



Quantitative Equity Selection Investment Strategy

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Investment Philosophy

The importance of quantitative equity analysis has grown steadily since the Financial Crisis. Computer-driven trading algorithms account for over 85% of order flow on the NYSE. These algos trade mainly off price technicals that accentuate price trends well beyond what company fundamentals would dictate.

Fundamental company analysis alone has, at the same time, become less influential in predicting stock price trends, during both bull and bear markets.

Achieving absolute portfolio returns today therefore requires careful attention to numerous quantitative indicators and chart analysis.



Investment Philosophy

Investing in “the market” (an S&P 500 index fund) implies having exposure to both “bad” companies and “good” companies.

The strategy also screens companies based on our quantitative fundamental rankings. By weeding out the “bad” companies with the poorest growth prospects and most excessive valuations, we increase the odds of selecting winning stocks.

Stock price break-outs and trends also have a higher probability of persisting if tangible fundamental reasons for buying the company are present.



Investment Philosophy

Information is not diffused equally to all market participants, but all company news (public and private) is embedded in the stock price.

In fast-moving financial markets it is essential to avoid being dogmatic about a company's stock price outlook, therefore limiting the risk of holding on for large losses.

Avoid digging up the flowers and watering the weeds: the QES cuts losing positions quickly and lets the winners run.



Investment Philosophy

A stock selection focused on companies highly ranked by Thomson Reuters' ESG (Environment, Social, Governance) criteria.

Over the long-term ESG companies should tend to perform better than the market:

- How companies treat all their stakeholders will impact their long-term success or failure,
- Managers attentive to ESG factors are necessarily engaging in long-term thinking.
- Demand factors: environment and social issues resonate with Millennials,



WMA Quantitative Fundamental Scores

Using leading financial data providers, we compile fundamental data for nearly 5,000 global companies.

From this raw company data, we calculate our Fundamental Scores for each company.

Using advanced mathematical techniques, we create a 0-100 diffusion index for thirteen distinct criteria in order to evaluate each company.



WMA Quantitative Fundamental Scores

Growth-related Fundamental scores

- Growth
 - Y/Y Forecasted Next Year Sales/Current Year Sales
 - Y/Y Forecasted Next Year EPS/Current Year EPS
- EPS Revisions
 - 3-month consensus revision % change (for current year & next year's EPS) & 6-week revisions for current quarter
- Sales Revisions
 - 3-month consensus revision % change (for current year & next year's Sales) & 6-week revisions for current quarter
- Price-to-Earnings Growth (PEG)
 - In-house calculation using consensus P/E's and our aggregate firm growth rate.



WMA Quantitative Fundamental Scores

Valuation-related Fundamental scores

- Valuation
 - Consensus Est. Enterprise Value-to-EBITBA
 - Consensus Est. Enterprise Value-to-Sales
- Price-to-Earnings
 - Estimated P/E for Current Year
 - Estimated P/E for Next Year
- Market Cap / EBITDA
- Price/Book Value
 - Current P/BV relative 5-Year Historical Mean P/BV
- Price-to-Earnings
 - Current P/E relative 5-Year Historical Mean P/E



WMA Quantitative Fundamental Scores

Yield-related Fundamental scores

- Yield
 - Indicated Dividend Yield
 - Dividend growth rate
- Financial Situation
 - Total Debt-to-Total Equity
 - EBITDA-to-Interest Expense
 - Net Debt-to-EBITDA
 - Cash Flow-to-Total Liabilities
- Profitability
 - Estimated Net Income-to-Sales
 - Estimated EBITDA-to-Sales

WMA Quantitative Fundamental Scores

Fundamental Scores Example: Apple (AAPL)

WMA Global Rankings for Apple						
AAPL	Growth	PEG	EPS Revisions	Revenue Revisions	Valuation	PER
Scores:	52.3	41.9	48.8	48.3	48.3	48.4
Rank:	2905	2606	2235	2211	3046	2631
Percentile:	30.2%	25.2%	44.6%	42.9%	37.8%	37.4%

WMA Sector Rankings for Apple						
AAPL	Growth	PEG	EPS Revisions	Revenue Revisions	Valuation	PER
Scores:	51.6	45.2	49.1	48.3	51.4	50.5
Rank:	511	395	349	362	396	276
Percentile:	14.8%	23.4%	40.4%	38.4%	44.9%	54.4%

P/E Spread	MV/ EBITDA	Book Value	Yield	Profitability	Financials	Consensus
40.1	46.6	39.7	28.5	72.7	60.0	52.3
2076	3054	4313	1879	1156	1928	1987
16.3%	24.3%	13.9%	23.6%	75.8%	61.6%	53.7%

P/E Spread	MV/ EBITDA	Book Value	Yield	Profitability	Financials	Consensus
37.6	51.4	41.8	28.1	85.3	45.2	52.3
273	291	557	114	83	532	333
16.5%	50.7%	22.6%	40.3%	88.5%	26.4%	46.3%



Fundamental Company Selection

- Using our Quantitative Fundamental Scores, we define three thematic groups of companies: Growth, Valuation, Yield.
 - **Growth companies** score high in EPS and Sales growth rates, have strong, positive earnings revisions, yet trade at reasonable valuations according to our PEG ratio score.
 - **Valuation companies** offer attractive enterprise value-to-sales (EBITDA) scores, rank high in our P/E metric, and tend to trade cheaply relative to their 5-year historical mean P/E's and P/BV's.
 - **Yield companies** offer high dividend yields relative to sector peers and are growth their dividend. These companies must be profitable and have strong Financial scores (healthy balance sheets).

Fundamental Company Selection

Each week we update our quantitative Fundamental Allocation Model containing over 5000 companies listed on New York exchanges. The model signals companies that rank highly in each thematic category.

U.S. Exchanges Composite Listing					WMA Total Market Fundamental Allocation Model										
May 2, 2020															
Company	Ticker	Div Yld	Beta	Risk	Cluster	Cnty	Sector	Cap	1-May-20	24-Apr-20	17-Apr-20	10-Apr-20	3-Apr-20	27-Mar-20	
1-800-Flowers.Com Inc	FLWS		1.3	5	Growth	US	Consr Disc	Small	BUY	BUY	BUY	BUY	SELL	SELL	
500.com Ltd	WBAI		1.0	3		CN	Consr Disc	Small	SELL	SELL	SELL	SELL	SELL	SELL	
9F Inc	JFU		0.2	1		CN	Consr Disc	Small	SELL	SELL	SELL	SELL	HOLD	HOLD	
Aaron's, Inc.	AAN	0.5%	0.9	2		US	Consr Disc	Small	SELL	SELL	SELL	SELL	SELL	SELL	
Abercrombie & Fitch Co.	ANF	7.6%	1.2	3		US	Consr Disc	Small	SELL	SELL	SELL	SELL	SELL	SELL	
Acorn International Inc	ATV	4.4%	0.5	2		CN	Consr Disc	Small	SELL	SELL	SELL	SELL	SELL	SELL	
Acushnet Holdings Corp	GOLF	2.1%	0.9	2		US	Consr Disc	Small	BUY	SELL	SELL	SELL	HOLD	HOLD	
Adidas	ADDYY	1.6%	1.0	1		DE	Consr Disc	Large	SELL	SELL	SELL	SELL	SELL	SELL	
Adient PLC	ADNT		1.7	5		US	Consr Disc	Small	SELL	SELL	SELL	SELL	SELL	SELL	
Adtalem Global Education Inc	ATGE		0.8	2		US	Consr Disc	Small	SELL	SELL	SELL	SELL	SELL	SELL	
Advance Auto Parts, Inc.	AAP	0.4%	0.8	1	Growth	US	Consr Disc	Mid	SELL	SELL	SELL	SELL	SELL	SELL	
Afya Ltd	AFYA		1.1	4		BZ	Consr Disc	Small	SELL	SELL	SELL	SELL	SELL	SELL	
Altice USA Inc	ATUS		1.0	3		US	Consr Disc	Large	HOLD	BUY	BUY	SELL	HOLD	SELL	
Amazon.com	AMZN		1.1	4		US	Consr Disc	Large	BUY	BUY	BUY	BUY	BUY	BUY	
AMC Entertainment Holdings Inc	AMC	12.8%	1.3	3	Value	US	Consr Disc	Small	SELL	SELL	SELL	SELL	SELL	SELL	
AMC Networks Inc	AMCX		0.9	1	Value	US	Consr Disc	Small	SELL	SELL	SELL	SELL	SELL	SELL	
American Axle & Manufact. Holdings, Inc.	AXL		1.9	5	Value	US	Consr Disc	Small	SELL	SELL	SELL	SELL	SELL	SELL	
American Eagle Outfitters	AEO	6.9%	1.1	2	Yield	US	Consr Disc	Small	SELL	SELL	SELL	SELL	SELL	SELL	
American Outdoor Brands Corp	AOBC		0.8	3	Growth	US	Consr Disc	Small	BUY	BUY	BUY	SELL	HOLD	HOLD	
American Public Education, Inc.	APEI		0.8	2		US	Consr Disc	Small	BUY	SELL	SELL	SELL	SELL	SELL	
America's Car-Mart, Inc.	CRMT		1.1	3	Growth	US	Consr Disc	Small	SELL	SELL	SELL	SELL	SELL	SELL	



Daily Equity Trading Model

The core of our QES Strategy is actively aligning our portfolio with the Daily Equity Trading Model.

The Model provides enormous information in a concise manner for active managing an equity portfolio, including:

- Absolute Trend Scores
- Relative Trend Scores
- Weekly Trend Analysis
- Over-bought / over-sold alerts.
- Detection of positive/negative price divergences
- Break-out alerts
- Trading algorithm Buy/Sell alerts

Daily Equity Trading Model

Watch List					WMA Daily Equity Trading Model														
					Sells: 242	Top two lines per security are Relative / Bottom two lines are Absolute													
May 4, 2020					Buy: 20	--- Upper lines (1 & 3): short-term / Lower lines (2 & 4): medium-term ---													
TOP RANKED ESG COMPANIES	Cty	Sec tor	Ticker	Pos	Reversal Alerts ----- Oversld Bounce	1-May	30-Apr	29-Apr	28-Apr	27-Apr	24-Apr	23-Apr	22-Apr	21-Apr	20-Apr	Weekly	RSI	Break Outs	CLV's: 1-day 5-day 21-day 63-day
El Pollo LoCo Holdings Inc	US	Cd	LOCO	0.0%		Over	Over	Over	Over	Accum	Over	Over	Over	Over	Accum	Rising		↑↑	8%
						Over	Over	Over	Over	Equal	Equal	Equal	Equal	Equal	Equal				46%
						BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY				72%
						BUY	HOLD	BUY	HOLD	HOLD	HOLD	HOLD	HOLD	SELL	SELL				62%
Eldorado Resorts Inc	US	Cd	ERI	0.0%		Accum	Accum	Accum	Equal	Equal	Equal	Under	Under	Under	Equal	Falling			-65%
						Reduce	Reduce	Reduce	Under	Under	Under	Under	Under	Under	Under				-77%
						BUY	BUY	BUY	BUY	HOLD	HOLD	SELL	SELL	SELL	SELL				26%
						SELL	SELL	SELL	SELL	SELL	SELL	SELL	SELL	SELL	SELL				-60%
Entercom Communications Corp.	US	Cd	ETM	0.0%		Equal	Equal	Equal	Equal	Equal	Reduce	Under	Under	Under	Under	Falling		↓	-100%
						Under	Under	Under	Under	Under	Under	Under	Under	Under	Under				-100%
						SELL	SELL	HOLD	HOLD	HOLD	HOLD	SELL	SELL	SELL	SELL				-14%
						SELL	SELL	SELL	SELL	SELL	SELL	SELL	SELL	SELL	SELL				-84%
Expedia Inc	US	Cd	EXPE	0.0%		Accum	Accum	Accum	Accum	Equal	Equal	Equal	Reduce	Under	Under	Falling	⬇		-49%
						Reduce	Reduce	Reduce	Reduce	Under	Under	Under	Under	Under	Under				-82%
						BUY	BUY	BUY	BUY	BUY	BUY	HOLD	HOLD	SELL	SELL				39%
						SELL	SELL	SELL	SELL	SELL	SELL	SELL	SELL	SELL	SELL				-36%
Express, Inc.	US	Cd	EXPR	0.0%		Equal	Equal	Reduce	Under	Under	Under	Under	Under	Under	Under	Falling			38%
						Under	Under	Under	Under	Under	Under	Under	Under	Under	Under				-27%
						HOLD	HOLD	HOLD	HOLD	SELL	SELL	SELL	SELL	SELL	SELL				-2%
						SELL	SELL	SELL	SELL	SELL	SELL	SELL	SELL	SELL	SELL				-62%
Extended Stay America Inc	US	Cd	STAY	0.0%		Over	Over	Over	Over	Over	Over	Over	Over	Over	Over	Falling			-32%
						Equal	Equal	Equal	Reduce	Reduce	Reduce	Reduce	Reduce	Reduce	Reduce				-29%
						BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY				70%
						SELL	SELL	SELL	SELL	SELL	SELL	SELL	SELL	SELL	SELL				36%
Farfetch Ltd	GB	Cd	FTCH	0.0%		Over	Over	Over	Over	Over	Over	Over	Over	Over	Over	Neutral		Div Neg	-48%
						Over	Over	Over	Over	Over	Over	Over	Over	Over	Over				46%

A vertical blue-tinted image on the left side of the slide. It features a grid pattern with various data points and percentages. Visible text includes '38.2%: 119.29', '51.25%: 108.98', and '61.6%: 99.19'. There are also some candlestick-like patterns and a curved line graph overlaid on the grid.

Portfolio Construction

Equal-weight portfolio of up to 25 companies (4% weight in any single stock).

U.S. and foreign companies with shares trading on NY.

Open to all market capitalizations (large, mid, and small caps).

In changing market conditions, no investment style will always outperform. As such we maintain a balanced allocation between growth/value/yield fundamentally and a mix between contrarian dip-buys and momentum stock relative outperformers on the technical side.

As a non-benchmarked portfolio, the QES over-weights recommended sectors in our DGR Macro Model and may have no allocation to out-of-favor sectors.



Risk Management

Single position allocations are limited to 4% of portfolio value

The Daily Equity Trading Model automatically instills a strict sell discipline. We don't ride losers down, even if the Street "likes" the company fundamentals.

The QES only invests in liquid stocks on the New York exchanges. All positions can be closed immediately near fair market value.

In an absolute return strategy, cash may be an allocation. The strategy will not be fully invested if conditions do not warrant.



Historical Performance

- The proforma historical performance since inception (Jan 2017) thru April 2020 shows the QES portfolio gained +54.8% vs. +11.0% for the S&P 500 Equal-Weight, while the QES annualized volatility was of 12.3% vs. 18.8% for the index.





Manager

Owen Williams, CFA, DBA

Owen has more than 20 years experience in the markets. After serving five years as the international economist and bond strategist at Ned Davis Research, he has, since 2004, actively managed multi-strategy portfolios within Swiss private banks. Beginning in 2010, Dr. Williams began sharing his allocation modelling methodologies in private client accounts, launching Williams Market Analytics, LLC as independent financial advisory.

Owen holds an International MBA in finance from the Moore School of Business at the University of South Carolina, as well as a Doctorate in finance from the Grenoble Ecole de Management. He is also a CFA charter holder.





Investment Vehicles

Three investment alternatives are possible:

1. Professional investors can find the strategy on the Foliofn platform (Manager Exchange).
2. Segregated Managed Accounts (SMAs) at Interactive Brokers (IB) for all investor types.
3. White label portfolios for institutions or regular email alerts with real-time trades for individual traders.

For further information on account set-up for new investors, contact us at

info@williamsmarketanalytics.com