



Morningstar[®] Quantitative Equity Research

VFB Dag van de Tips.

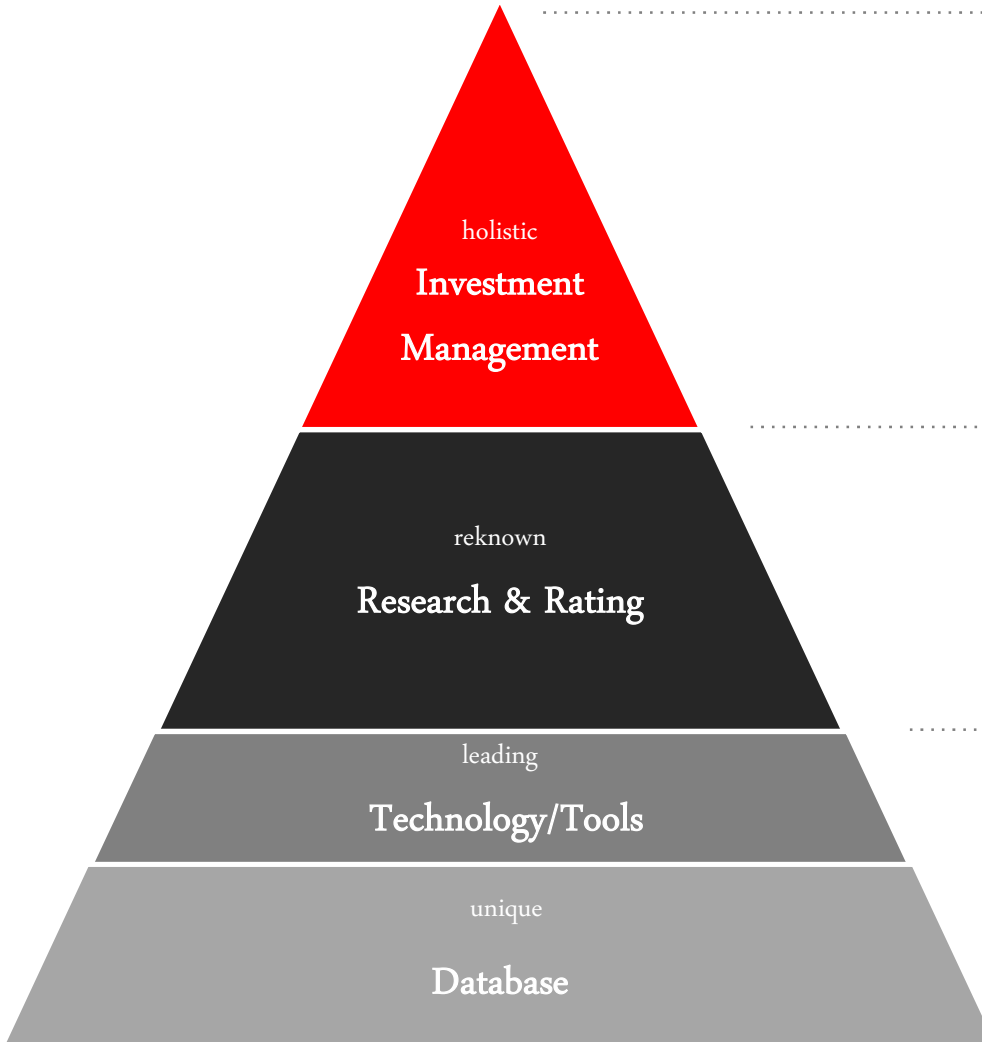


Ben Granjé
CD Morningstar Benelux

October 4, 2014

MORNINGSTAR[®]

Morningstar – the thirty second intro



Leading provider of investment expertise

- × Thought leadership
- × Independent advice to industry & regulator
- × Morningstar Investment Management

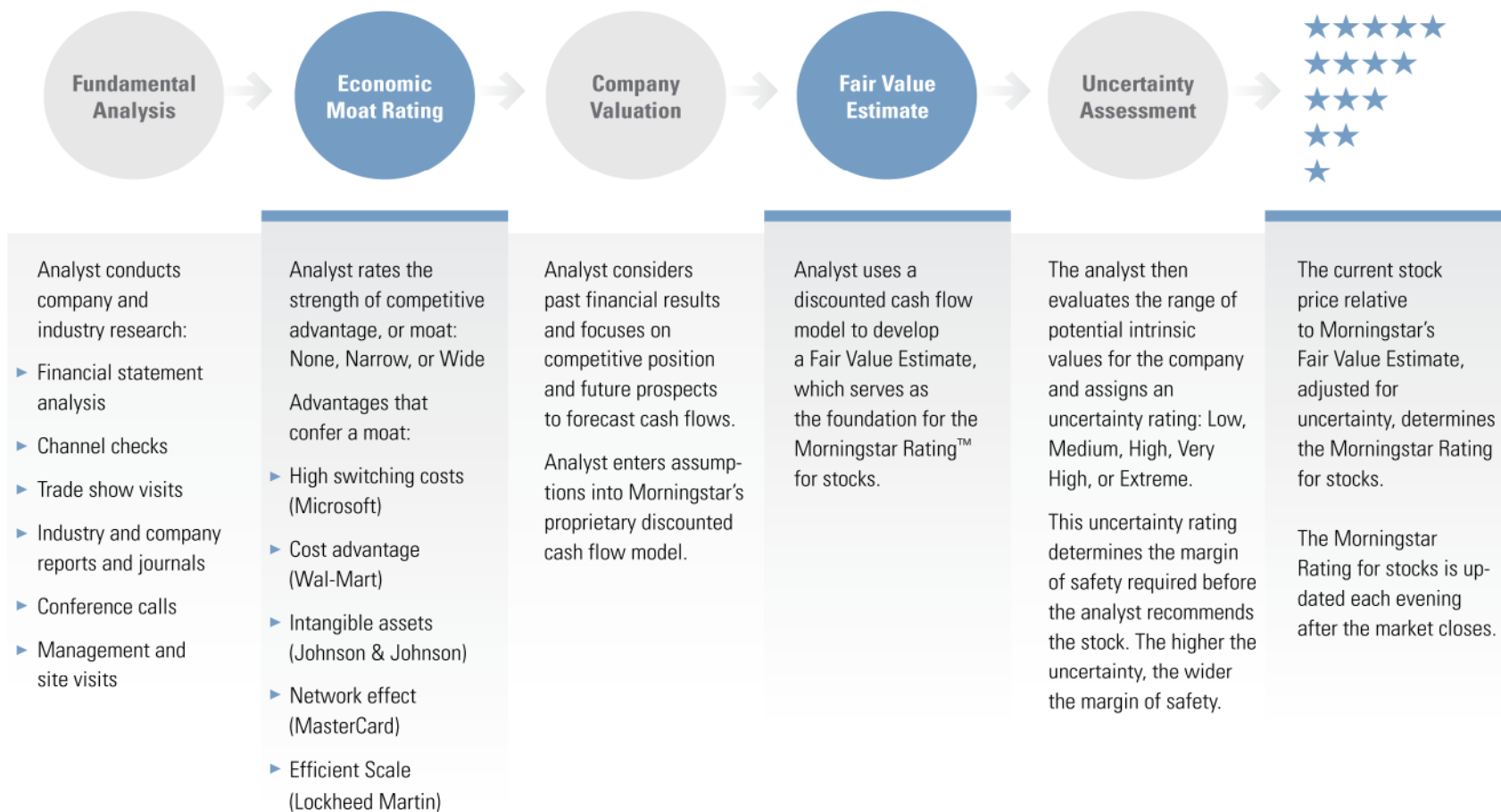
- × Manager & Fund Research
- × Equity & Credit Research
- × Lifecycle & Retirement Research
- × Asset Allocation & Portfolio construction
- × Investor experience Research

- × Data processing and analysis tools

- × Managed investment Database
all types of portfolio's, including their holdings
Individual stocks, bonds, indices, ...

Last time: Alex Morozov, Director Equity Research Europe

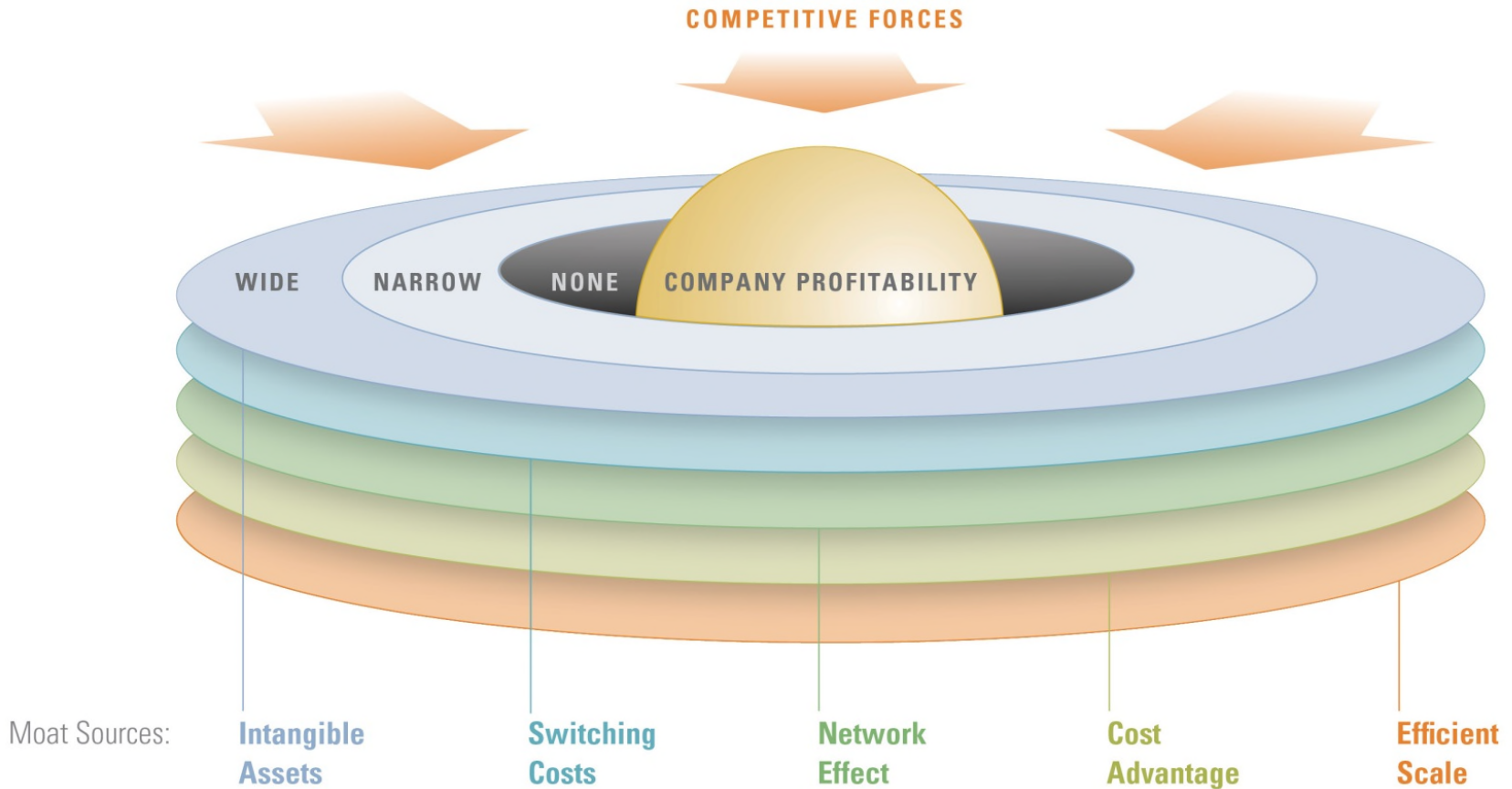
Morningstar Analyst-Driven Equity Research



Morningstar[®] Economic Moat[™] Rating

Economic Moats

The Five Sources of Sustainable Competitive Advantage

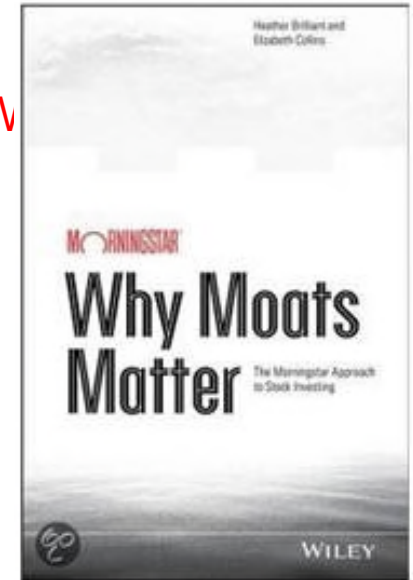


Morningstar[®] Economic Moat[™] Rating

Morningstar Strategy

Basic Premise: Long-Term Oriented, Fundamental Analysis W

- Evaluate stocks as small pieces of business
- Perform primary, fundamental research
- Take a long-term perspective
- Access competitive advantages
- Calculate appropriate margin of safety



Invest in companies with strong and growing competitive advantages (Moats), trading at reasonable price

Book: Why Moats Matter !

ETF: Market Vectors Morningstar Wide Moat ETF (MOAT)

A Brief History

- × Morningstar covers ~1500 companies globally with our staff of 120 equity analysts
- × In 2012, Morningstar launched quantitative stock research covering some 32,000 companies. The Quant universe has grown exponentially, reaching ~ 50,000 stocks (100,000 shares) globally (86 countries of domicile, 64 exchanges) by August 2014. These are product-ready as PDF reports or Data feed.
- × Quant ratings are analogous to analyst-driven ratings
 - × Moat
 - × Fair Value
 - × Uncertainty
 - × Financial Health
- × Quant ratings are predictive of future alpha distribution

Comprehensive Global Equity Coverage

1,123 Analyst Coverage
9,350 Quant Coverage
North America

8x

241 Analyst Coverage
7,371 Quant Coverage
Europe

31x

171 Analyst Coverage
13,074 Quant Coverage
Asia

77x

53 Analyst Coverage
611 Quant Coverage
Latin America

12x

10x

41 Analyst Coverage
402 Quant Coverage
Eurasia/India/Middle East/Africa

9x

1,837 Analyst Coverage
32,557 Quant Coverage
Totals by Exchange (As of December 31, 2013)

208 Analyst Coverage
1,742 Quant Coverage
Australia

Why Develop Quantitative Ratings?

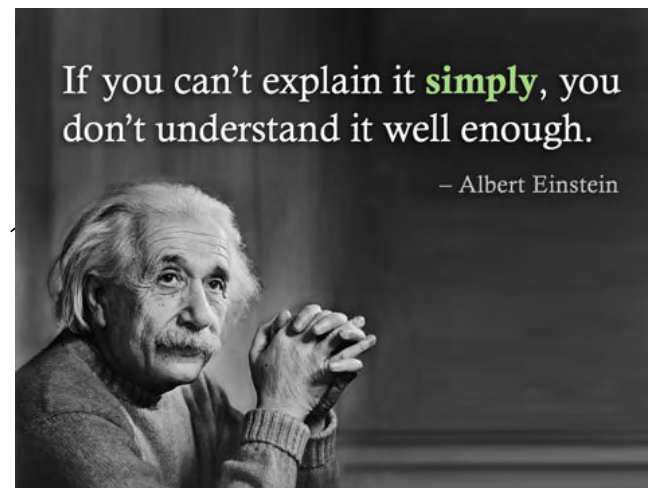
- × Need greater breadth of coverage
 - × Research Client demand
 - × Internal demand (ETFs, Funds)
- × Increasing analyst staff to meet needs is not economically feasible
- × More ability to probabilistically model stocks
- × Differentiated (non-commodity) data points



What are the Quantitative Stock Ratings?

- × Hypothesis:

$$\text{Analyst Moat} \approx f(\text{some input variables})$$



- × What inputs might be relevant to a moat rating?

- × Size
- × Liquidity
- × Risk
- × etc.
- × Valuation
- × Sector/Industry
- ×

- × Use statistical algorithm to determine f

- × Use the f we learned and input variables to assign new ratings

How did we build the Quant Model(s)?

- × Step 1: How do we want to approach the problem?
- × Step 2: Gather Input Data
- × Step 3: Build Model(s)
- × Step 4: Generate Ratings from Model(s)
- × Step 5: Evaluate Performance of Model(s)

Two Philosophical Approaches

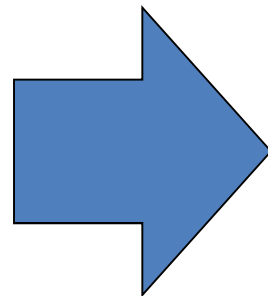
- × Replicate the Analyst Process
 - × Automate a DCF process
 - × Separate models for each of the inputs (growth rates, discount rates, etc.)
 - × Becomes complicated quickly
 - × Requires many inputs – not all have great breadth of coverage
 - × Can generate wacky results

- × Replicate Output
 - × Statistical model trained to reproduce analyst output
 - × Relatively few inputs – can be chosen to have great breadth of coverage
 - × Simple to understand, difficult to interpret
 - × Calibrated to generate very reasonable results

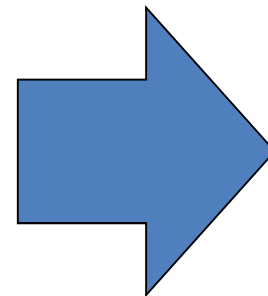
1. **Choose Approach**
2. Gather Data
3. Build Model(s)
4. Generate Ratings
5. Evaluate

Focus on Relevance & Breadth

- × Earnings Yield
- × Book Value Yield
- × Sales Yield
- × Market Cap
- × Enterprise Value
- × Enterprise Value / Market Cap
- × Total Revenue TTM
- × Average Daily Volume TTM
- × Maximum Drawdown TTM
- × Total Return Volatility TTM



Price
Fair Value



Excess
Returns

1. Choose Approach
2. **Gather Data**
3. Build Model(s)
4. Generate Ratings
5. Evaluate

Step 3: Build Statistical Model

× Options we considered

- × Random Forest (Ho 1995, Breiman 2001)
- × Linear & logistic Regression
- × Support Vector Machine
- × Adaboost
- × Artificial Intelligence (statistical learning)
- ×

× Model of Choice: Random Forest

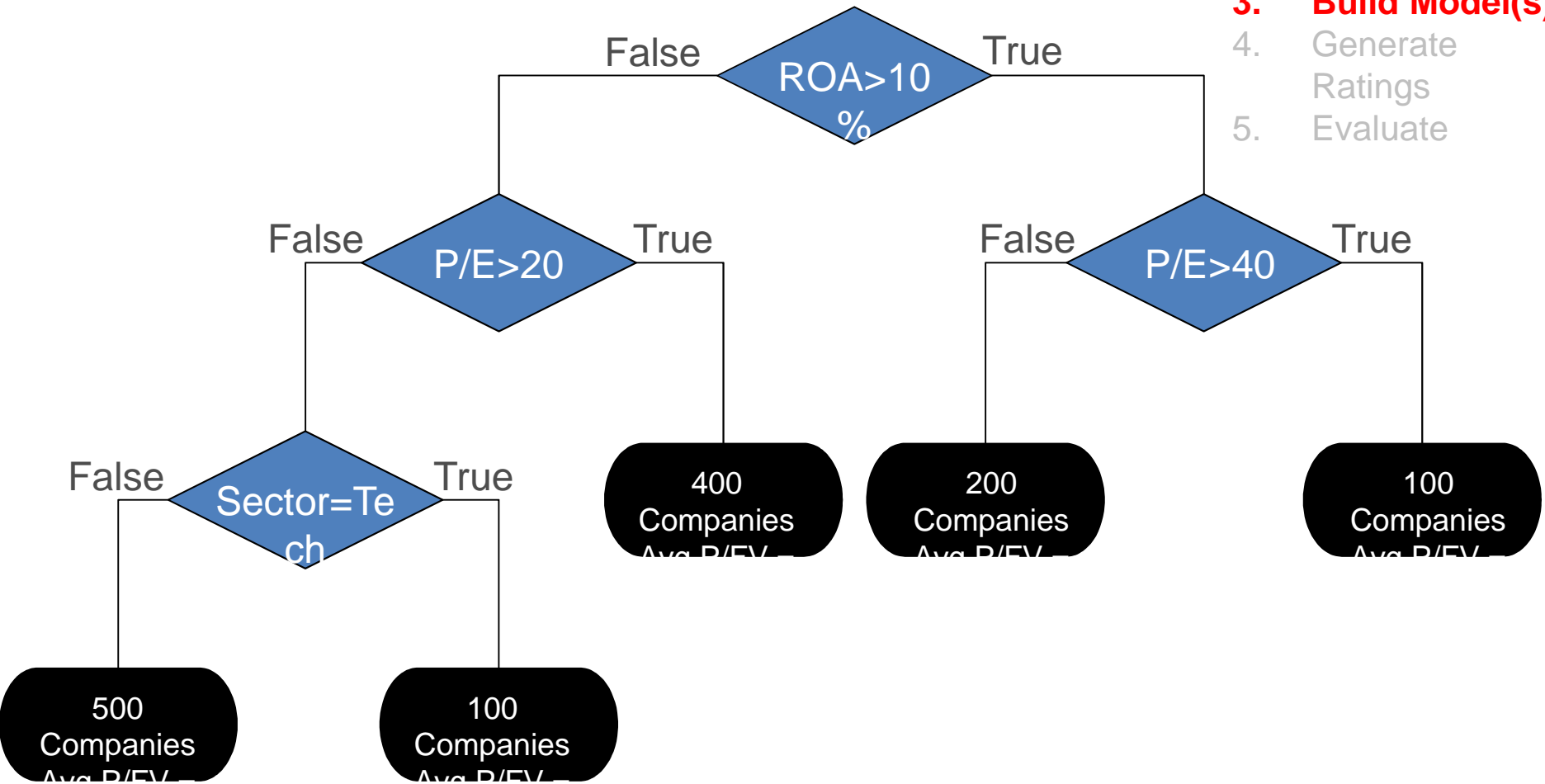
- × “Ensemble” Model
- × Collection of individual models called decision trees (hence name “forest”)
- × Random Subspaces to fit the trees (hence name “random”)
- × Idea: wisdom of crowds approach

Several ‘weak’ predictions can be averaged to make 1 ‘strong’ prediction

1. Choose Approach
2. Gather Data
- 3. Build Model(s)**
4. Generate Ratings
5. Evaluate

What is a decision tree?

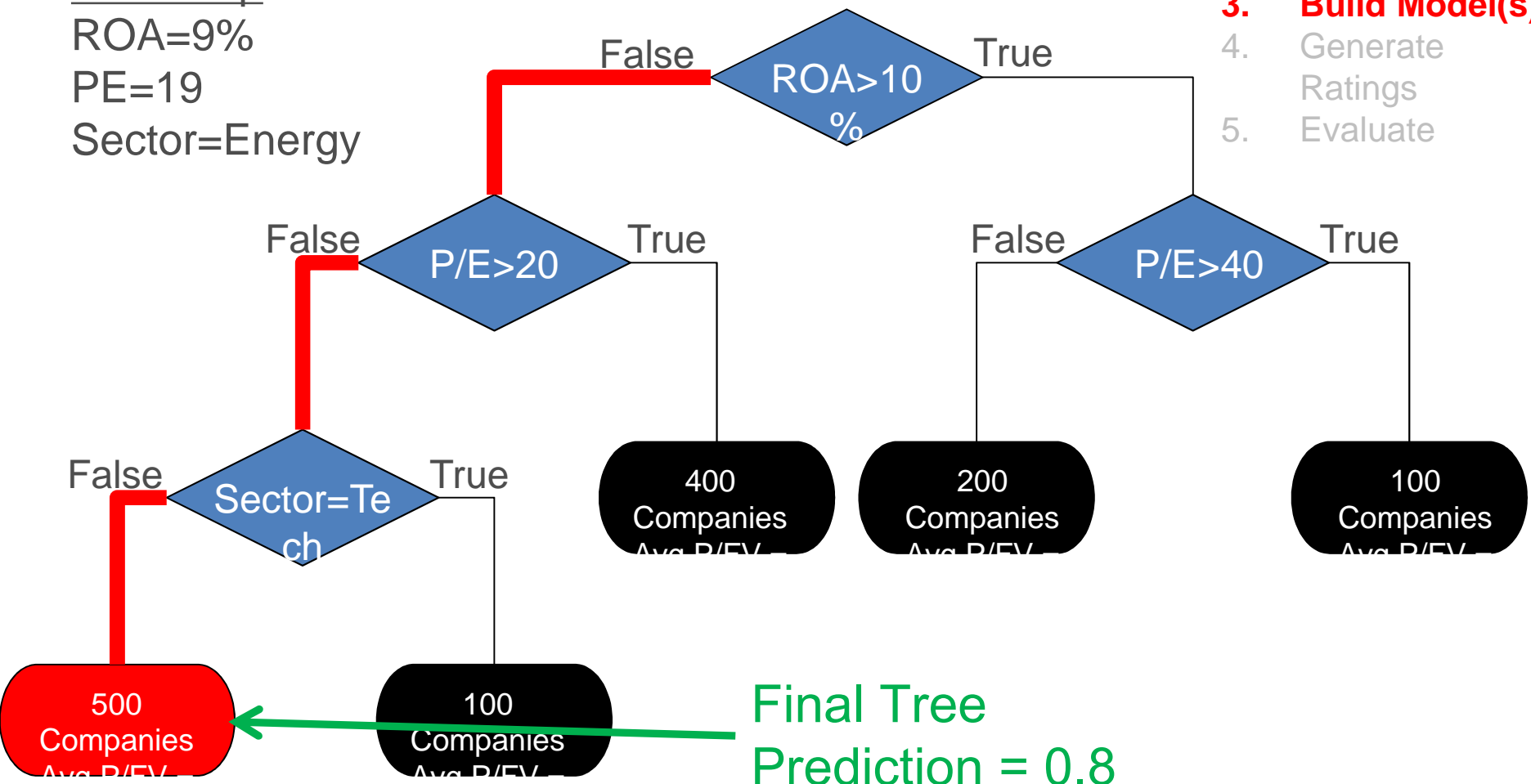
1. Choose Approach
2. Gather Data
- 3. Build Model(s)**
4. Generate Ratings
5. Evaluate



How does a decision tree generate a prediction?

1. Choose Approach
2. Gather Data
3. **Build Model(s)**
4. Generate Ratings
5. Evaluate

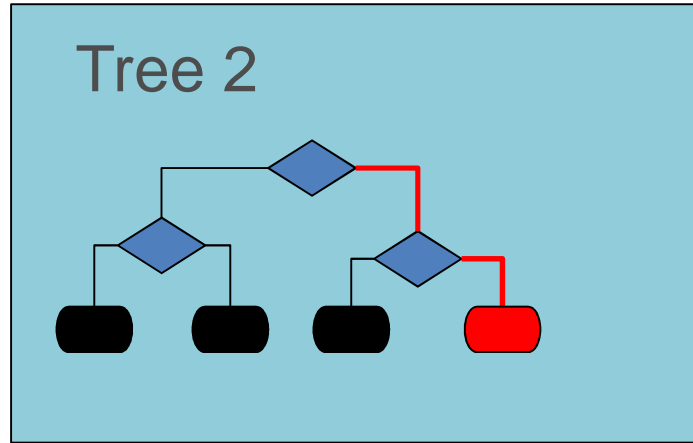
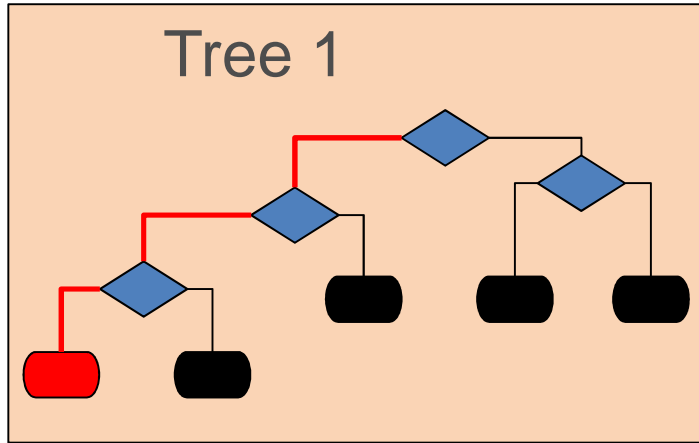
XYZ Corp
 ROA=9%
 PE=19
 Sector=Energy



Final Tree
 Prediction = 0.8

Rolling it all up

1. Choose Approach
2. Gather Data
- 3. Build Model(s)**
4. Generate Ratings
5. Evaluate



Tree 1 Prediction:
0.8

Tree 2 Prediction:
1.1

Random Forest Prediction = $(0.8 + 1.1) / 2 = \underline{0.95}$

Why use a Random Forest?

× Pros

- × Incorporates interaction effects
- × Provides measure of uncertainty
- × Extremely high degree of accuracy
- × Robust to outliers
- × Limited need for data pre-processing
- × Easy to maintain/improve over time

× Cons

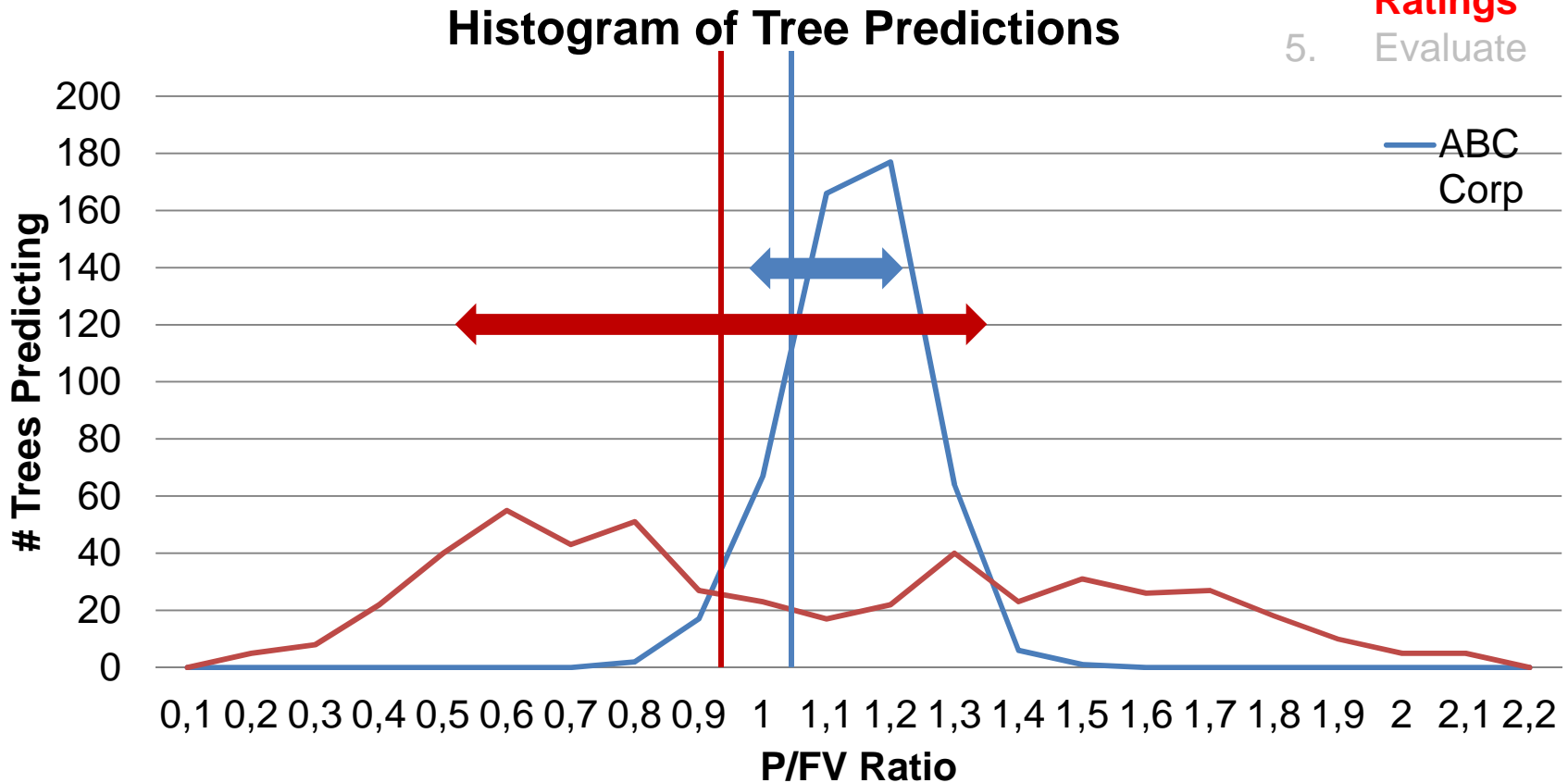
- × Difficult to interpret

- × Random forests used in Microsoft Kinect and Netflix recommendation engine

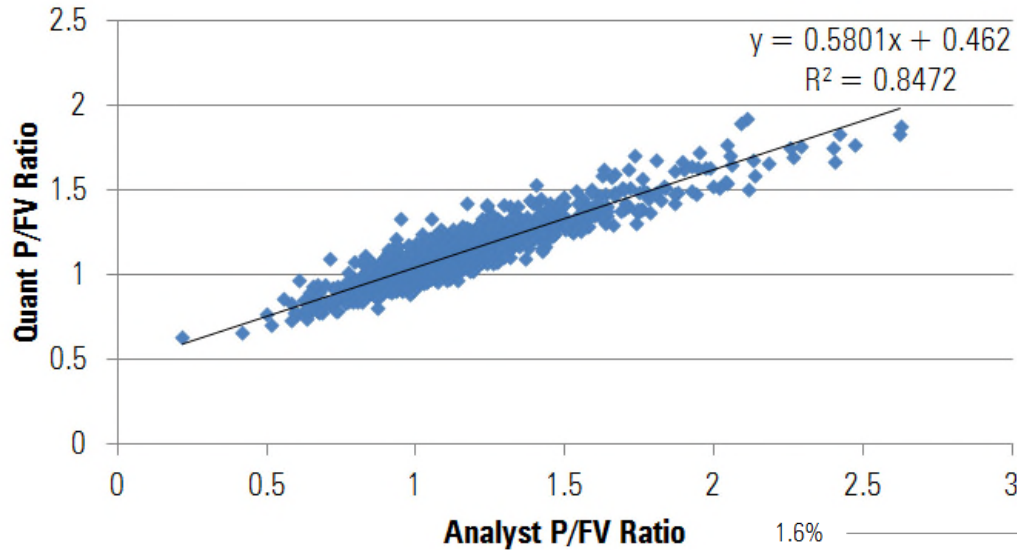
1. Choose Approach
2. Gather Data
- 3. Build Model(s)**
4. Generate Ratings
5. Evaluate

Step 4: Generate Ratings from Model

1. Choose Approach
2. Gather Data
3. Build Model(s)
- 4. Generate Ratings**
5. Evaluate

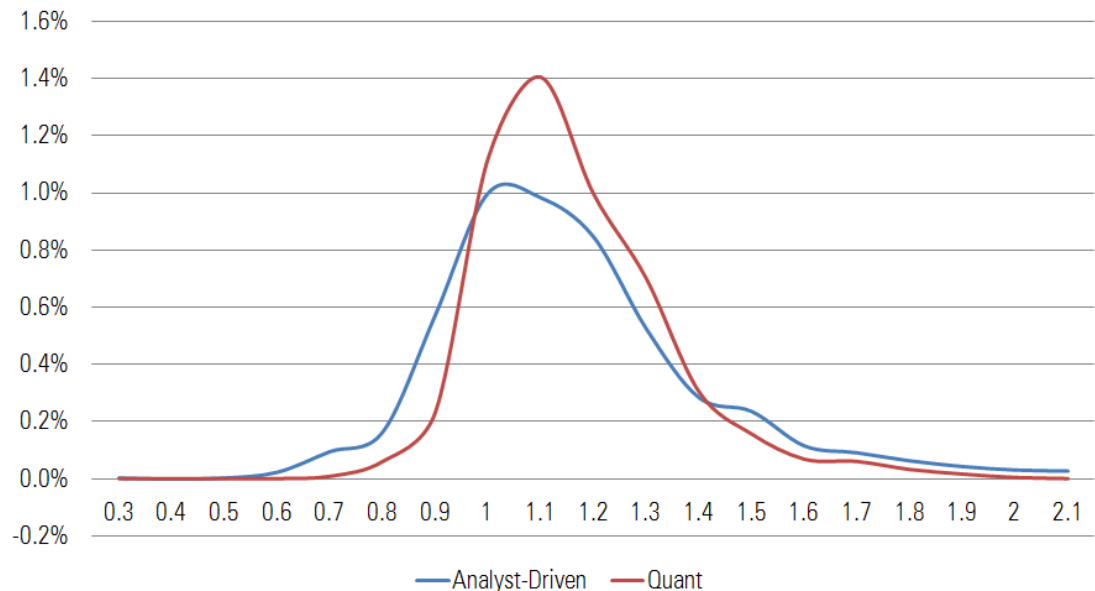


Quant Comparison to Analyst-Driven



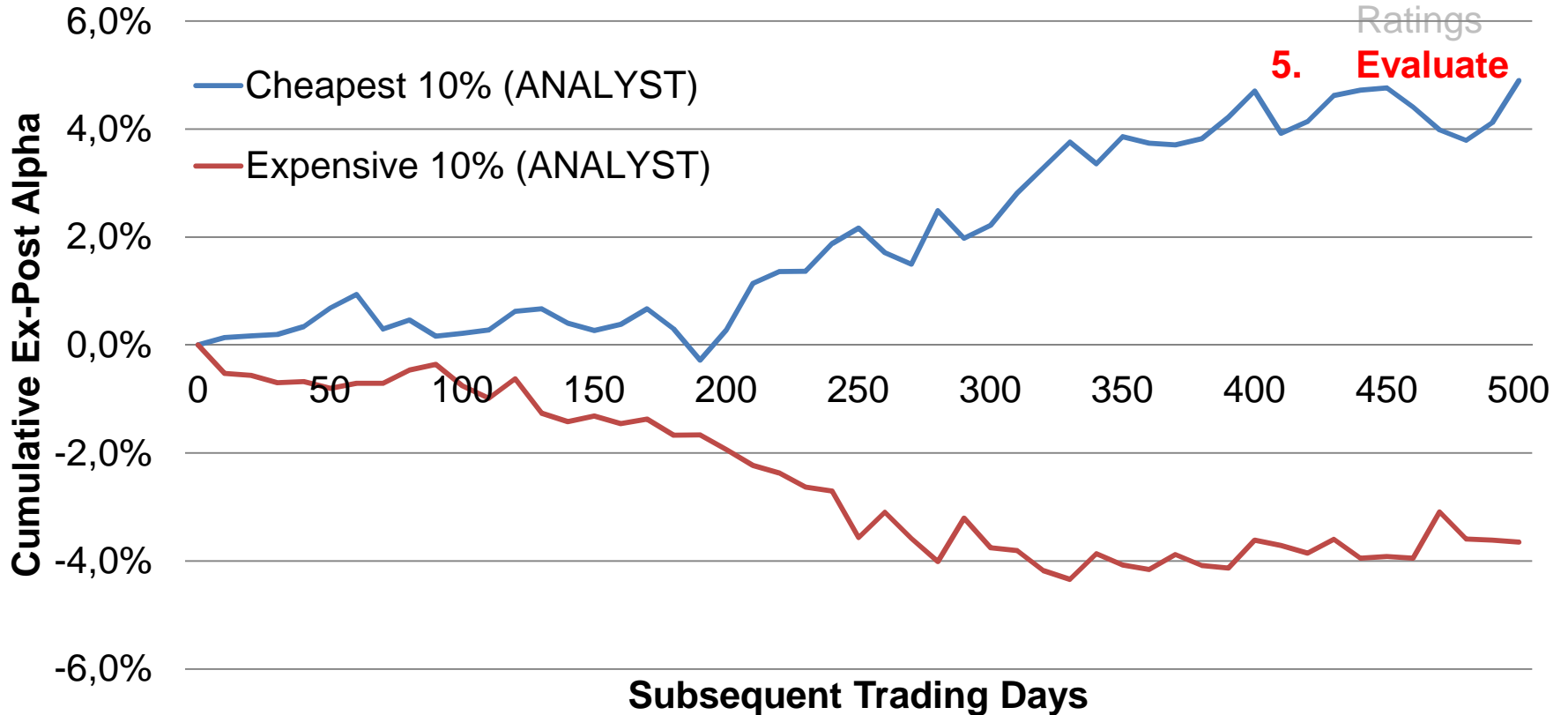
1. Choose Approach
2. Gather Data
3. Build Model(s)
4. Generate Ratings
- 5. Evaluate**

✗ Less than 3% of analyst coverage universe meaningfully disagrees with direction of analyst recommendation



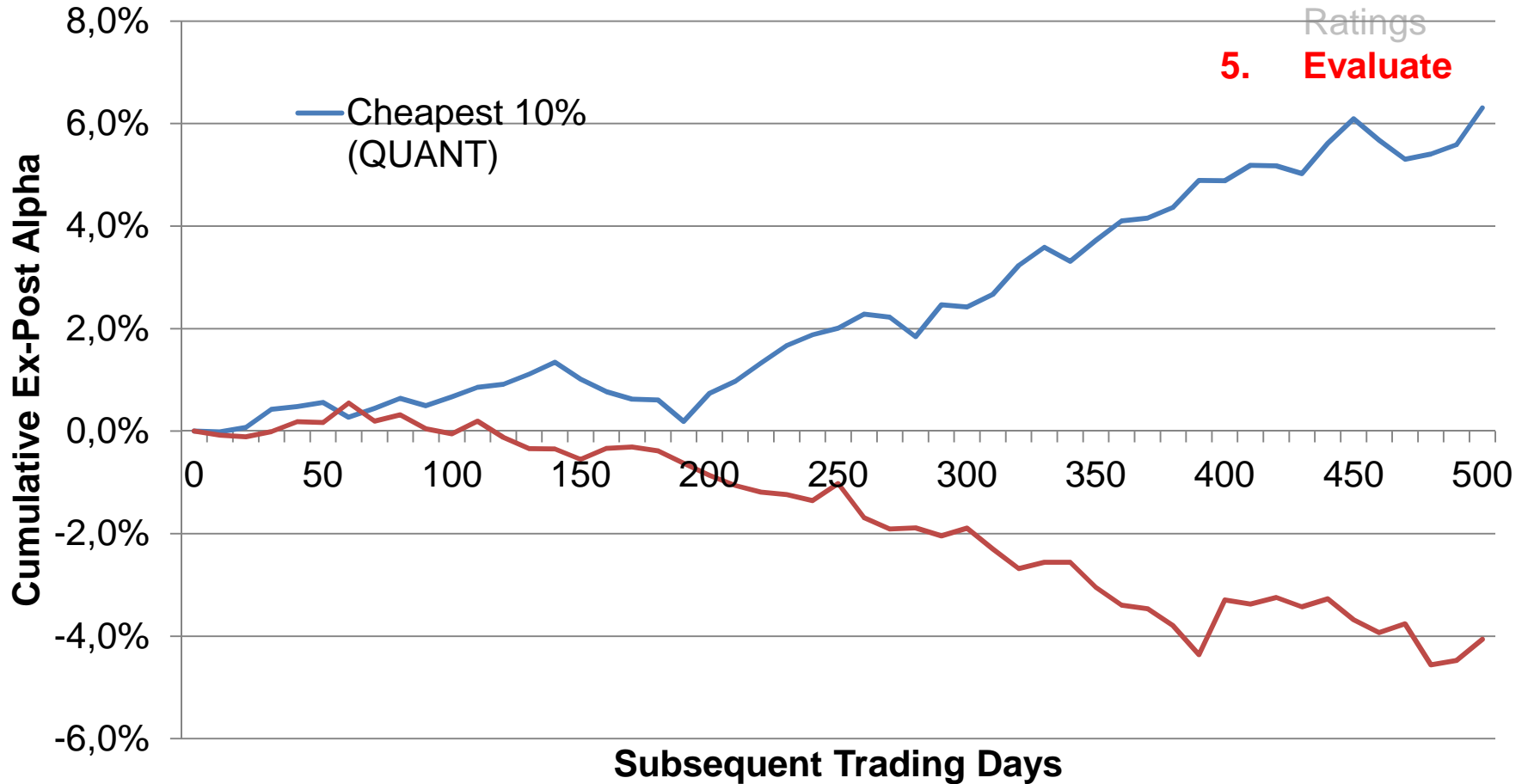
Analyst-Driven Ratings (Benchmark)

1. Choose Approach
2. Gather Data
3. Build Model(s)
4. Generate Ratings



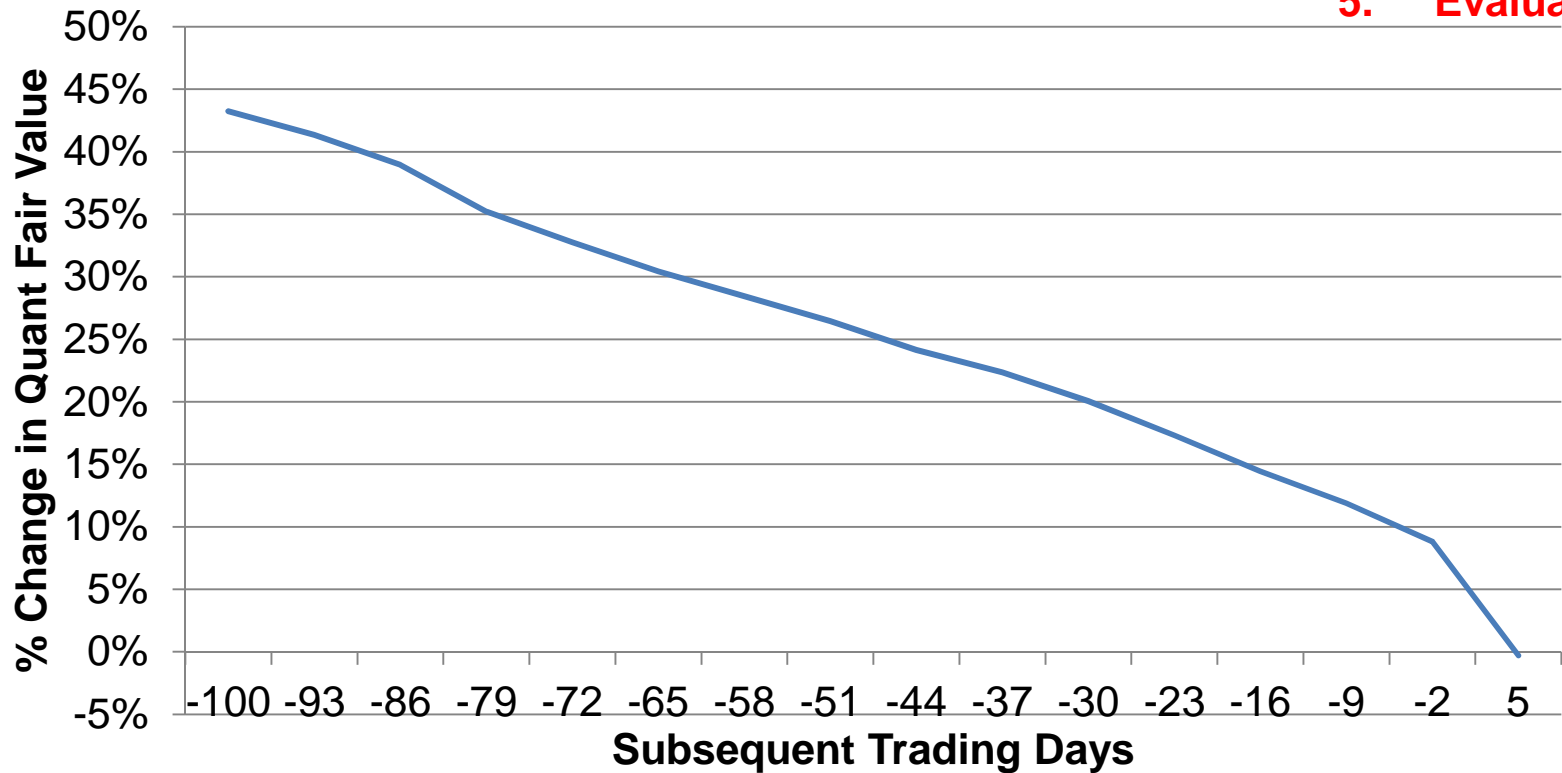
Quant Ratings

1. Choose Approach
2. Gather Data
3. Build Model(s)
4. Generate Ratings
- 5. Evaluate**



Fair Value Downgrades

1. Choose Approach
2. Gather Data
3. Build Model(s)
4. Generate Ratings
- 5. Evaluate**



Quantitative Product Output†

Quantitative Equity Report | Release Date: 12 April 2013 | Reporting Currency: USD | Trading Currency: USD

Page 1 of 1

General Electric Co GE

Last Close: 23.59 Quantitative Fair Value Estimate: 25.44 Market Cap (B): 245.3 Sector: Industrials Industry: Diversified Industrials Country of Domestic: United States

General Electric Company provides services ranging from aircraft engines, power generation, water processing & household appliances to medical imaging, business & consumer financing, media content & industrial products.

Quantitative Scores		Score	
	All	Full Sector	Full Country
Quantitative Moat	Strong	100	100
Valuation	Fairly Valued	64	69
Quantitative Uncertainty	Low	9	11
Financial Health	Moderate	62	59



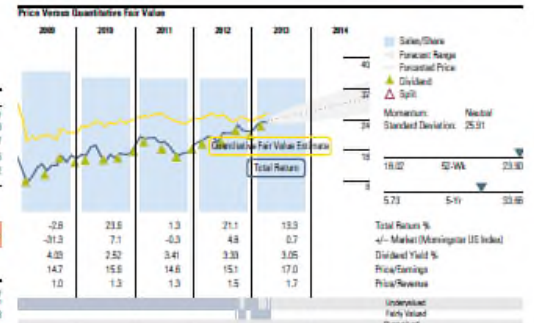
Valuation		Current	5-Yr Avg	Sector Median	Country Median
Price/Quant Fair Value		0.92	0.74	0.97	1.03
Price/Earnings		17.0	13.9	15.2	19.2
Forward P/E		12.1	—	10.9	12.1
Price/Cash Flow		8.0	5.9	9.1	10.4
Price/Free Cash Flow		15.4	9.1	15.9	18.8
Dividend Yield %		3.05	4.19	2.24	2.22
Price/Risk		2.0	1.8	1.3	2.0
Price/Sales		1.7	1.2	0.7	1.5

Profitability		Current	5-Yr Avg	Sector Median	Country Median
Return on Equity %		11.4	11.5	12.6	12.6
Return on Assets %		2.0	1.9	4.5	3.3
Revenue/Employee (K)		483.1	503.9	403.3	293.5



Financial Health		Current	5-Yr Avg	Sector Median	Country Median
Distance to Default		0.7	0.4	0.8	0.9
Solvency Score		772.5	—	541.3	575.4
Assets/Equity		1.6	1.5	1.7	1.7
Long-Term Debt/Equity		1.6	2.6	0.2	0.9

Growth Per Share		1-Year	3-Year	5-Year	10-Year
Revenue %		0.1	-1.7	-3.1	1.1
Operating Income %		-14.1	20.3	-19.9	-5.1
Earnings %		-12.1	11.6	-9.8	-2.8
Dividends %		14.9	4.7	-0.5	-2.4
Book Value %		7.4	3.4	0.4	9.3
Stock Total Return %		-27.9	11.2	-3.3	1.5



2008	2009	2010	2011	2012	2013	2014
Revenue	192,516	156,793	190,211	147,300	147,350	147,350
% Change	5.7	-14.1	-4.2	-1.9	0.0	0.0
Operating Income	15,141	10,944	14,238	20,099	17,406	17,406
% Change	-65.9	-46.0	37.4	41.5	-13.4	-13.4
Operating Cash Flow	17,410	24,555	18,133	19,564	14,151	19,564
% Change	48,901	24,555	-8,900	-12,650	-15,126	-15,126
Free Cash Flow	32,591	15,959	26,220	20,700	16,205	16,205
% Change	17.9	10.2	17.5	14.1	11.0	11.0

Profitability		Current	5-Yr Avg	Sector Median	Country Median
Return on Equity %		11.4	11.5	12.6	12.6
Return on Assets %		2.0	1.9	4.5	3.3
Net Margin %		9.5	6.9	7.8	9.3
Asset Turnover		0.29	0.25	0.30	0.25
Financial Leverage		7.9	8.7	5.3	9.3
Gross Margin %		54.1	51.6	52.3	53.7
Operating Margin %		11.8	6.6	8.5	13.8
Loan-to-Term Debt		333,367	339,215	323,940	272,717
Total Equity		194,805	117,201	119,036	116,439
Fixed Asset Turn		2.9	2.1	2.2	2.3

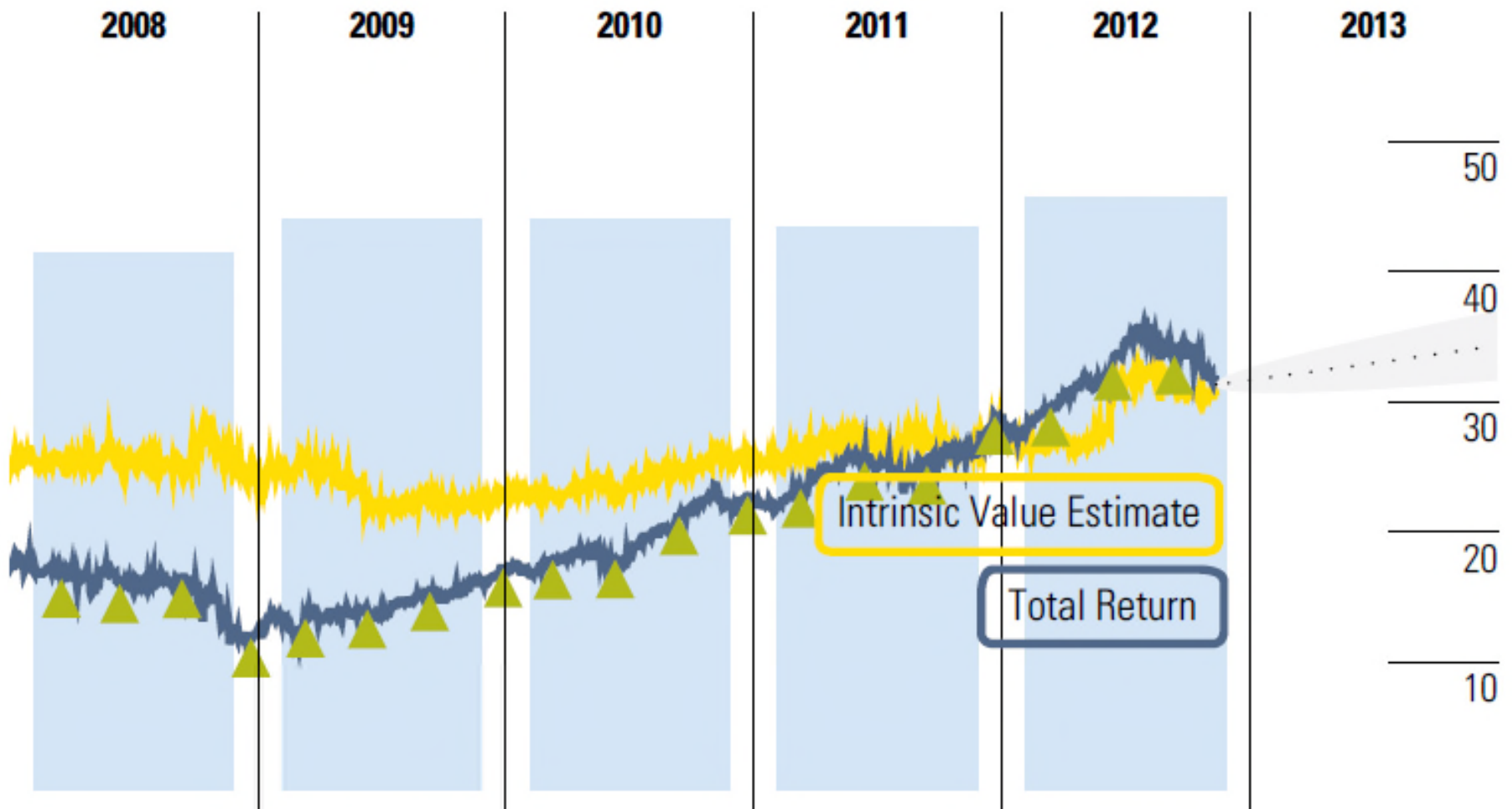
Revenue Growth Year Over Year %

©2013 Morningstar. All Rights Reserved. Unless otherwise provided in a separate agreement, you may use this report only in the country to which the original distributor is based. Data are subject to change. The information contained herein is not guaranteed or warranted to be accurate, correct, complete, or timely. This report is for information purposes only, and should not be considered a solicitation to buy or sell any security. Redistribution is prohibited without our prior permission. To receive reports, call 1-800-835-6848. To change your e-mail, call 1-800-835-6848.

- ✗ Data Feeds
 - ✗ Quantitative Fair Value Estimate
 - ✗ Quantitative Valuation (FVE/P)
 - ✗ Quantitative Uncertainty
 - ✗ Quantitative Moat
 - ✗ Quantitative Financial Health
- ✗ PDF Report
 - ✗ Daily Refresh
 - ✗ Valuation Chart
 - ✗ Price vs. QFV Chart
 - ✗ Historical Financials (5 years)
 - ✗ Business Summary

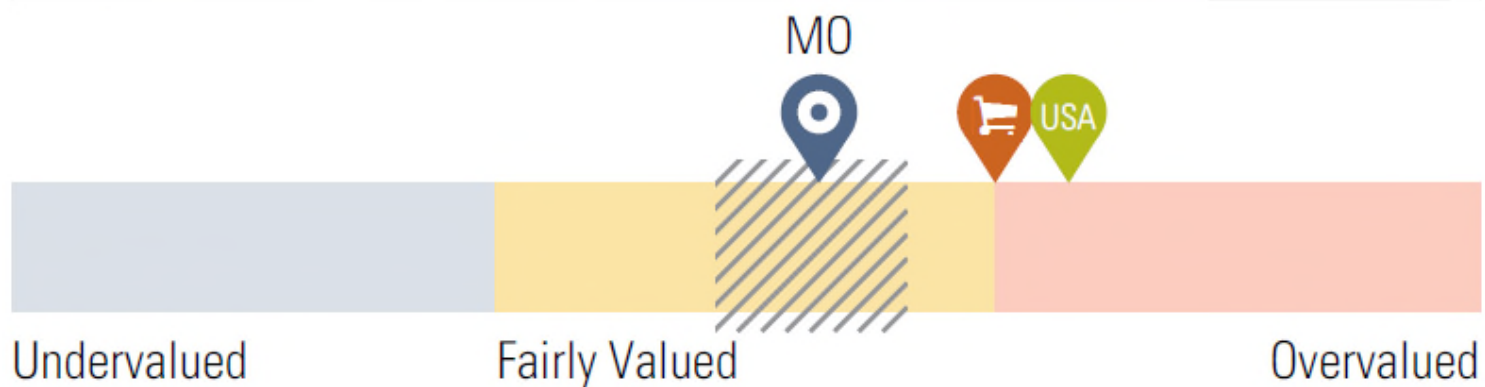


Price Versus Intrinsic Value



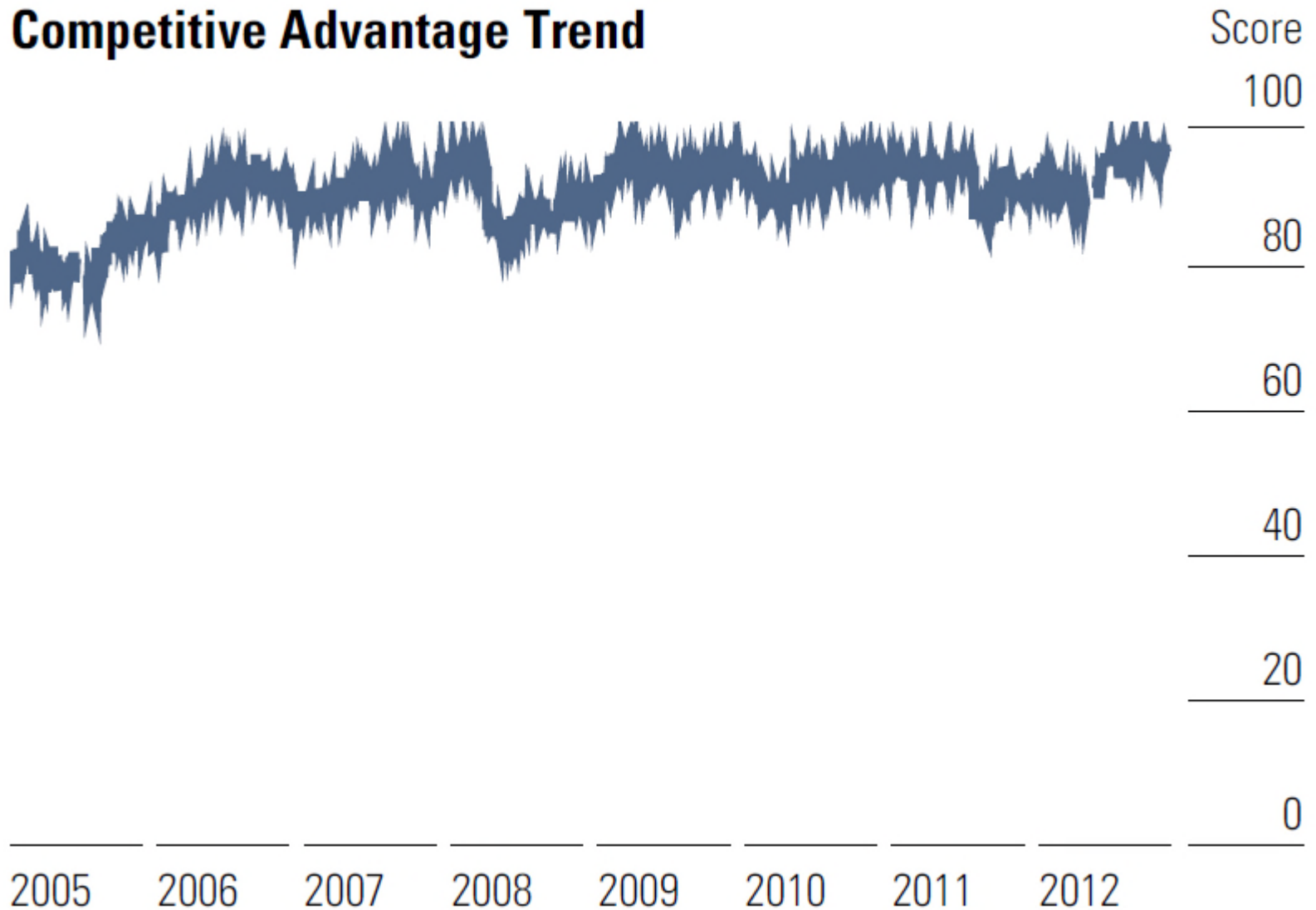
Quantitative Scores

		Scores		
		All	Rel Sector	Rel Country
Competitive Advantage	Strong	100	100	100
Valuation	Fairly Valued	7	15	7
Valuation Confidence	High	99	97	98
Financial Health	Strong	87	77	87



 Uncertainty

Competitive Advantage Trend



Examples from Belgium (Full report available at our

Delhaize Group SA DELB (XBRU) | ★★★

Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Morningstar Credit Rating	Industry Group
55.08 EUR	48.00 EUR	28.80 EUR	74.40 EUR	High	None	Negative	Standard	—	Retail - Defensive

Increased competition and a difficult economic backdrop could continue challenging Delhaize.

Ken Perkins
Associate Analyst
kenneth.perkins@morningstar.com
+1 (312) 244-7360

Investment Thesis 20 Aug 2014

Delhaize Group is a food retailing company with about 3,400 stores in the U.S., Belgium, southeastern Europe, and Asia. The company has an established presence in its markets, and we believe it will remain a viable competitor in the grocery channel. However, customer switching costs are virtually nonexistent in the grocery industry, making it difficult for most operators to avoid competing

The primary analyst covering this company does not own its stock.

Solvay SA SOLB (XBRU) | ★★★

Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Morningstar Credit
121.90 EUR	121.00 EUR	72.60 EUR	187.55 EUR	High	None	Stable	Standard	—

Solvay should benefit from steady demand from the oil and gas and industrial end markets.

Todd Wenning, CFA
Stock Analyst
todd.wenning@morningstar.com
+1 (312) 696-6107

Investment Thesis 06 May 2014

Through acquisitions, divestitures, and joint ventures, Solvay has reduced its reliance on cyclical end markets and increased its exposure to higher-growth emerging markets. Case in point is Solvay's move in May 2013 to enter into a joint venture with INEOS to create the world's second-largest polyvinyl chloride (PVC) producer. PVC demand plummeted after the housing collapse in 2007 and remains well below pre-crash levels. Compounding the

The primary analyst covering this company does not own its stock.

Vital Statistics

Market Cap (EUR Mil)
52-Week High (EUR)
52-Week Low (EUR)
52-Week Total Return %
YTD Total Return %
Last Fiscal Year End
5-Yr Forward Revenue CAGR %
5-Yr Forward EPS CAGR %
Price/Fair Value

Valuation Summary and Forecasts

Fiscal Year: 2012

Belgacom SA BELG (XBRU) | ★

Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™
27.56 EUR	20.00 EUR	14.00 EUR	27.00 EUR	Medium	Narrow	Stable

Belgacom's cost-cutting is helping offset revenue weakness.

Updated Forecasts and Estimates from 01 Aug 2014

Allan C. Nichols, CFA
Senior Analyst
allan.nichols@morningstar.com
+31 (0) 20 560 2931

Investment Thesis 01 Aug 2014

As Belgium's primary telecom operator, Belgacom faces tough competition as cable providers aggressively encroach on its fixed-line business. Increased wireless competition is also occurring. Fortunately for shareholders, Belgacom recognizes its limitations and avoids buying growth in areas where it has no competitive advantage. Instead, it returns most of its free cash flow to shareholders in the form of dividends and stock buybacks. We like this strategy, and we expect it to continue.

Bundles of services are very important in Belgium. Telenet has long been a fierce competitor in fixed-line telephone and broadband

The primary analyst covering this company does not own its stock.

Research as of 01 Aug 2014
Estimates as of 01 Aug 2014
Pricing data through 30 Sep 2014
Rating updated as of 30 Sep 2014

Currency amounts expressed with "\$" are in

Vital Statistics

Market Cap (EUR Mil)
52-Week High (EUR)
52-Week Low (EUR)
52-Week Total Return %
YTD Total Return %
Last Fiscal Year End
5-Yr Forward Revenue CAGR %
5-Yr Forward EPS CAGR %
Price/Fair Value

Valuation Summary and Forecasts

	Fiscal Year: 2012	2013	2014(E)	2015(E)
Price/Earnings	11.1	25.6	17.5	15.1

In Summary

- × Greater breadth of coverage
- × Leverages our very successful, forward looking, analyst-driven research
- × Strongly predictive of future alpha
- × Fuels new product development
 - × Enables bottom-up insights for below-the-radar regions and sectors
 - × Enables portfolio analysis/attribution for uncommon holdings

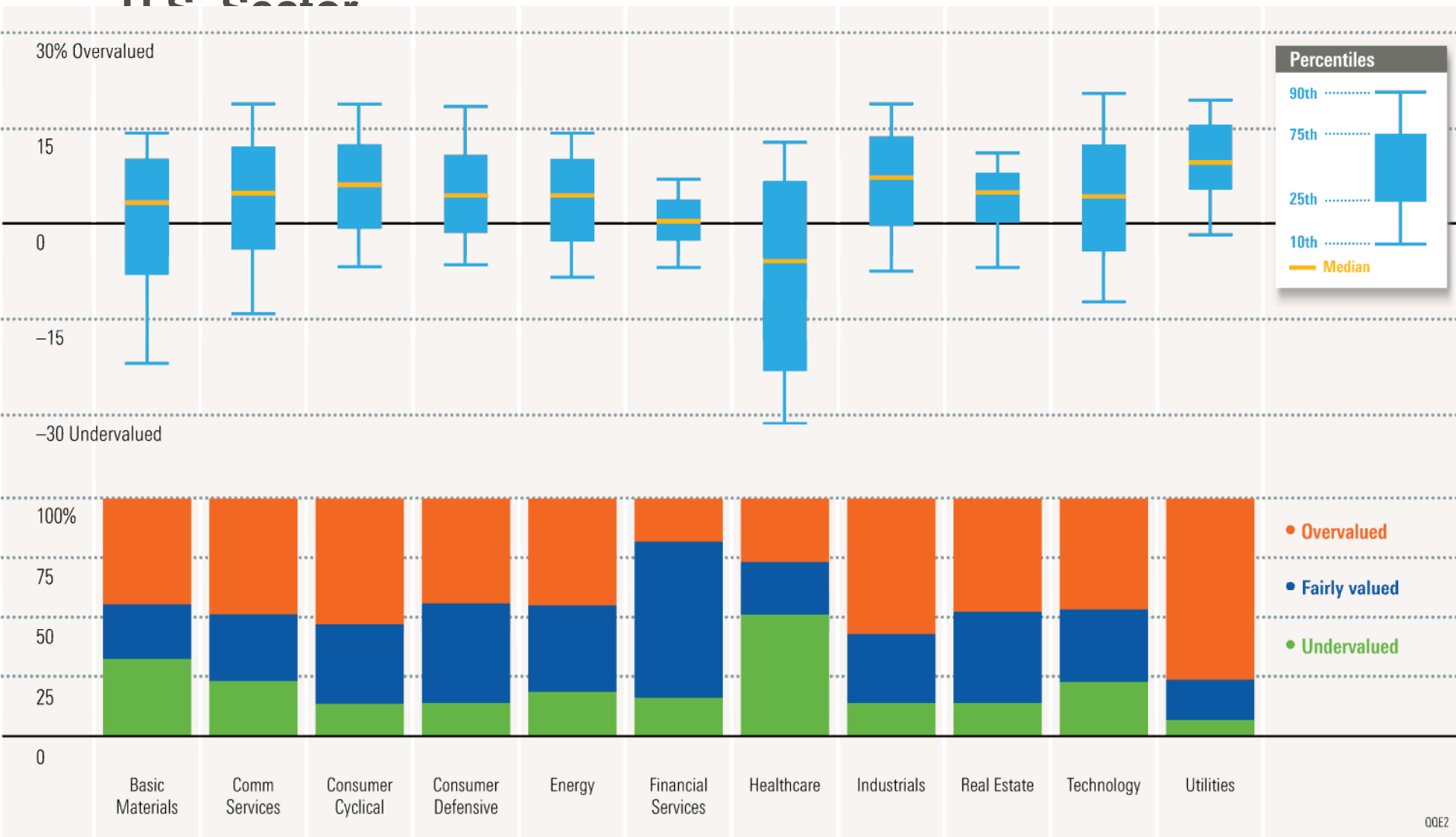
Morningstar Median Quantitative Price to Fair Value, U.S.

		Style		
		Value	Blend	Growth
Size	Total Market 5.1%	1.1	4.6	9.2
	Large	-0.7	3.2	8.6
	Mid	5.5	9.0	11.5
	Small	4.6	6.7	8.5

		Uncertainty		
		Low	Medium	High
Moat	Wide	3.0	3.6	7.9
	Narrow	6.2	4.7	8.7
	None	7.0	7.5	5.7

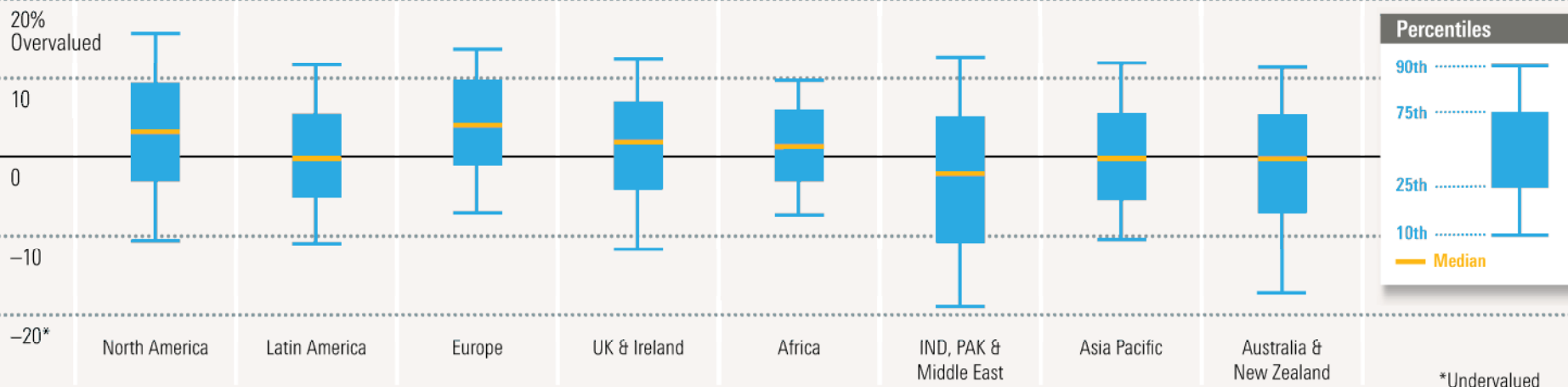


Morningstar Quantitative Price to Fair Value Distribution by U.S. Sector



QOE2

Morningstar Quantitative Price to Fair Value Distribution by Region



Top 10 Most Undervalued Countries

Country	Undervalued By (%)	Uncertainty Rating	Number of Companies
Russia	-6.4	High	115
Iraq	-6.0	Extreme	27
Brazil	-5.5	High	181
Bangladesh	-3.7	Very High	245
Hong Kong	-2.4	High	170
Turkey	-2.2	High	339
Cyprus	-1.4	High	20
Australia	-1.2	Medium	430
China	-1.1	High	2,340
Nigeria	-0.7	Very High	93

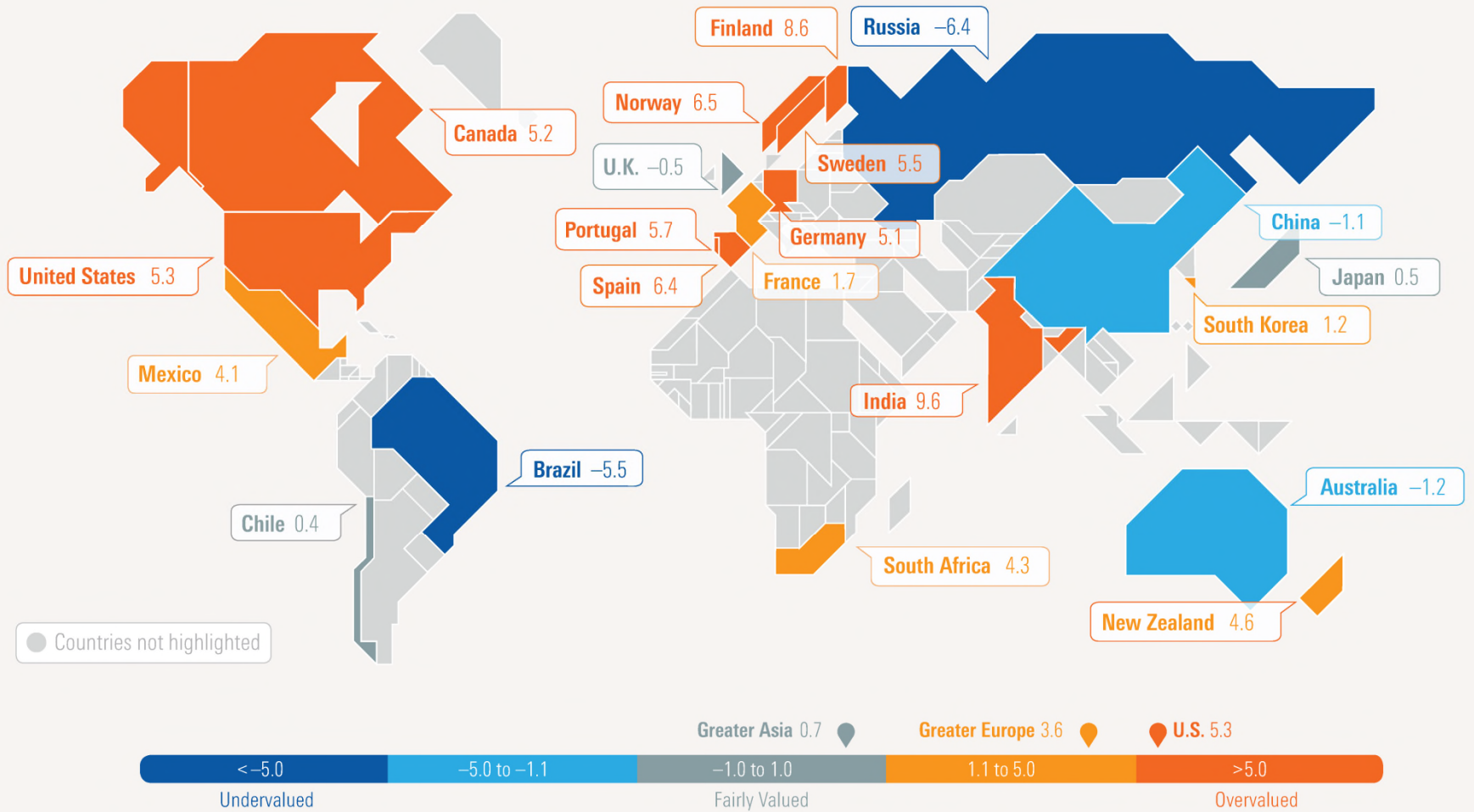
Top 10 Most Overvalued Countries

Country	Overvalued By (%)	Uncertainty Rating	Number of Companies
Denmark	10.4	High	121
India	9.6	High	2,816
Finland	8.6	High	100
Indonesia	7.9	Very High	334
Saudi Arabia	6.8	High	154
Norway	6.5	Medium	125
Greece	6.5	Very High	75
Spain	6.4	Medium	99
United Arab Emirates	6.1	High	59
Ireland	5.9	Medium	55

00E3

Morningstar Quantitative Price to Fair Value Distribution by Region

Overvalued/Undervalued (%)



00E5

Where can you find Morningstar equity research?

- × Morningstar Websites

- × Access to a sample of relevant full Quant Reports

- × Partnerships

- × Euronext / Enternext: <https://www.enternext.biz/enternext/equity>



Initial focus on Small & Mid Cap stocks in the TMT sector

- Quarterly Sector Report
- Stock Profiles – one-pager showing selected elements from the Quant Reports

- × Fidelity.com

<http://research2.fidelity.com/fidelity/research/reports/release2/Research/ETFMorningstar.asp>

- × TD Ameritrade <https://www.tdameritrade.com/investment-research.page>

- × Nasdaq <http://ir.nasdaqomx.com/releasedetail.cfm?releaseid=436803>

Q & A

- × **Why is the quant (moat/valuation/uncertainty) different from the analyst (moat/valuation/uncertainty) for company XYZ?**
- × **Which rating should I trust? The quant or the analyst?**
- × **Will the quantitative equity ratings replace the qualitative analyst ratings?**
- × **What does the new Quantitative Equity Research Report contain?**
- × **...**

More information available at our Booth, and on



The Morningstar® Economic Moat™ Rating

What's a Moat?

In a free-market economy, capital seeks the areas of highest return. Whenever a company develops a profitable product or service, it doesn't take long before competitive forces drive down its economic profits. Only companies with an economic moat—a structural competitive advantage that allows a firm to earn above-average returns on capital over a long period of time—are able to hold competitors at bay.

The concept of economic moats is a cornerstone of Morningstar's investment research philosophy and methodology. To us, buying a share of a stock means buying a small piece of a business, and successful investing involves a thorough evaluation of whether a business will stand the test of time.

To help investors identify companies that possess a moat, we assign one of three Economic Moat Ratings: none, narrow, or wide. There are two major requirements for firms to earn either a narrow or wide rating: 1) The prospect of earning above average returns on capital; and 2) Some competitive edge that prevents these returns from quickly deteriorating. A firm must have a competitive advantage inherent to its business in order to possess a moat. Great management, size, dominant market share, easily-replicable technology or efficiencies, and hot products are advantages to any businesses, but none of them is a structural advantage that can sustain high returns over a long period of time.

Why Do Moats Matter?

Higher Intrinsic Value: The concept of an economic moat plays a vital role not only in our qualitative assessment of a firm's long-term investment potential, but also in the actual calculation of our fair value estimates. A company that is likely to compound cash flow internally for many years is worth more today than a company that isn't.

Therefore, when comparing two companies with similar growth rates, returns on capital, and reinvestment needs, the company with a moat has a higher intrinsic value.

Investment Discipline: High returns on capital will always diminish over time due to competition. For most companies (and their investors), the regression to the mean is fast and painful. However, a few generate excess returns for many years, and moats give us an analytical framework for selecting them.

Greater Resilience: Moreover, if a firm can fall back on a structural competitive advantage, it's more likely to recover from temporary troubles. Moats provide a margin of safety because if you're confident in the moat, it's easier to average down if you initiate a position too early.

Mispriced Moats: Often, the benefits conferred by a moat are not fully factored into stock prices for several reasons. Most market participants own securities for short time periods, and moats matter much more in the long run than over the short run. Also, recency bias causes most investors to assume that the current state of the world persists for longer than it usually does. Our performance record suggests that waiting for wide-moat stocks to become cheap is a compelling strategy.

From the Economic Moat™ Rating to the Morningstar® Wide-Moat Focus™ Index

Given our universe of stocks receiving an Economic Moat Rating of Wide, Morningstar has created an index that consists of the 20 stocks that are trading at the largest discounts to our analyst's fair value estimates. The index is reviewed quarterly.

Performance Record	Trailing 1-Year	Trailing 3-Year	Trailing 5-Year	Trailing 10-Year	Since Inception (9/30/2002)
Morningstar® Wide Moat Focus™ Index	25.9	18.6	20.5	12.7	15.1
S&P 500 (Cap Weighted)	24.5	16.6	18.9	7.8	9.8

Data from September 30, 2002 through June 30, 2014

©2014 Morningstar, Inc. All rights reserved. Morningstar and the Morningstar logo are either trademarks or service marks of Morningstar, Inc.



Morningstar Quantitative Equity Ratings

Learn More

<http://global.morningstar.com/EquityResearch>

Benefits

- Provides expanded global and sector coverage
- Helps investors evaluate the most attractively priced stocks in each category
- Complements our existing analyst ratings and analysis, which serves as a second opinion for investors to consider

With about 120 equity and credit analysts, Morningstar has one of the largest independent equity research teams in the world. Morningstar analysts cover approximately 1,700 equities, using a consistent, proprietary methodology that focuses on fundamental analysis, competitive advantage assessment, and intrinsic value estimation. To complement our analysts' work, we've introduced quantitative equity ratings, which are forward-looking and generated by a statistical model that is based on Morningstar's analyst-driven equity ratings and quantitative statistics.

A Quantitative Approach

Morningstar's quantitative ratings are available for more than 28,000 companies in 86 countries that trade on 64 exchanges, allowing investors to obtain a much greater breadth of the independent perspective they know and trust from Morningstar. These ratings—Quantitative Fair

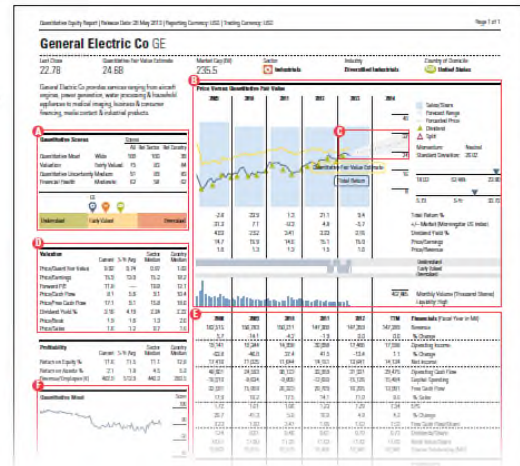
Value Estimate, Quantitative Valuation, Quantitative Economic Moat, Quantitative Uncertainty, and Quantitative Financial Health—set out to replicate the projections of our analyst team as accurately as possible. To this end, our quantitative metrics are derived from a statistical model designed to mimic our analyst-driven ratings.

What it Means for Investors

By introducing quantitative equity ratings, Morningstar is extending a useful tool to thousands of securities around the world that might otherwise not be analyzed. A forward-looking quantitative assessment, rooted in our analyst process, is far more useful than a data page containing historical financial numbers. The quantitative ratings are relative to the full investment universe, each country, and each sector, which helps investors evaluate the most attractively priced stocks in each category. We expect to have instances where our qualitative and quantitative

Key Features and Ratings

- A. Quantitative Equity Ratings
- B. Price versus Quantitative Fair Value Estimate comparison
- C. Forecasted price range
- D. Valuation data
- E. Historical financials
- F. Competitive Advantage Trend chart



Disclosure

©2014 Morningstar. All rights reserved. For information and/or illustrative purposes only. Not for public distribution. The Morningstar Investment Management division is a division of Morningstar and includes Morningstar Associates, Ibbotson Associates, and Morningstar Investment Services, which are registered investment advisors and wholly owned subsidiaries of Morningstar, Inc. The information contained in this presentation is the proprietary material of Ibbotson Associates. Reproduction, transcription or other use by any means, in whole or in part, without the prior written consent of Ibbotson Associates, is prohibited. The Morningstar name and logo are registered marks of Morningstar, Inc. The Ibbotson name and logo are registered marks of Ibbotson Associates, Inc.