Investing Made Easy

- **BUFFETT**
  without The Bother
- **LYNCH**
  without the Legwork
- **GRAHAM**
  without the Grind
- **FISHER**
  without the Fuss
- **DREMAN**
  without the Dreamin'
- **GREENBLATT**
  without the Grrrr…
- **NEFF**
  without the Nonsense
- **O'SHAUGNESSY**
  without the O'Sh*!
- **ZWEIG**
  without the Zweat
- **MOTLEY FOOL**
  without the Mess

VALIDEA

A few quick questions…

- How many of you have heard of factor-based investing strategies?

A few quick questions…

- How many of you want to know which popular ratios and metrics, such as P/E, earnings growth rate, ROE, and debt level, etc. are best to use in selecting a stocks?

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A few quick questions…

- How many of you have given up on stock picking and moved most of your portfolio to passive, index funds?

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Factor-based Investing Inspired by Wall Street Greats like Lynch & Buffett

John P. Reese, Founder & CEO

Equity Research

Validea.com

Asset Management

Validea Capital Management

Digital Advisory

Validea Legends Advisor

Exchange Traded Funds

Validea Funds

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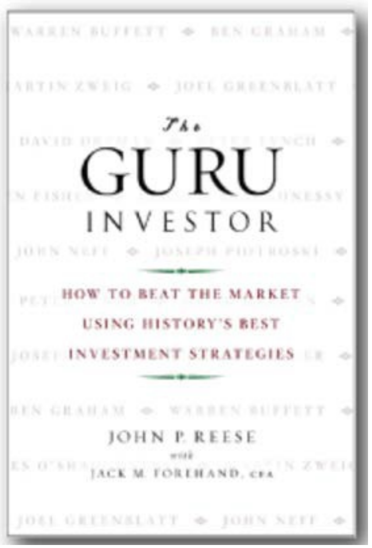
My Story…



- MIT/Harvard Business School
- MIT's Artificial Intelligence Lab set the stage
- Sold successful technology business to GE Capital
- In mid 90's began extensive research into personal investing
- Founded Validea.com in late 90s
- Granted two patents for automated stock analysis
- Breakthrough—model portfolios developed in 2003
- Authored two books on guru strategies and systematic based investing—**The Market Gurus** (2001) & **The Guru Investor** (2009)
- Founded Validea Capital (2004) to manage money in this system
- Launched Validea's first ETF in late 2014 and managed a set of Canadian mutual funds for over 9 years.
- Launched a new digital advisor, Validea Legends Advisor, for only 0.25% per year advisory and trading fee.

What is Factor-based Investing

“Factor”

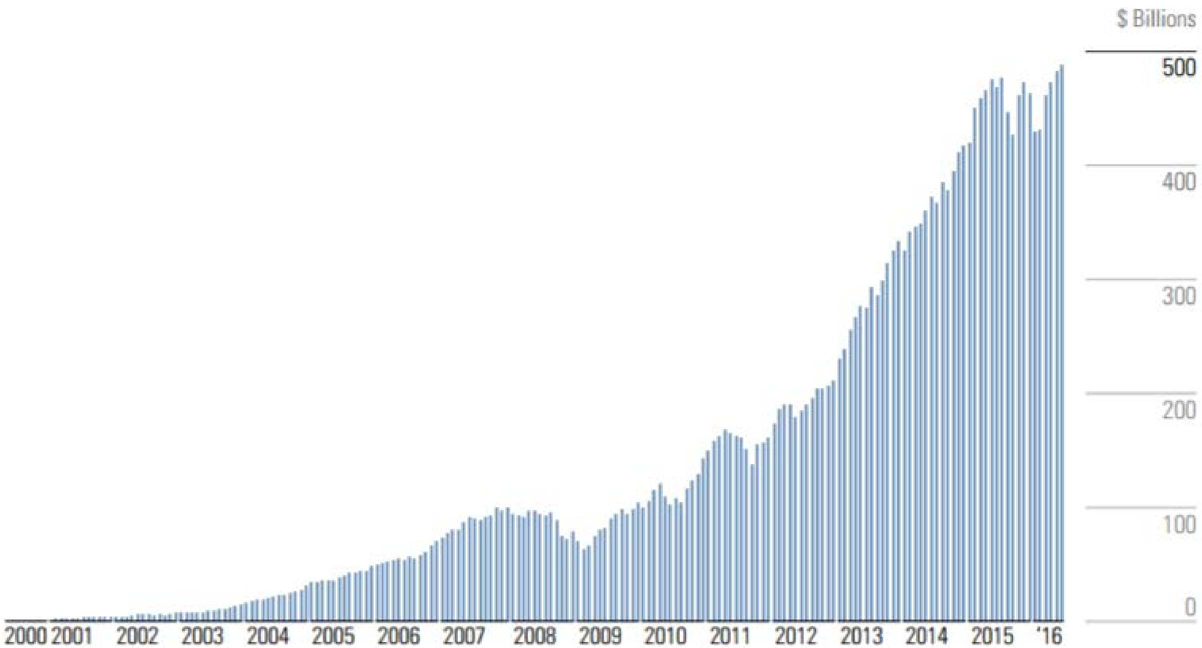
“A factor is a characteristic or set of characteristics that both explains performance & provides an above-market return”

Factors Allow Investors to Think Differently About Diversification
by Larry Swedroe
AAII Journal, April 2017

How Big is Factor-based Investing?

- BlackRock Projects Smart Beta ETF Assets Will Reach $1 Trillion Globally by 2020, and $2.4 Trillion by 2025

Exhibit 2 United States Strategic-Beta ETP Asset Growth



Source: Morningstar Direct, Morningstar Research. Data as of 6/30/16.

Evolution of Factors

- Many factors have come from academic research
- Factors have been developed over time.

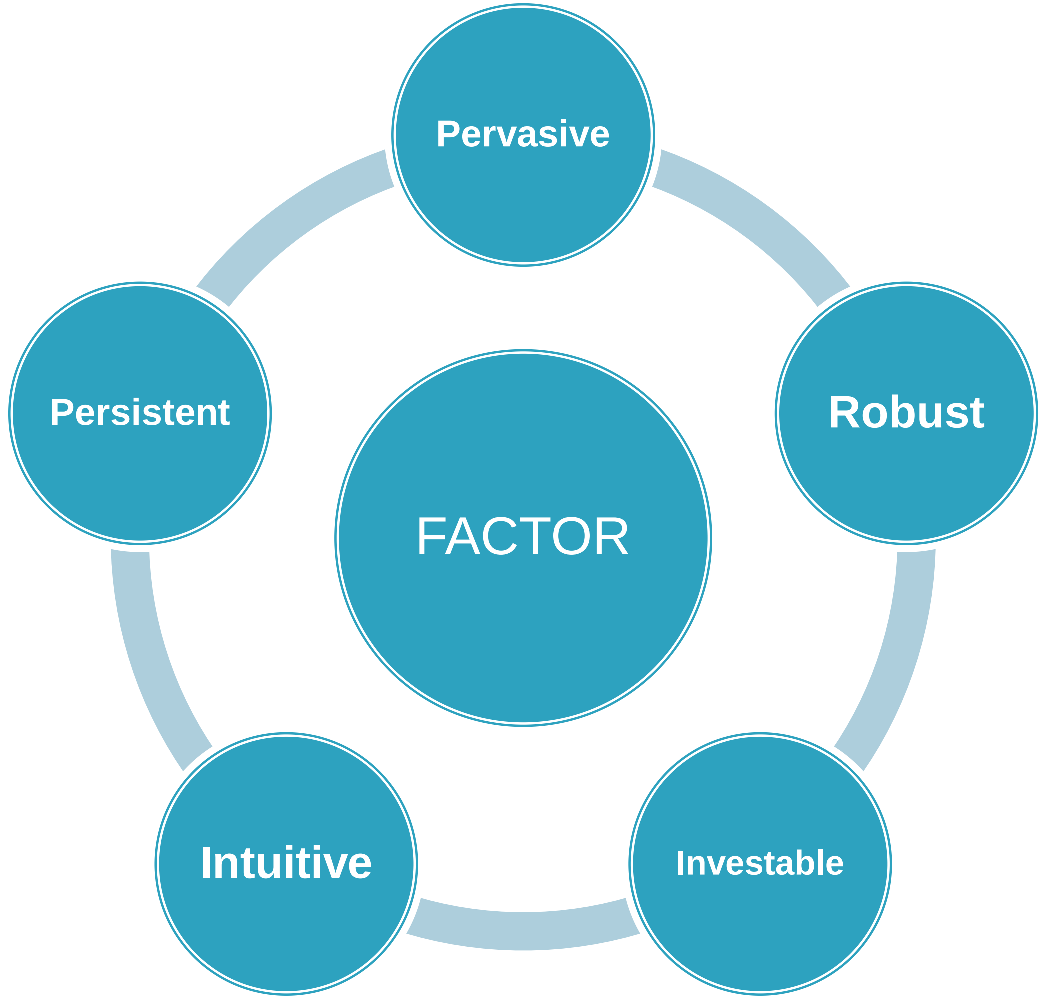
Development of Factor Investing

Year	Research or Development
1934	Graham & Dodd acknowledge quality premium in Security Analysis
1964	Bill Sharpe defines “alpha” & “beta” in “Capital Asset Pricing Model” (CAPM)
1981	Banz identifies size premium in “The Relationship between Returns and Market Value of Common Stocks”
1992	Fama French three factor model, “The Cross Section of Expected Stock Returns”
1993	Jegadees & Titman show momentum premium in “Returns to Buying Winners and Selling Losers”

Development of Factor Investing

Year	Research or Development
1997	James O'Shaughnessy publishes “What Works on Wall Street” – shows simple quantitative strategies deliver long term outperformance
2003	John Reese publishes multi-factor “guru models” on Web
2005	Arnott & Moore write “Fundamental Indexation” showing fundamentally weighted index provide superior risk adjusted returns vs. cap-weighted
2005	First “Smart beta” products come to market.
2014	Fama French five factor model introduces profitability and investment factors

A Factor is a Factor When …



Factors Allow Investors to Think Differently About Diversification
by Larry Swedroe
AAII Journal, April 2017

Five Academic Factors Explain Most Performance

1. Beta: low vol stocks generally outperform
2. Size: smaller cap stocks generally outperform
3. Value: value stocks generally outperform
4. Momentum: strong momentum generally outperforms
5. Quality/Profitability: profitable firms generally outperform

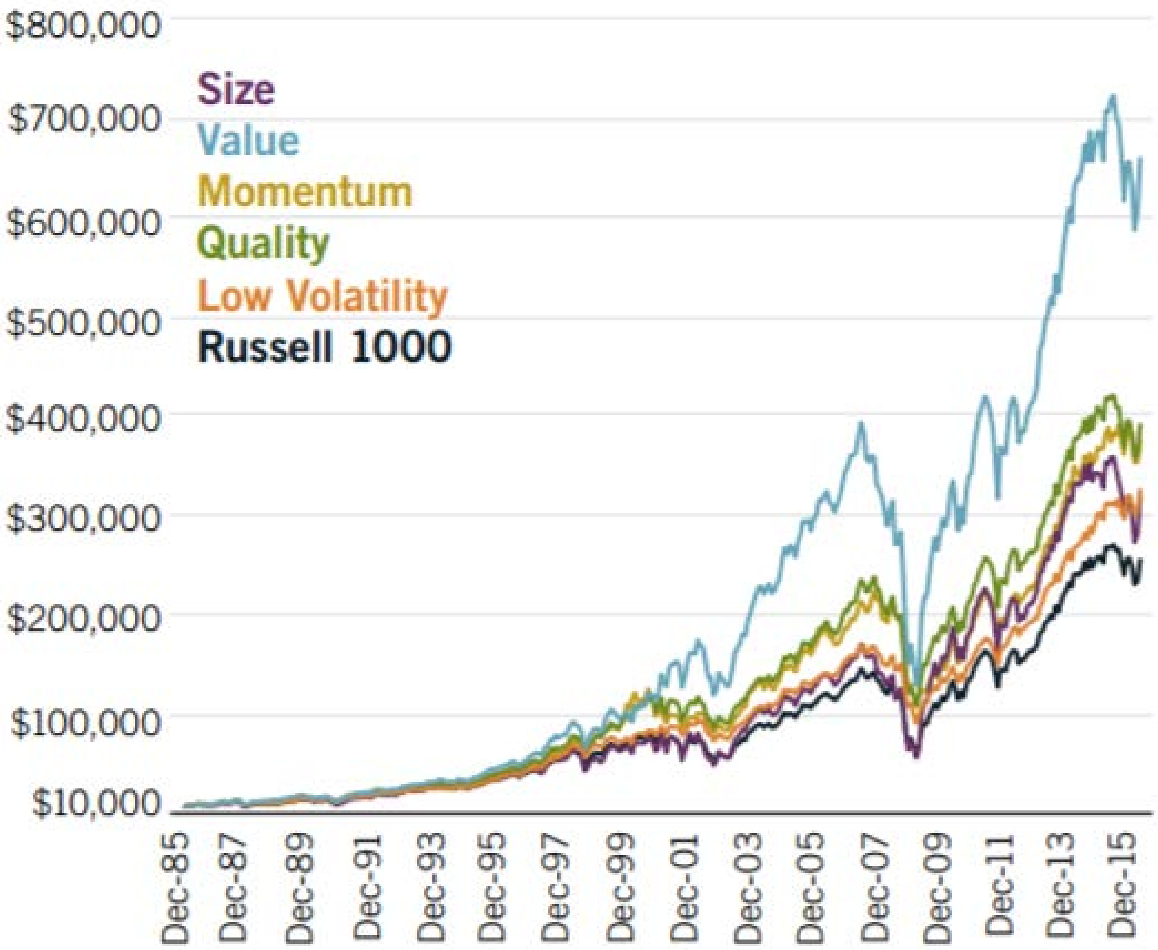
Factor Excess Returns

Factor Tilt	Excess Return
Excess Returns from **Size** (small):	0.70%
Excess Returns from **Value** (P/B + Earnings Yield):	3.50%
Excess Returns from **Momentum**:	1.53%
Excess Returns from **Quality**:	1.59%
Excess Returns from **Low-Vol**:	0.83%

0.70% to 3.5% might not seem like that much, but when compounded over time …

An Overview of Factor Investing, Sept. 2016
Fidelity Investments
https://www.fidelity.com/bin-public/060_www_fidelity_com/documents/brokerage/overview-factor-investing.pdf

Factors Improve Long Term Returns over the Market



It can add up to a much larger investment portfolio … chart shows $10K in each portfolio vs. Russell 1000 since 1985.

An Overview of Factor Investing, Sept. 2016
Fidelity Investments
https://www.fidelity.com/bin-public/060_www_fidelity_com/documents/brokerage/overview-factor-investing.pdf

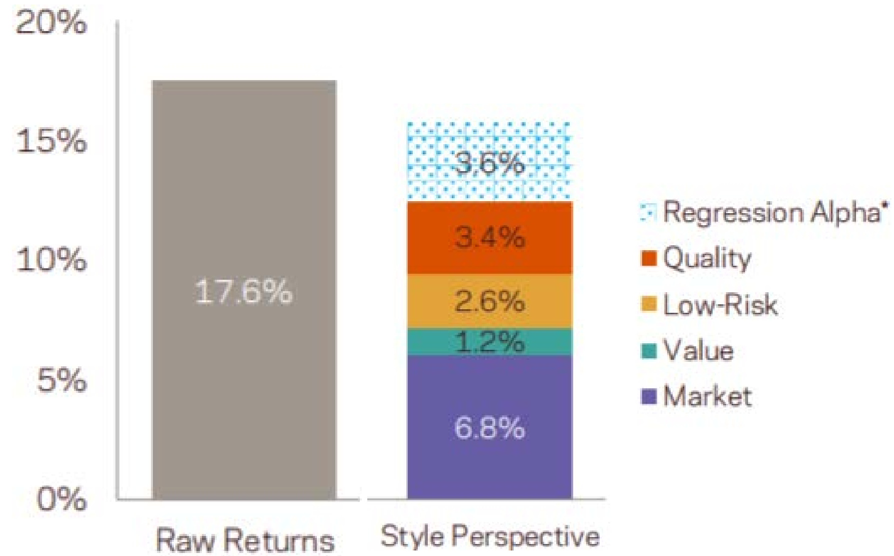
Can You Do Even Better by Combining Multiple Factors?

Yes!

Isolating the Factors of Greats

Warren Buffett Key Factors are "Quality" and "Low-Risk"

- **Quality** is companies that are profitable, growing & well-managed;
- **Low-risk** are stocks that exhibit lower volatility compared to higher volatility stocks.

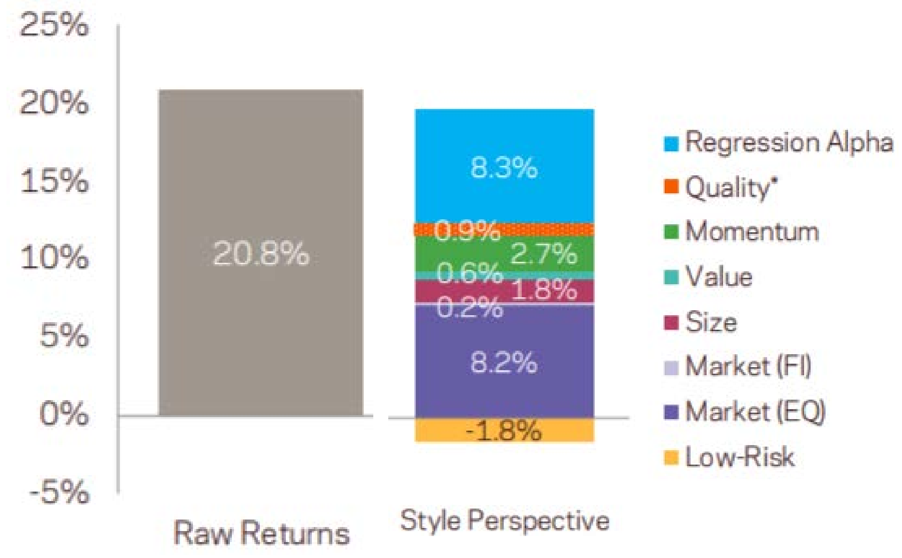


Superstar Investors, AQR
Fourth Quarter 2016
https://www.aqr.com/~/media/files/papers/alternative-thinking-superstar-investors.pdf

Isolating the Factors of Greats

Peter Lynch Key Factors are "Momentum" and "Size"

- **Momentum** is stock price momentum (growth stocks);
- **Size** stocks of smaller firms.



Superstar Investors, AQR
Fourth Quarter 2016
https://www.aqr.com/~/media/files/papers/alternative-thinking-superstar-investors.pdf

Have Great Investors Disclosed the Factors They Look At?

Yes!

Validea's Factor-based Guru Models


Peter Lynch


Ben Graham

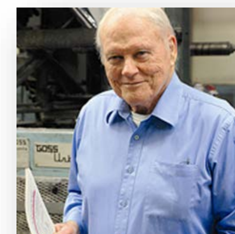

Warren Buffett


David Dreman

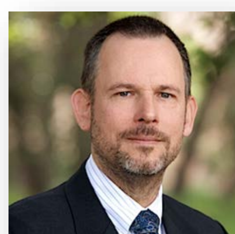

Ken Fisher

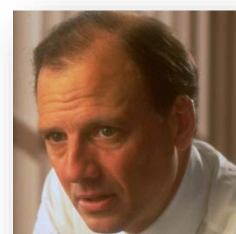

Joel Greenblatt


John Neff


William O'Neil


James O'Shaughnessy


Joseph Piotroski


Martin Zweig


Tom & David Gardner

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Why these “Gurus”?

3 Key Reasons

1. Long term market outperformance record

2. Publicly disclosed techniques–
books, academic papers, other sources

3. Created quantitative methodology–
leveraged using a computer program

Key Factors in Buffett Model

Based on the book, ***Buffettology***

Warren Buffett

Quality & Low Vol: 10 Years of increasing profits

Profitability: 10 Years of high profitability

Value: can we get > 12% annualized return?

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Key Factors in Graham Model

Based on the book, ***The Intelligent Investor***

Ben Graham

Quality: Long term debt less than net current assets

Value: Price-to-book multiplied by price-to-earnings <= 22

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Key Factors in Fisher Model

Based on the book, ***Super Stocks***

Ken Fisher

Value: Low Price-to-Sales ratio

Quality: long-term profit growth, strong free cash flow and consistent profit margins

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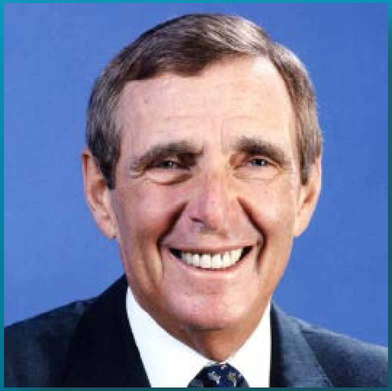
Key Factors in Graham Model

Based on the book, ***Contrarian Investment Strategies***

David Dreman



Value: Two out of the four value criteria (P/E, P/B, P/D or P/CF) need to be in the lowest 20% of market.

Quality: Improving earnings trend

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Key Factors in Greenblatt Model

Based on the book, ***The Little Book that Beats the Market***

Joel Greenblatt

Value: High Earnings Yield (i.e. low valuation)

Quality: High Return on Capital

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Key Factors in Neff Model

Based on the book, ***John Neff on Investing***

John Neff

Value: Price-to-Earnings needs to be at least 40% below market.

Quality: EPS Persistence

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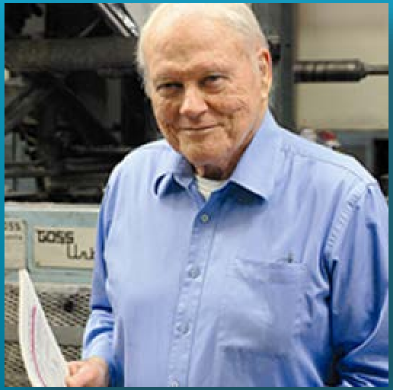
Key Factors in O'Neil Model

Based on the book, ***How to Make Money in Stocks***

William O'Neil



Momentum: Stock and industry momentum (i.e. relative strength)

Quality: Earnings growth and consistency

Key Factors in O'Shaughnessy Model

Based on the book, ***What Works on Wall Street***

O'Shaughnessy

Size/Momentum (small caps) Price Momentum & Earnings Persistence (incr. earnings for last 5 years)

Value/Low Vol/Quality: (large caps) Cash flow per share greater than market and high dividends (top 50)

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Key Factors in Zweig Model

Based on the book, ***Winning on Wall Street***

Zweig

Quality: Growing sales, Positive earnings growth and persistence over quarters and years

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Key Factors in The Motley Fool Model

Based on the book, ***The Motley Fool Investment Guide***

The Gardner Brothers

Value: PEG Ratio needs to be attractive – blends value and growth.

Momentum: Price strength an important indicator

Size: Rewards smaller firms

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Key Factors in Lynch Model

Based on the book, ***One Up On Wall Street***

Peter Lynch

Value: PEG Ratio needs to be attractive – blends value and growth.

Quality: Earnings growth, positive free cash flow

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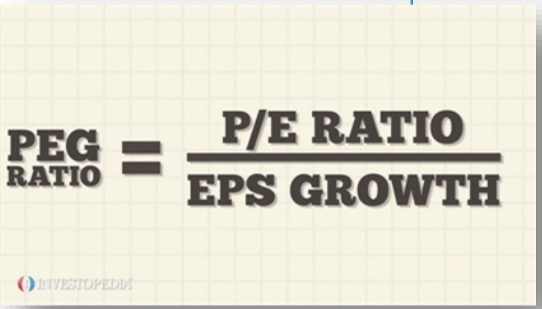
Stepping into the Lynch Model

Lynch: The Star “GARP” Manager

STEP 1: Determining the Classification	
1. EPS growth < 10%	Slow-grower
2. EPS growth 10% to 20%	Stalwart
3. EPS growth ≥ 20%	Fast-grower

STEP 2: **P/E/G Ratio (i.e. Fast Grower)**	
1. > 0 and ≤ 0.5	Pass—Best case
2. > 0.5 and ≤ 1	Pass
3. > 1	Fail



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Lynch Methodology Example

STEP 3: Change in Inventory-to-Sales	
1. If a financial or service company	N/A
2. Change in inventory/sales is negative	Pass—Best case
3. Change in inventory/sales = 0	Pass
4. Change in inventory/sales is positive but ≤ 5%	Pass—Minimum
5. Change in inventory/sales is positive and > 5 percentage points	Fail

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Lynch Methodology Example

STEP 4: Total Debt to Equity	
1. If a financial or service company N/A (*See below for financial firms*)	
2. D/E < 30%	Pass—Best case
3. D/E ≥ 30% and < 50%	Pass—Normal
4. D/E ≥ 50% and < 80%	Pass—Mediocre
5. D/E ≥ 80%, and firm **is** a utility	Pass
6. D/E ≥ 80%, and firm **is not** a utility	Fail
Note: if financial firm use Equity-to-Assets & ROA	

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Lynch Methodology Example

STEP 5: P/E Ratio (i.e. Fast Grower)	
1. Sales > $1 billion and PE ≤ 40	Pass
2. Sales > $1 billion and PE > 40	Fail
3. Sales ≤ $1 billion N/A	

STEP 6: EPS Growth rate (i.e. Fast Grower)	
1. ≥ 20% and ≤ 25%	Pass—Best case
2. > 25% and ≤ 50%	Pass
3. > 50%	Fail

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Lynch Methodology Example

STEPS 7 & 8: Apply Bonus Criteria
7. Free Cash Flow Per Share to Current Price
8. Net Cash per Share-to-Current Price

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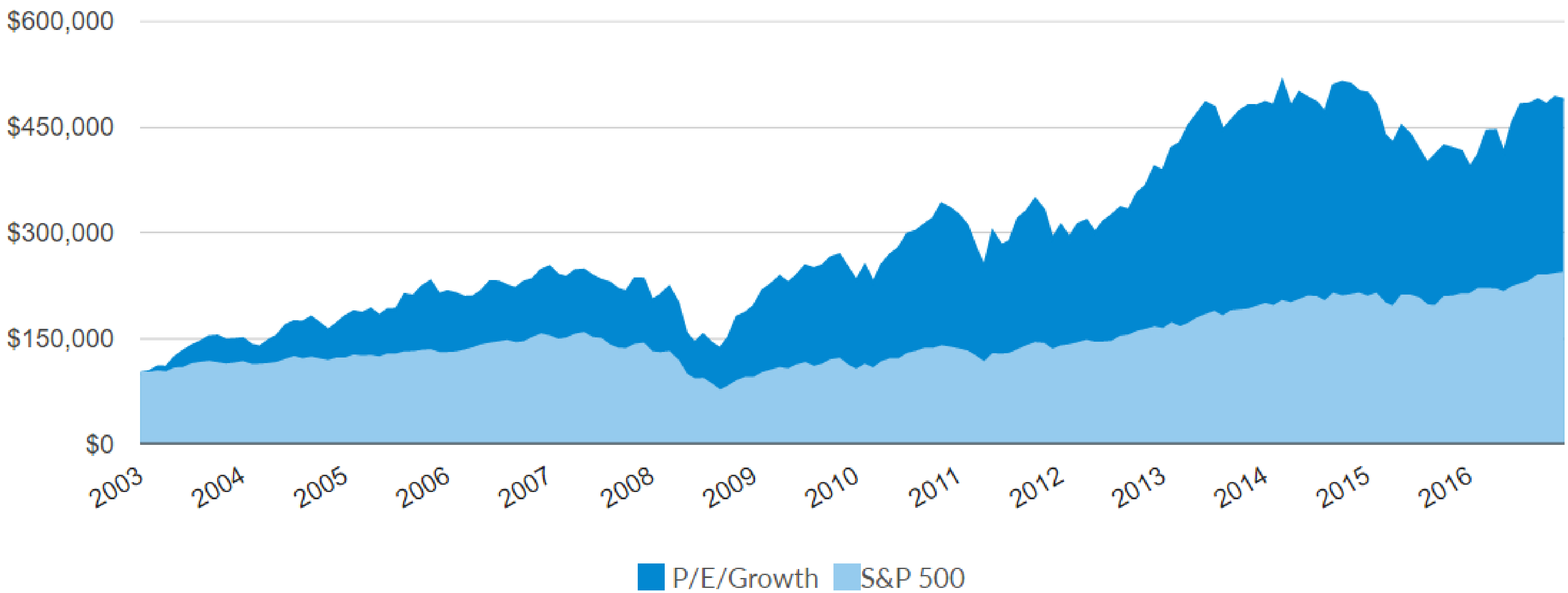
Lynch Factor-based Model up 12.1% annually vs. 6.5% for S&P 500 since 2003



Year	Portfolio	S&P 500
2003	38.0%	11.1%
2004	24.8%	9.0%
2005	10.1%	3.0%
2006	20.5%	13.6%
2007	1.1%	3.5%

Year	Portfolio	S&P 500
2008	-33.6%	-38.5%
2009	62.3%	23.5%
2010	19.1%	12.8%
2011	-3.6%	-0.0%
2012	12.8%	13.4%

Year	Portfolio	S&P 500
2013	47.6%	29.6%
2014	1.4%	11.4%
2015	-13.8%	-0.7%
2016	15.2%	9.5%
2017 YTD	1.5%	7.2%

Top Lynch-rated Stocks on Validea

TICKER	COMPANY	DATE ADDED	SCORE WHEN ADDED	CURRENT SCORE	START PRICE	LATEST CLOSE	RETURN
BK	BANK OF NEW YORK MELLON CORP	3/10/2017	96%	100%	$48.17	$47.16	-2.10%
HSII	HEIDRICK & STRUGGLES INTERNATIONAL, INC.	5/5/2017	98%	98%	$21.65	$21.65	0.00%
INTL	INTL FCSTONE INC	12/18/2015	100%	98%	$31.26	$36.85	17.88%
BFR	BBVA BANCO FRANCES S.A. (ADR)	3/10/2017	96%	96%	$17.44	$17.49	0.29%
NLY	ANNALY CAPITAL MANAGEMENT, INC.	3/10/2017	94%	96%	$10.97	$11.30	3.01%
WD	WALKER & DUNLOP, INC.	3/10/2017	96%	96%	$40.88	$49.32	20.65%
WNC	WABASH NATIONAL CORPORATION	3/11/2016	93%	93%	$12.58	$21.77	73.05%
KELYA	KELLY SERVICES, INC.	5/5/2017	93%	93%	$21.84	$21.93	0.41%
MMI	MARCUS & MILLICHAP INC	4/7/2017	93%	93%	$24.37	$24.81	1.81%
SBS	COMPANHIA DE SANEAMENTO BASICO (ADR)	5/5/2017	93%	93%	$9.42	$9.60	1.91%
TARO	TARO PHARMACEUTICAL INDUSTRIES LTD.	5/5/2017	93%	93%	$114.80	$114.70	-0.09%

How Have the Guru Models Performed?

Guru Portfolios: Outperforming the Market

Strategy	Based On	Total Return	S&P Return	Annual Return	S&P Ann. Return
Small Cap Growth Investor	Motley Fool 10 stocks rebal monthly	**567%**	140%	**14.7%**	6.5%
Price/Sales Investor	Fisher 10 stocks rebal monthly	**392%**	140%	**12.2%**	6.5%
PEG Investor	Lynch 20 stocks rebal monthly	**385%**	140%	**12.1%**	6.5%
Growth Investor	Zweig 20 stocks rebal quarterly	**375%**	140%	**11.9%**	6.5%
Value Investor	Graham 10 stocks rebal annual	**351%**	140%	**11.5%**	6.5%
Momentum Investor	O'Neil 20 stocks rebal quarterly	**323%**	140%	**11.0%**	6.5%

Performance figures as of May 5th, 2017 closing prices
Inception Dates on most portfolios as of July 2003
Based on Optimal Portfolios on Validea

Guru Portfolios: Outperforming the Market

Strategy	Based On	Total Return	S&P Return	Annual Return	S&P Ann. Return
Growth/Value Investor	O'Shaughnessy 20 stocks rebal monthly	**214%**	140%	**8.7%**	6.5%
Patient Investor	Buffett 10 stock rebal monthly	**161%**	126%	**7.4%**	6.3%
Earnings Yield Investor	Greenblatt 10 stocks rebal quarterly	**118%**	88%	**7.2%**	5.8%
Book/Market Investor	Piotroski 20 stocks rebal annually	**143%**	109%	**7.0%**	5.8%
Low P/E Investor	Neff 20 stocks rebal quarterly	**129%**	115%	**6.4%**	5.9%
Contrarian Investor	Dreman 20 stock rebal monthly	**110%**	139%	**5.5%**	6.1%

Performance figures as of May 5th, 2017 closing prices
Inception Dates on most portfolios as of July 2003
Based on Optimal Portfolios on Validea

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Validea's Keys to SUCCESSFUL Investing

Always, Always Think Long Term

- **Short term: very risky and uncertain**
- **50% declines 4 times in last century**
- **Long term: odds are in your favor**
- **Today's 65 year old needs 20-25 years portfolio growth**

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The Probabilities of Returns – Long is Better

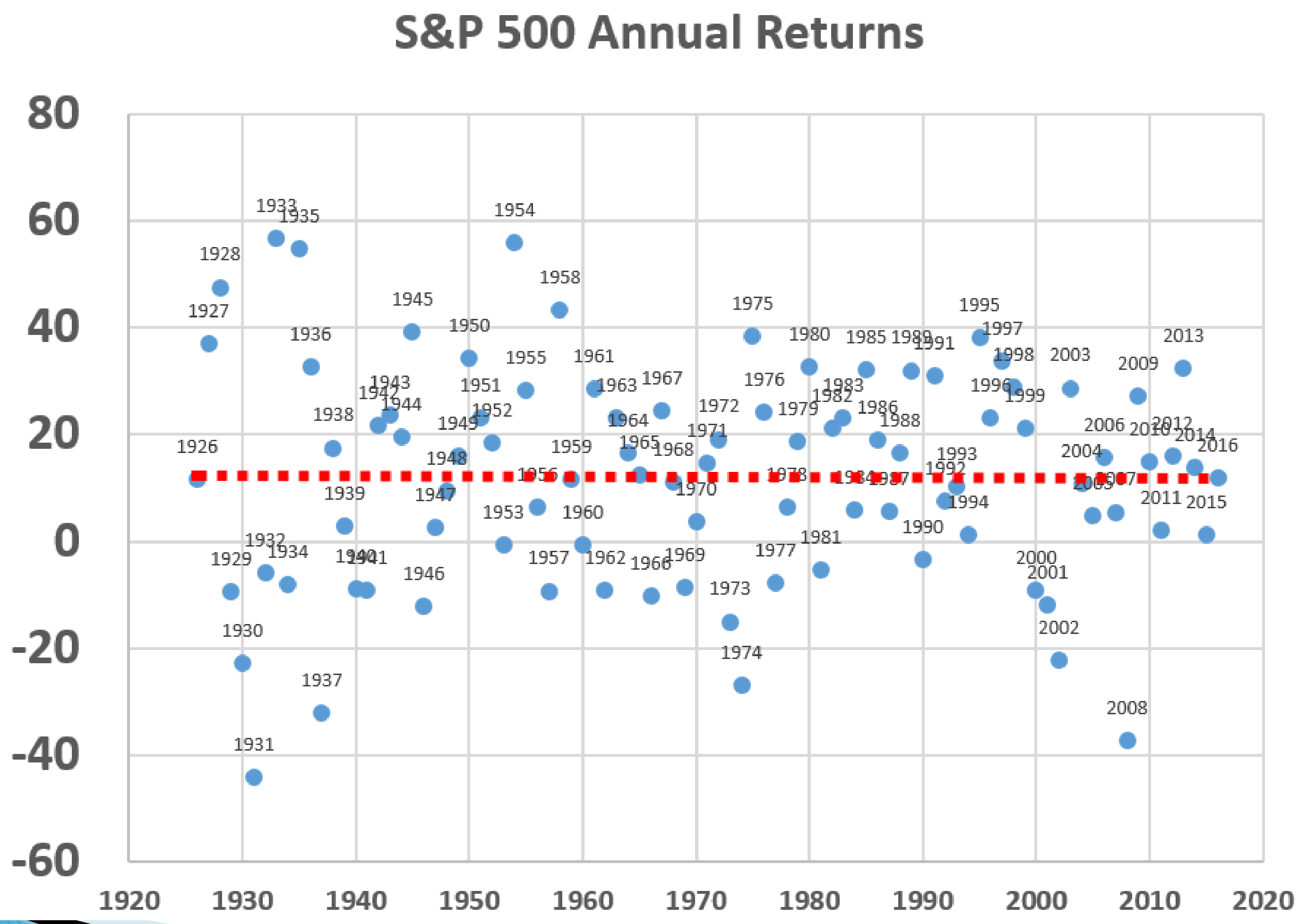
S&P 500: 1926-2015

Time Frame	Positive	Negative
Daily	54%	46%
Quarterly	68%	32%
One Year	74%	26%
5 Years	86%	14%
10 Years	94%	6%
20 Years	100%	0%

Source: Returns 2.0

http://awealthofcommonsense.com/2015/11/playing-the-probabilities

Variability of Returns High Year to Year



Emotions Hurt Performance…

- **Emotions & Biases cost investors 4% annually on average over last 20 years**

	Investor Returns	S&P 500
30 Year	3.79%	11.06%
20 Year	5.19%	9.85%
10 Year	5.26%	7.67%
5 Year	10.19%	15.45%
3 Year	14.82%	20.41%

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Source: DALBAR's 2015 Quantitative Analysis of Investor Behavior

Understanding Market Volatility and Risk Tolerance

- **All good stock strategies can experience large declines**
- **All highly active strategies can underperform**
- **The loss isn't permanent unless you sell**
- **If you can't handle a +40% decline, don't fully invest in stocks**

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Stick To The Strategy, Even After Down Years

Seminal Study by Joel Greenblatt:
The Little Book That Beats the Market (2006)

1-Year Period	2-Year Period	3-Year Period
Under-performed **25%** of the time	Under-performed **17%** of the time	Outperformed **95%** of the time

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Even factor strategies can have long periods of time where they don’t work

Table 4. Odds of Underperformance for Various Factors (1927–2015)

	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)	20-Year (%)
Beta	34	24	18	10	4
Size	41	34	30	23	14
Value	37	28	22	14	6
Momentum	27	14	9	3	0
Profitability	37	28	23	15	7
Quality	34	24	19	10	4

The analysis of the profitability premium is for the period of 1964 through 2015, and 1958 through 2015 for the quality premium.

Data supplied by Fama/French Data Library and AQR Capital Management. Indexes are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio nor do indexes represent results of actual trading. Information from sources deemed reliable, but its accuracy cannot be guaranteed. Performance is historical and does not guarantee future results.

Factors Allow Investors to Think Differently About Diversification
by Larry Swedroe
AAII Journal, April 2017
http://www.aaii.com/journal/article/factors-allow-investors-to-think-differently-about-diversification

Stick to the Fundamentals

- **Avoid investing based on the current headlines**
  - **David Dreman** study of 11 major post-WWII crises: market up on average by 25.8% a year after the crisis
  - Following the **September 11th, 2001 terrorist attacks**, it took just one month for the S&P 500 to equal pre-September 11th levels
  - **Kenneth Fisher study**: Only once in history has a war/conflict stopped a bull market (1938)\
  - **Tetlock Study** on analyzing the accuracy of experts (studied over 80,000 predictions)

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Buffett on Emotions & Discipline

"Investing is not a game where the guy with the 160 IQ beats the guy with the 130 IQ…Once you have ordinary intelligence, what you need is the temperament to control the urges that get other people into trouble in investing."

"To invest successfully does not require a stratospheric IQ, unusual business insights, or inside information. What's needed is a sound intellectual framework for making decisions and the ability to keep emotions from corroding the framework."

— Warren Buffett
Chairman, Berkshire Hathaway

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Putting It Into Practice: Investment Research

Validea.com: Stock Research, Idea Generation & Model Portfolios

Stock Screens, Detailed Stock Analysis, Model Portfolios, Trade Alerts, Hot List Newsletter

AAII Special: Two Years for Price of One!

(offer valid for the next 3 days)

https://www.validea.com/presentation

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Putting It Into Practice: ETFs

Multi-Model Guru Based ETF

- Blend of multiple factor-based stock picking models
- Tax efficiency and transparency of ETF wrapper
- Available on all major brokerage platforms
- No minimum investment

http://www.valideafunds.com

Putting It Into Practice: Robo Advisor

Validea Legends Advisor

- Factor-based stock selection using guru strategies
- Uncorrelated assets and downside protection to limit risk
- Customized portfolio for each investor
- $25,000 minimum and low 0.25% management fee

http://www.valideacapital.com

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