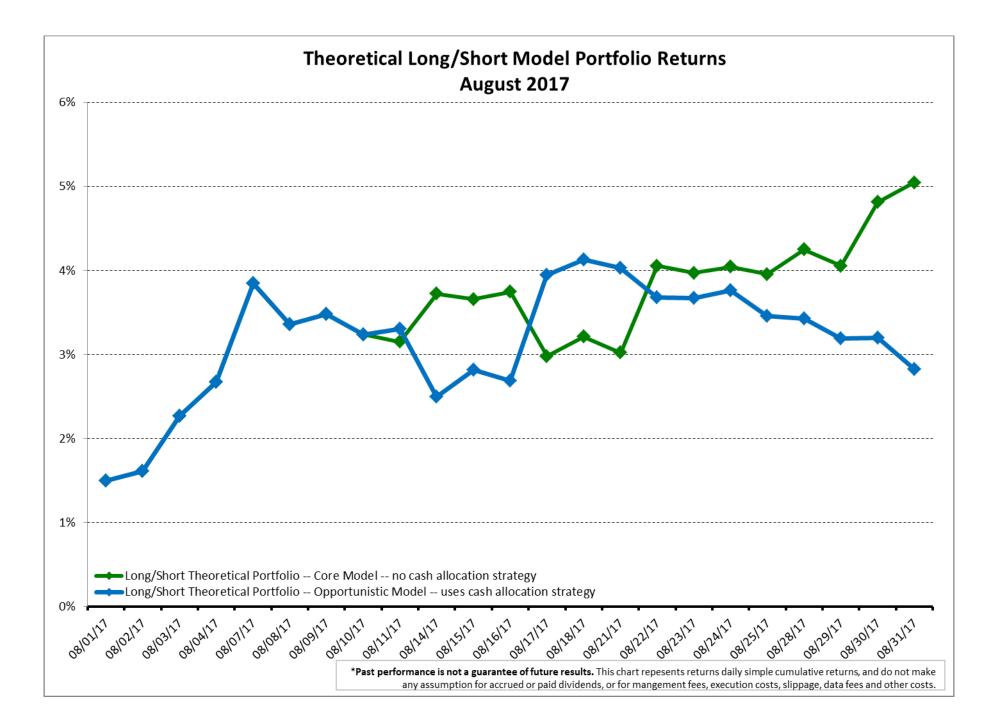
				Since	
	Theoretical Model Portfolio* 08/31/17 Simple Returns (No Compounding)	MTD	YTD	03/31/09	Sharpe
Stock Targets	Core Model				
	Long	-0.01%	10.44%	186.6%	1.01
	Short	-5.06%	-3.57%	60.9%	0.36
	Core Long/Short	5.05%	14.01%	125.6%	0.97
Stock Targets and	Opportunistic Model				
Portfolio Targets	Long	-2.24%	5.79%	156.7%	1.09
	Short	-5.06%	0.56%	-8.6%	(0.06)
	Opportunistic Long/Short	2.83%	5.23%	165.3%	1.31
Stock Targets and	Opportunistic Model III				
Portfolio Targets	Long Stocks	-2.24%	5.79%	156.7%	1.09
	Long Inverse ETF ^SH	-0.18%	-7.00%	-87.0%	(0.79)
	Opportunistic Long/Short III	-2.42%	-1.21%	69.7%	0.65
	<b>S&amp;P 500 Index</b>	0.09%	10.07%	123.32%	0.93

<sup>\*</sup> 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.









			"Dollar	"Dollar	
	Core	Opportunistic	Neutral" 1	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
8/31/2017	Theoretical	Theoretical	Theoretical	Theoretical	
Simple Returns					
Today	0.60%	0.00%	-0.37%	0.00%	0.57%
MTD	-0.01%	-2.24%	2.83%	-2.42%	0.09%
YTD	10.44%	5.79%	5.23%	-1.21%	10.07%
Cumulative from 3/31/2009	186.56%	156.67%	165.26%	69.69%	123.32%
Absolute Risk					
Daily Average	0.09%	0.07%	0.08%	0.03%	0.06%
Daily Range	16.86%	15.84%	11.84%	12.00%	11.40%
Daily Standard Deviation	1.38%	1.07%	0.94%	0.78%	0.98%
Daily Return/Standard Deviation	6.39%	6.90%	8.33%	4.19%	5.93%
Average 90-Day T-bill	1.18%	1.18%	1.18%	1.18%	1.18%
Annualized Daily Returns	22.17%	18.61%	19.63%	8.28%	14.65%
Annualized Standard Deviation	21.9%	17.0%	14.8%	12.4%	15.6%
Sharpe Ratio	0.96	1.03	1.24	0.57	0.86
Percentage Down Days	45.4%	35.4%	43.2%	44.9%	45.4%
Average Daily Downside Value	-0.97%	-0.86%	-0.64%	-0.52%	-0.69%
Daily Downside Deviation	-1.04%	-0.88%	-0.61%	-0.55%	-0.75%
Daily VAR of 1000 at 95% Conf	-22	-17	-15	-13	-16
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%	0.79%	1.39%	1.22%	
Regression					
Beta	1.28	0.77	-0.05	0.05	
Daily Alpha	0.030%	0.016%	0.020%	-0.025%	
Jensen's Daily Alpha	0.038%	0.012%	-0.001%	-0.001%	
Trading Days	2121	2121	2121	2121	
*Returns calculated by the simple return meth	od (not compounded).				
* Portfolio models are theoretical and assume	no costs.				
* Data collected in real time since 3/31/2009					
Source: 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 <a href="mailto:jstephencastellano.tumblr.com">jstephencastellano.tumblr.com</a>.

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)