



Advisory Board Presentation

Applied Investment Management – Cohort XLVI

April 30, 2018



Analyst Introductions

Jan E Alam

Labore, Pakistan

Facebook, NextEra Energy

Gabriel Albuquerque

Belo Horizonte, Brazil

Impinj, Alphabet

Sonakshi Bahety

Indore, India

Total Systems Services, Transdigm Group

William Bowser

Grand Rapids, MI

Berry Global Group, Apollo Global Mgmt

Matthew Bushland

Austin, TX

Kinder Morgan, Dollar Tree

Kyle Carlson

Bay City, MI

Palo Alto Networks, Waste Management

Robert Cowen

Ashland, OH

Exelon, Cleveland-Cliffs

Nicolas DeLong

Stevensville, MI

Intercontinental Exchange, Costco

Yash Dhariwal

Ahmedabad, India

Thermo Fisher Scientific, Thor Industries

Michael Driscoll

Madison, NJ

Under Armour, Antero Resources

William Garland

Virginia Beach, VA

Booking Holdings (fmr. Priceline), Starbucks

Conor Hogan

Harleysville, PA

Ritchie Brothers, Alexion Pharmaceuticals

Jintao (Charles) Jiang

Zhengzhou, China

Union Pacific Corporation, Biogen

Matthew Kauffmann

Raleigh, NC

Trupanion, Amerco

Raja Krishnan

Princeton, NJ

Southwest Airlines, Azul SA (ADR)

Garrett Leahy

St. Louis, MO

Stryker, Terraform Power

Nicholas Lotz

Ramsey, NJ

MarketAxess, Arconic

Patrick McHail

Harrison, ID

UnitedHealth Group, Hexcel

George Renaldi

Hinsdale, IL

Gilead Sciences, Walt Disney

Brock Reneer

Princeton, IN

Lockheed Martin, Escalade

Eric Salter

El Cajon, CA

PayPal, Comerica

Jack Shannon

Chicago, IL

Microsoft, Westrock

Jocelyn Susilo

Jakarta, Indonesia

Activision Blizzard, Kraft Heinz



In Memoriam: Michael Hemler

It is with deep regret to inform the AIM community of the unexpected death of Professor Michael Hemler.

Professor Hemler loved teaching and his enthusiasm in the classroom is dearly missed.

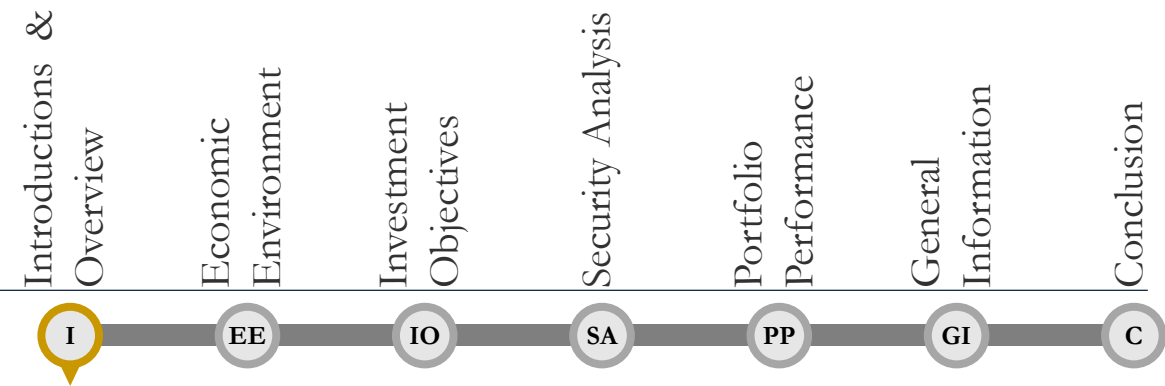


July 21, 1953 – February 14, 2018



Agenda

- Introduction & Course Overview
- Economic Outlook
- Investment Objectives
- Security Analysis
- Portfolio Performance
- AIM XLVI Review
- Concluding Remarks





Course Overview

Fundamentals

Investment Philosophy & Policies

Analyst Responsibilities



Fundamentals

Course Objectives

- Blends traditional academic objectives with practical experience of hands-on investment management
- Provide students with a thorough grounding in the portfolio management process
- Enhance each student's ability to effectively communicate their approach and analyses leading to their investment recommendations

Analyst Selection

- MBA, MSA, and undergraduates submit a resume, transcript, and essay detailing their desires and qualifications to participate in the course
- Analysts are selected based on academic performance, professional experience, and other relevant criteria

Methodology

- The new AIM class inherits the approximately \$13mm portfolio handed over by the previous class
- Each analyst conducts and presents investment analyses for an existing portfolio stock
- Analysts then cover a stock of their choice to be considered for addition to the portfolio
- Finally, the class votes on the composition of the new portfolio based on each analyst's final recommendation



Investment Philosophy & Policies

Individual Philosophy

- Outperform the S&P 500 over the long-term
 - Other benchmarks include the Russell 2000 & the HBI Index (65% S&P 500, 35% Russell 2000)
- Bottom-up approach, accompanied by top-down consideration
- Make well-researched trade decisions that contribute to the growth of the portfolio's value for future classes

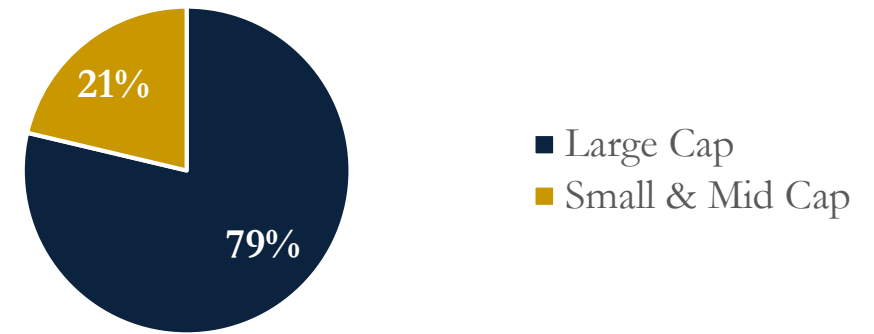
Investment Guidelines

- Only common equities traded on major U.S. exchanges
- Avoid companies whose ethics are not consistent with those of the University (i.e. abortifacients, birth control, tobacco, etc.)
- Target allocation: 35% Small & Mid-Cap, 65% Large Cap (with a -/+ 10% boundary)
- One stock should not exceed over 10% of the portfolio

Investment Constraints

- Liquidity: Investments limited to common equities
- Time Horizon: 3-5 year outlook
- Laws & Regulation: “Prudent Person Rule”
- Tax Considerations: Not a constraint for the fund given its tax-exempt status

New Portfolio Composition





Analyst Responsibilities

Individual Responsibilities

- In-depth research and coverage of two stocks
- Effective communication of findings to peers
- Complete various analyst reports and group projects
- Staying up-to-date on the market and portfolio stocks
- Each class, a student is assigned as “CIO”; responsibilities include a market update and organization of the class period

Group Projects

- Industry / Sector Analysis
- Economic Analysis
- Portfolio Performance
- Newsletter & Webpage

Analyst Reports

- Company Background
- Fundamental Analysis
- Earnings Forecast
- Beta & WACC Estimate
- Technical Analysis
- Intrinsic Valuation

Portfolio Churn





Economic Environment

Global Outlook

Inflation

Interest Rates

Proposed Tariffs

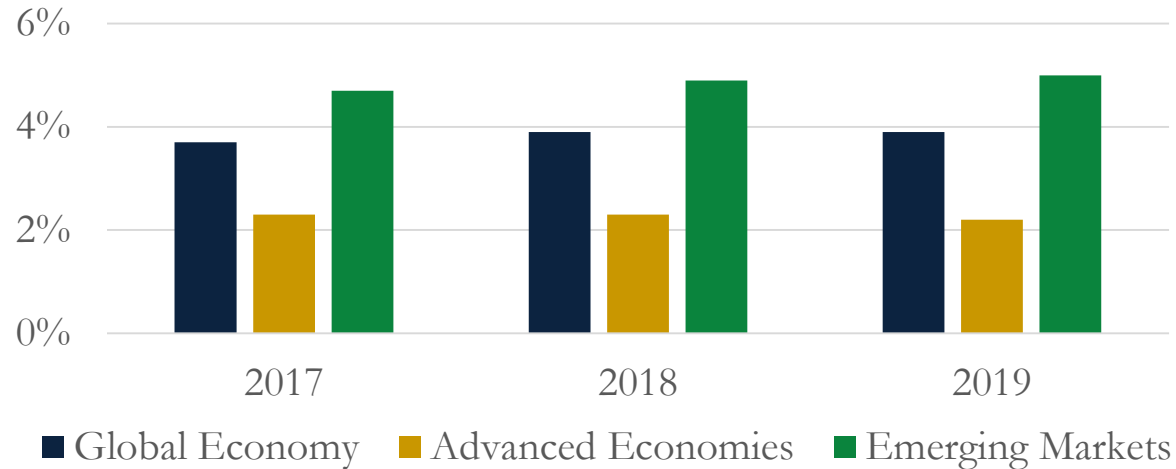
Trump Administration Tax Plan

Commodities



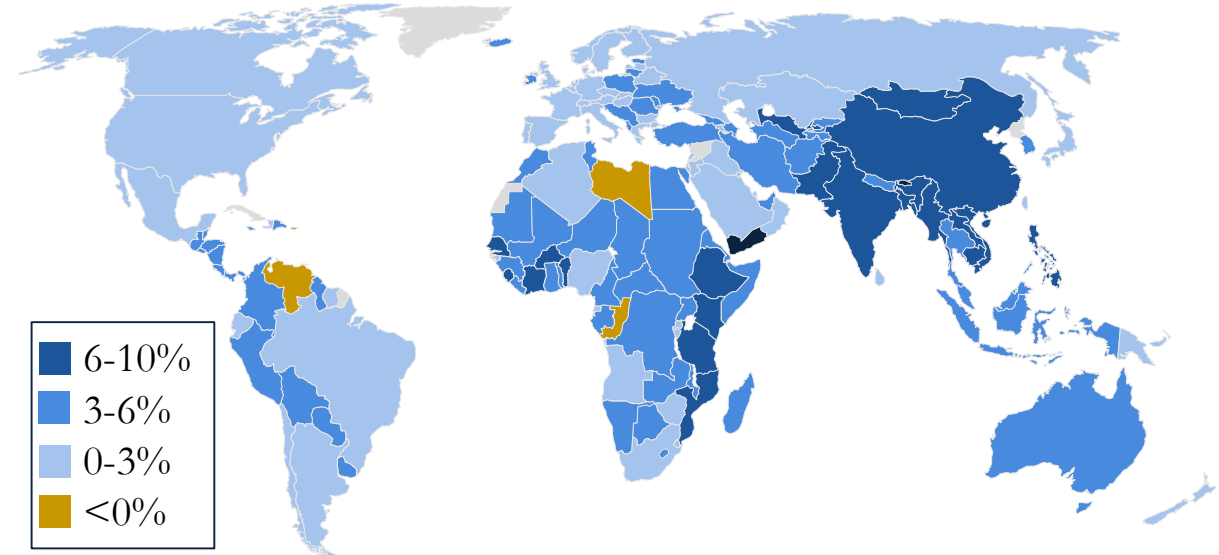
Global Outlook

Real GDP Growth



- Global economy is expected to maintain near-term momentum, on-track to be the fastest growth since 2011
- Normalization of interest rates, less easy money from the Federal Reserve and ECB
- India and China together will consume about 30% of global energy

IMF Projections – Real GDP Growth, 2019

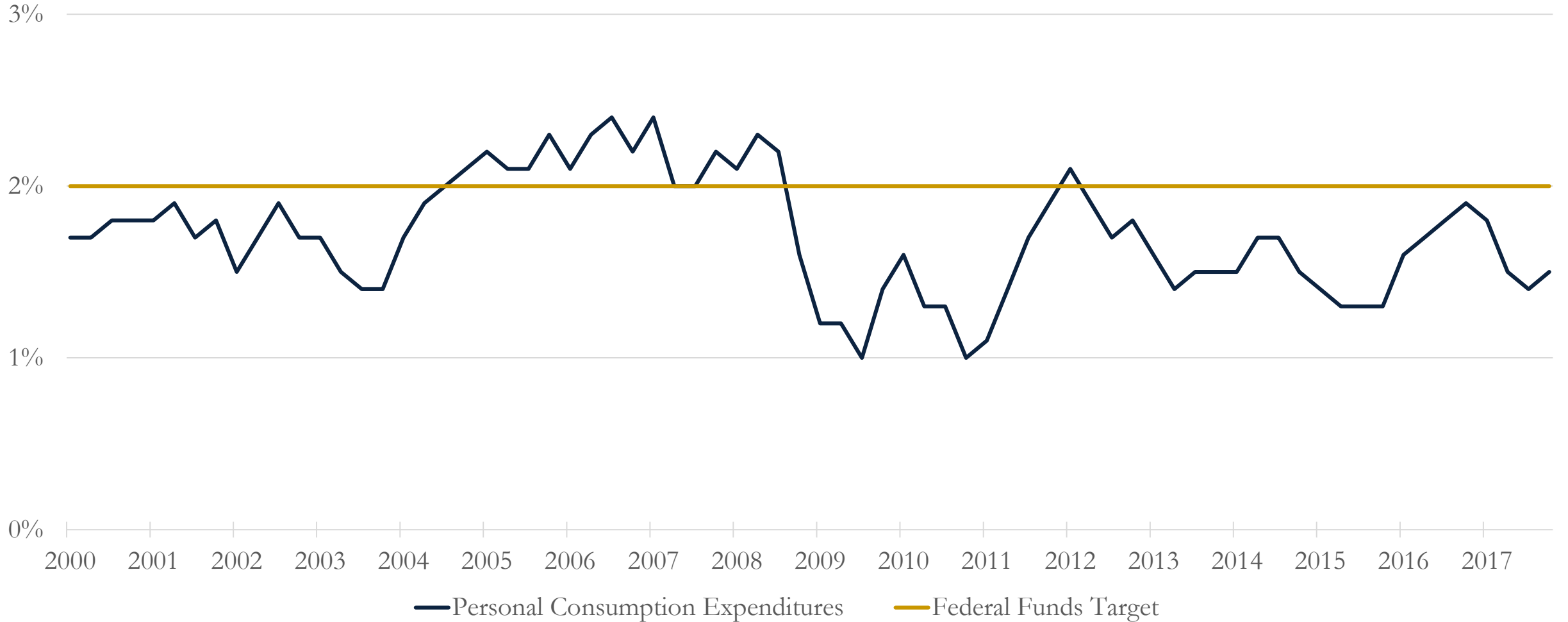


- Financial market correction triggered by tighter U.S. monetary policy in response to inflation
- Lower-than-expected impact from U.S. tax changes
- Trade barriers and noneconomic factors like extreme weather and climate events



Inflation

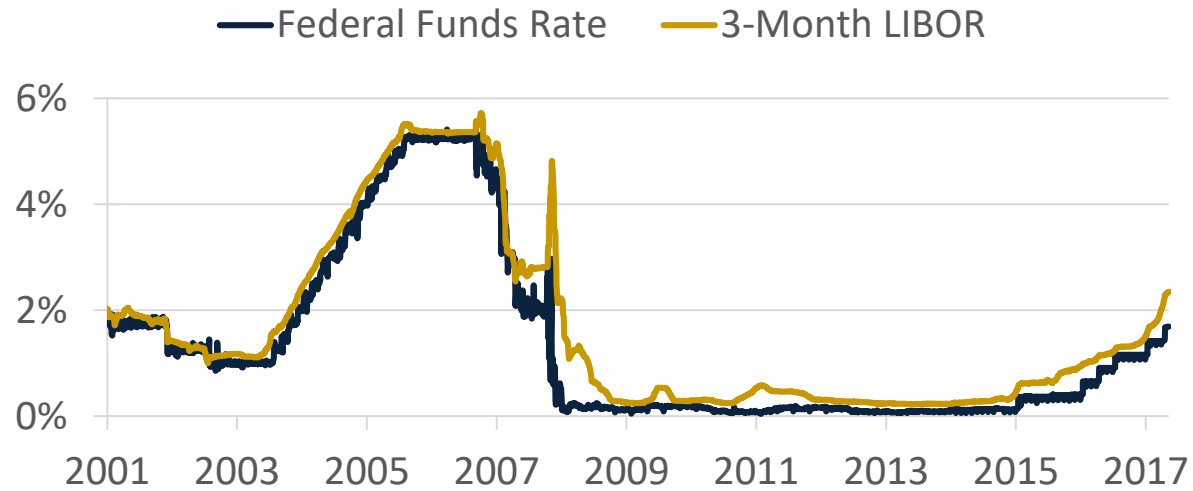
Personal Consumption Expenditures (Excluding Food & Energy)





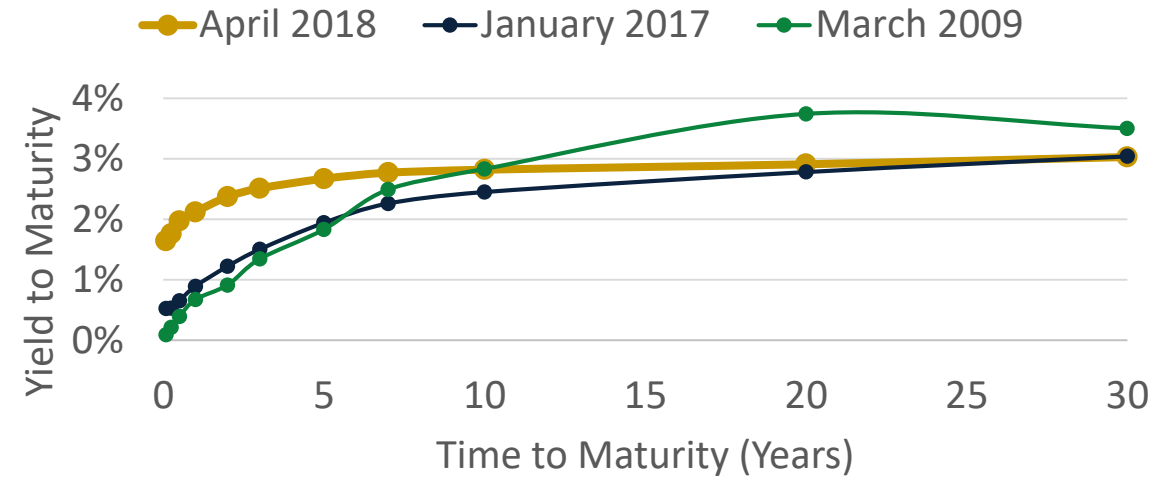
Interest Rates

Federal Reserve Policy



- New Fed Chairman: Jerome Powell
- Target range: 1.50% - 1.75%
- Driving factors:
 - Inflation
 - Economic growth
 - Potential trade war

Yield Curve

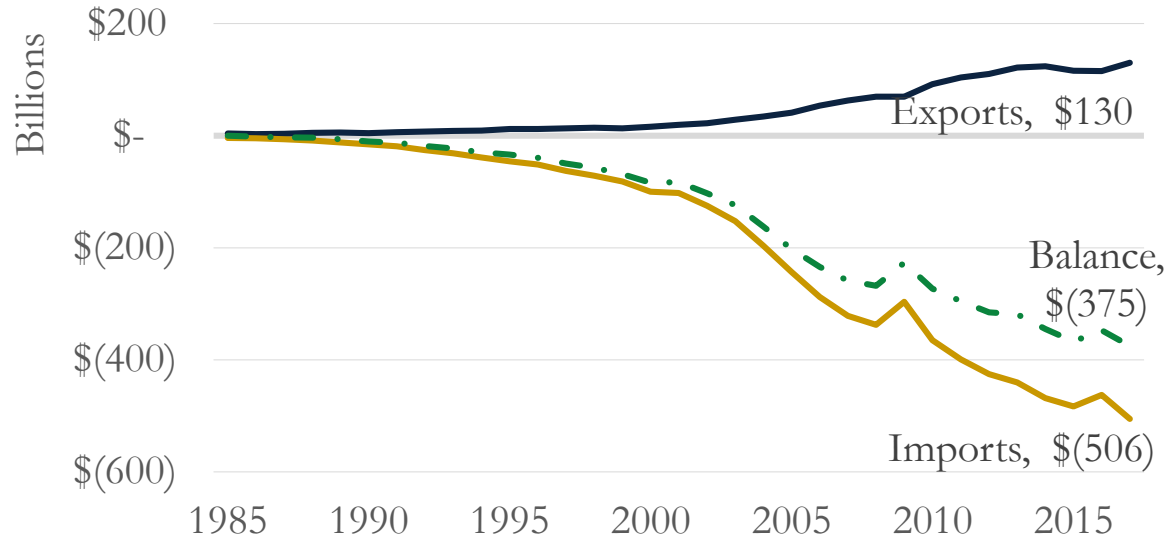


- Two-year note highest since 2008
- Compounded problem if tariff legislation passes
- Flattening yield curve could provide an indication of economic cycle down-stroke



Proposed Tariffs

U.S.-China Import vs. Export



- Trump Administration imposed stiff tariffs on \$50 billion in Chinese imports across 1,300 categories
- Trump was considering tariffs on an additional \$100 billion in imports from China
- China possible retaliation – 180 days to decide

Possible Scenarios

1 U.S. Tariffs Without Retaliation

- Import reduction boosts domestic production
- No retaliation creates minimal tariff incentive

2 U.S.-Focused Trade War

- Foreign tariffs slow U.S. exports

3 Global Trade War

- Open economies and trade-surplus countries most adversely affected, especially Europe

4 Global Trade War with Global Equity Sell-Off

- Equity price drop reinforces negative effects

Trade wars would weigh on growth mainly through higher inflation and interest rates



Trump Administration Tax Plan

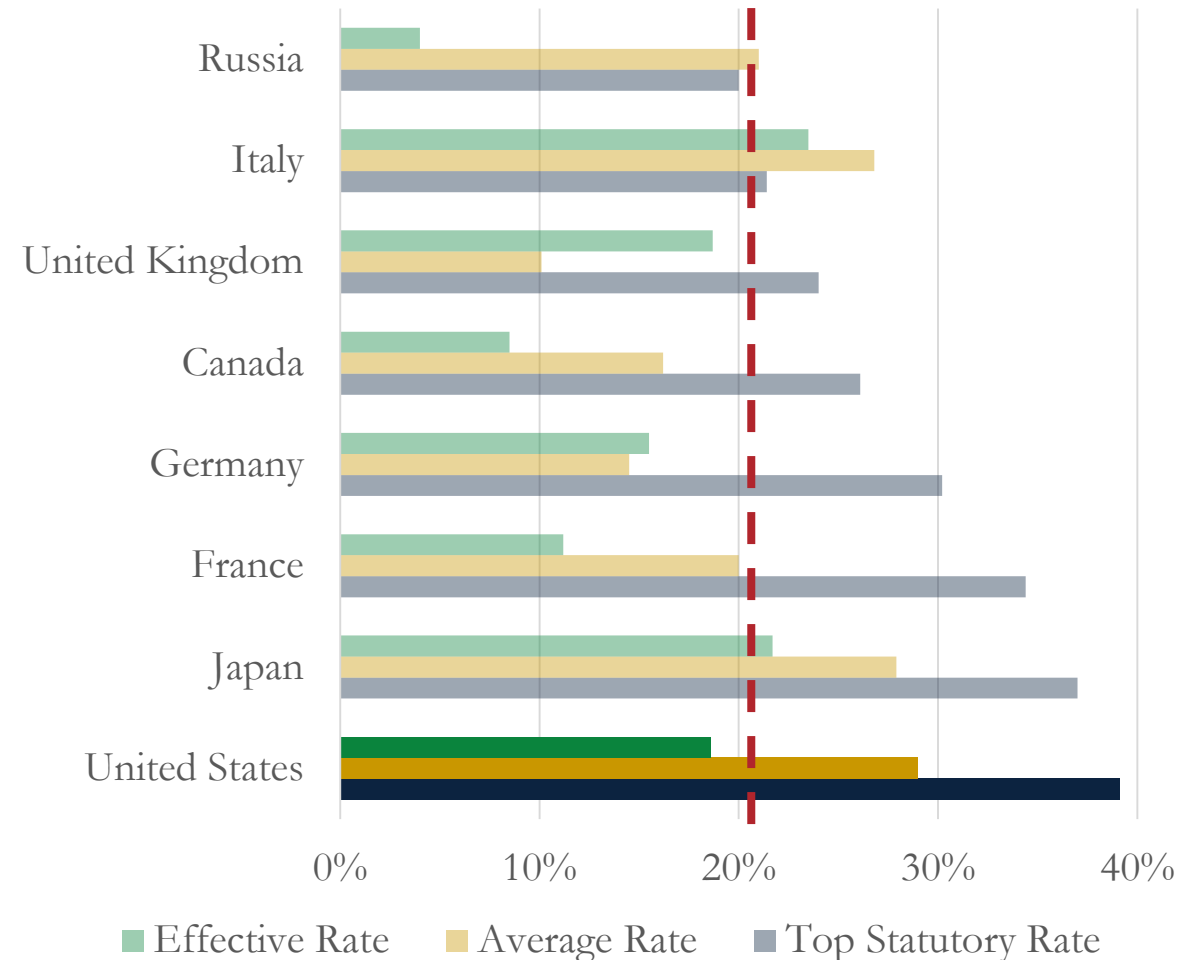
Tax Cuts and Jobs Act of 2017

- **Single 21% corporate tax rate**
 - Combined with state and local taxes – 26.5%
 - EU-countries weighted average – 26.9%
 - Reduce incentive for corporate inversion
- **Repeals the alternative minimum tax (AMT)**
- **One-time repatriation tax**
- Notable other items: Immediate expensing for short-lived capital investments; Pass-through income deduction; Net interest deduction; Removal of NOL carrybacks and caps carryforwards

Portfolio Impact:

Additional cash flow, minor capital structure changes
Somewhat already priced into stocks

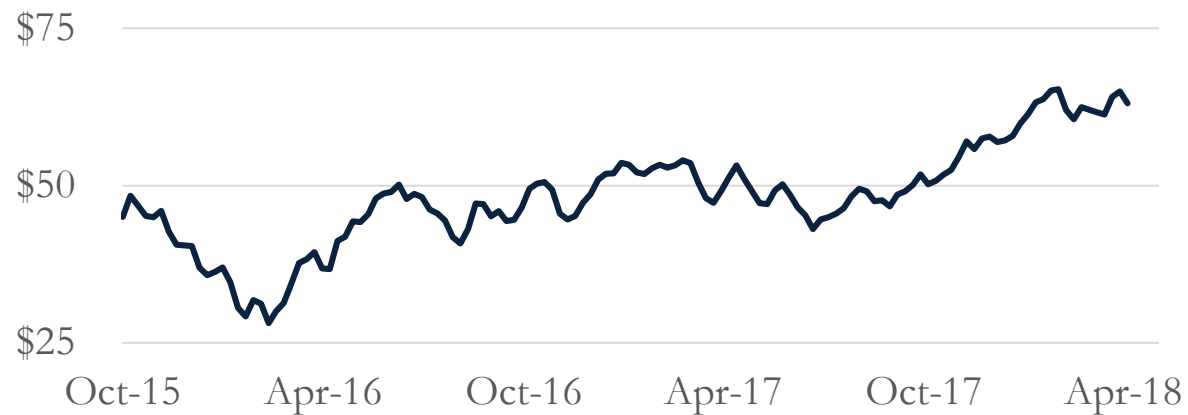
G8 Corporate Tax Rates





Commodities

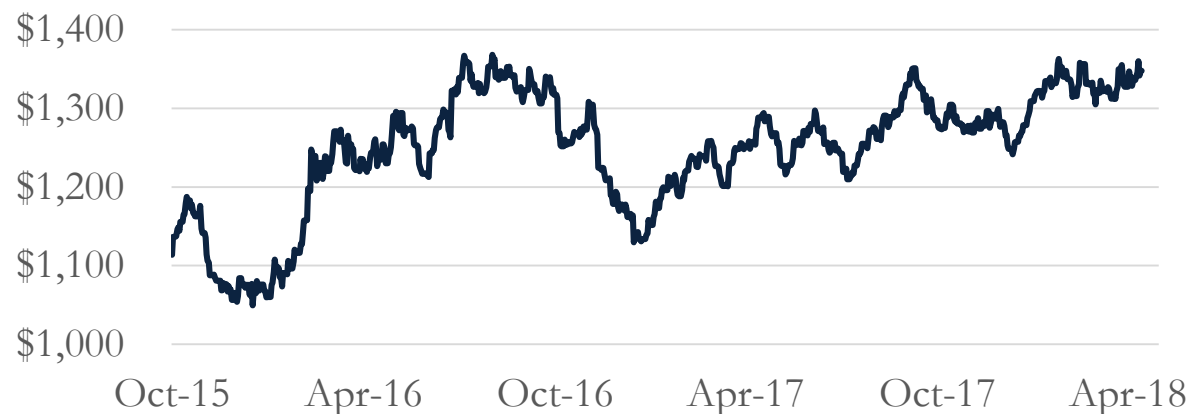
WTI Spot Price



Lumber



Gold



Shipping





Investment Objectives

Equity Valuation Methodology

Portfolio Selection Process

New Portfolio

Equities & Focus of Analysis



Equity Valuation Methodology

- Company & Industry Analysis
- Fundamental Analysis
- Earnings Analysis
- Beta & WACC Analysis
- Discovery
- Discounted Cash Flow Analysis
- Relative Valuation
- Alternative Valuation
- Technical Analysis



Portfolio Selection Process

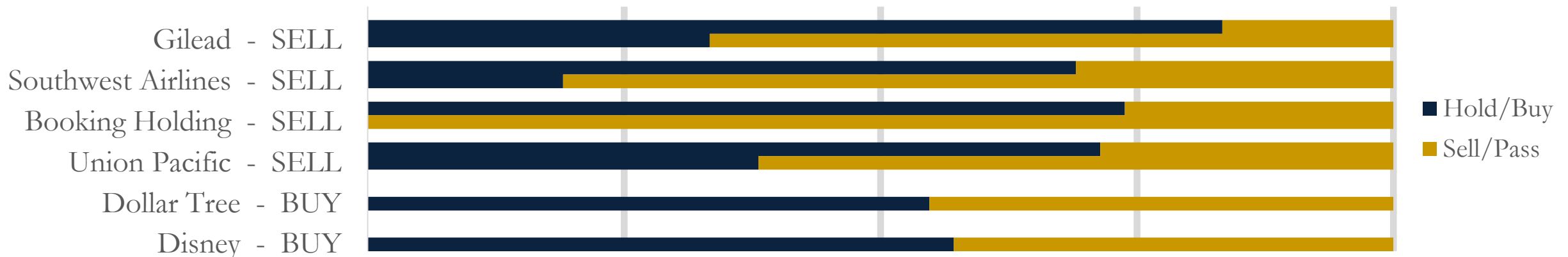
Methodology

- Investment committee based process
- Multiple combinations and industry sector weights considered
- 23 equal votes

Process

- Round 1 voting through survey and class discussion
- 2-minute pitch for Round 2 stocks
- Actively monitored portfolio allocation vs. S&P 500
- Independent voting for Round 2 stocks
- Discussions involving both rounds of stocks

Key Decisions – Decisions through Two Voting Rounds



Dollar Tree and Disney were added to the portfolio



New Portfolio

Existing Stocks

ACTIVISION. **BILZARD**

Alphabet

Exelon

facebook

ICE

KINDER **MORGAN**

LOCKHEED MARTIN

Microsoft

paloalto
NETWORKS

PayPal

RITCHIE BROS.
Auctioneers

stryker

ThermoFisher
SCIENTIFIC

TSYS

trupanion
Medical insurance for your pet.

UNITEDHEALTH GROUP

Portfolio Additions

APOLLO

ARCONIC

Biogen

CLIFFS

Comerica

Disney

DOLLAR TREE

Kraft Heinz

WASTE MANAGEMENT



Equities & Focus of Analysis

Current Holdings

Company Analysis



Discovery



Earnings



Discounted Cash Flow



Relative Valuation



Discovery



Portfolio Additions

Company Analysis



Industry Analysis



Discounted Cash Flow



Fundamental Analysis



Fundamental Analysis



Industry Analysis





Security Analysis



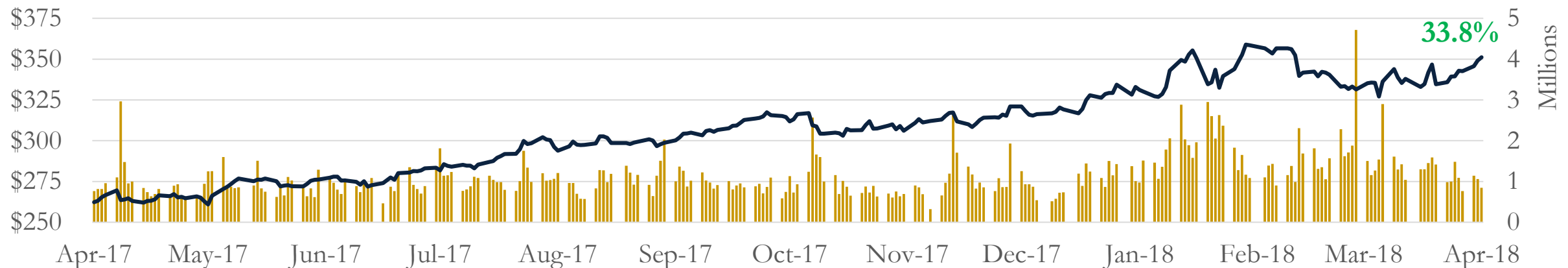
Company Highlights

- Researches, designs, develops, and produces products for governments and companies
- Headquarters: Bethesda, MD
- FY 2017 Sales: \$51.1 billion
- 97,000+ employees

Key Metrics

- Stock Price as of April 25, 2018 \$329.50
- TTM Price-to-Earnings 25.2x
- Market Capitalization \$100.6b
- Dividend Yield 2.27%
- TTM Adjusted Earnings Per Share \$13.96

One-Year Stock Price & Volume Chart





Sources of Competitive Advantages

- Largest U.S. defense contractor by government expenditures
- Long history of innovation and successful development – Skunk Works



Low Supplier Power

- 16,000+ U.S. suppliers across 50 states
 - Most suppliers have little or no power to dictate terms
 - Lockheed projects impact small businesses and job creation in numerous Congressional districts

Low Threat of Substitution

- Cross-platform applications of weapons systems
 - Aegis Ballistic Missile Defense System sensor integration into F-35
 - Interoperability of THAAD with other missile defense systems



Valuation Summary



Recommendation: HOLD

Portfolio Decision: HOLD

Valuation Method	Weight	Valuation	Contribution
Discounted Free Cash Flow	80%	\$373.40	\$298.72
Dividend Discount Model	20%	\$409.49	\$81.90
Comparable Company Analysis (P/E)	0%	\$345.58	\$0
Comparable Company Analysis (EV/EBITDA)	0%	\$334.24	\$0
Intrinsic Value			\$380.62
Price (As of April 18, 2018)			\$351.15
Estimated Upside			8.4%

- Lockheed Martin’s supplier network makes its contracts attractive to job-focused legislators
- Increased development and adoption of F-35 program will drive future sales growth and expand margins
- Size, scope, and history of Lockheed Martin will continue to drive contract awards



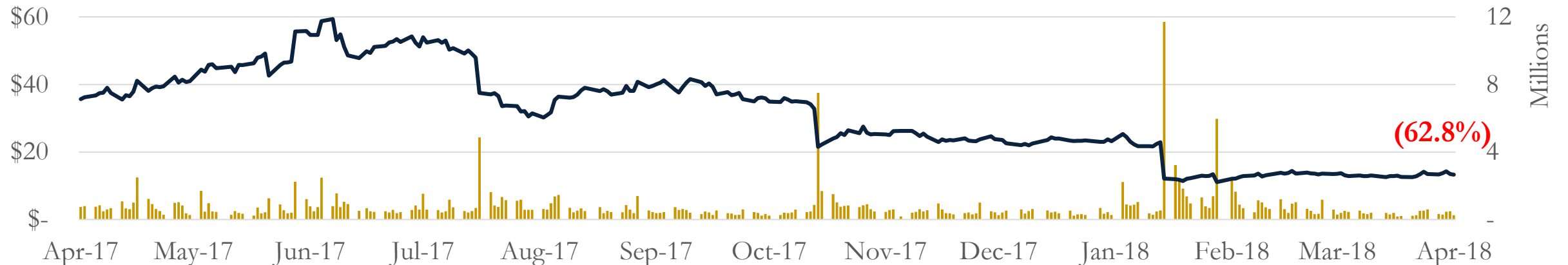
Company Highlights

- Leading market share (60%) in Endpoint ICs
- Only company that provides an integrated platform of RFID products
- First to market RAIN-RFID
- \$165 million in R&D since 2006

Key Metrics

- Stock Price as of April 25, 2018 \$12.34
- TTM Price-to-Earnings n/a
- Market Capitalization \$283m
- Dividend Yield n/a
- TTM Adjusted Earnings Per Share \$(0.84)

One-Year Stock Price & Volume Chart





Discovery

- Ronaldo Iabrudi – CEO of GPA, the largest retailer in Brazil with over 30 years of leadership experience
- GPA operates 2,089 locations with \$15 billion of revenue in 2017
- Company is a wide RFID adopter



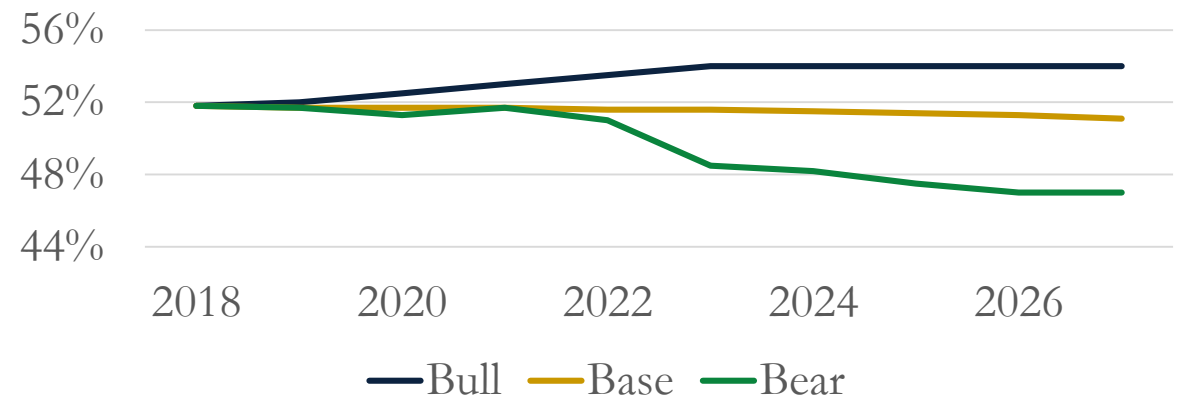
Takeaways & Impact on Valuation

- Competitive advantage (platform) might not be sustainable
- RAIN-RFID is somewhat replaceable with other item to cloud technologies
- Two main impacts on valuation are slower revenue / profit growth assumptions

Insights

- RFID helps improve – not revolutionize – inventory management
- Assessing cost-benefit is hard and low product differentiation across industry
- RAIN-RFID (Impinj) is a high-end technology and the market is still immature

Gross Margin





Valuation Summary



Recommendation: SELL

Portfolio Decision: SELL

Valuation Method	Weight	Valuation	Contribution
Blended Discounted Free Cash Flow	80%	\$10.82	\$8.65
<i>Discounted Free Cash Flow (Base)</i>	<i>75%</i>	<i>\$10.28</i>	
<i>Discounted Free Cash Flow (Bull)</i>	<i>10%</i>	<i>\$31.10</i>	
<i>Discounted Free Cash Flow (Bear)</i>	<i>15%</i>	<i>\$0.00</i>	
Comparable Company Analysis (EV/Revenue)	20%	\$11.58	\$2.32
Intrinsic Value			\$10.97
Price (As of April 18, 2018)			\$13.27
Estimated Upside			(17.3%)

- **Revenue Growth:** Focus on large brick-and-mortar retailers bring severe revenue volatility
- **Profit Margins:** Market share loss in Endpoint ICs, which is a gateway item for its higher margin readers and software, may undermine the company's cross-selling strategy
- **Competitive Advantage:** The platform is not perceived as a huge advantage by part of the market. Adopters are fine with purchasing separate components from competitors





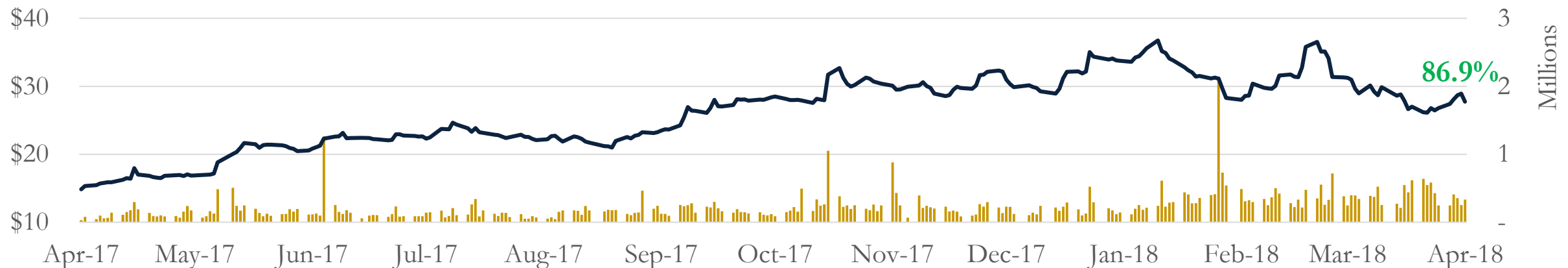
Company Highlights

- Provider of medical insurance for cats and dogs in the US and Canada
- Founded by Darryl Rawlings in 2000; 2014 IPO
- Business Segments: Direct-to-consumer subscription business (90%) and B2B other business (10%)

Key Metrics

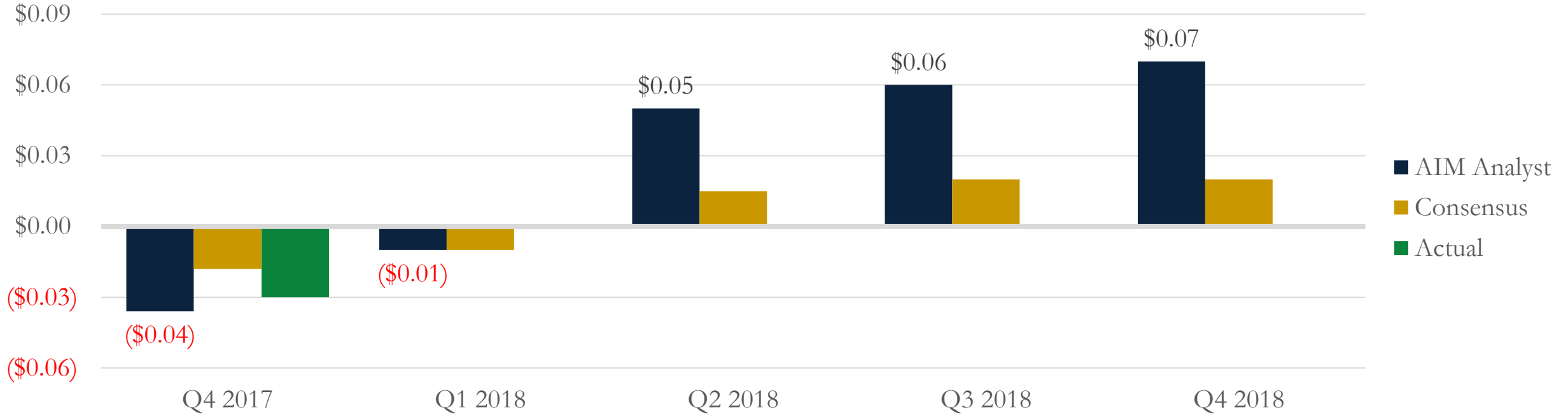
- Stock Price as of April 25, 2018 \$26.18
- TTM Price-to-Earnings n/a
- Market Capitalization \$829.1m
- Dividend Yield 0.0%
- TTM Adjusted Earnings Per Share \$(0.05)

One-Year Stock Price & Volume Chart





EPS Forecast



- Annual EPS will be positive for first time in FY 2018 as business grows to achieve economic scale
- Operational scale achieved in 2020 when enrollment subscription hits 650,000 pets
- A key determinant future success will be the effectiveness of marketing investments to capture share and grow faster than the overall market



Valuation Summary

Recommendation: HOLD

Portfolio Decision: HOLD

Valuation Method	Weight	Valuation	Contribution
Discounted Free Cash Flow (Base)	100%	\$35.88	\$35.88
Comparable Company Analysis (P/E)	0%	nmf	\$0
Comparable Company Analysis (EV/EBITDA)	0%	\$3.20	\$0
Comparable Company Analysis (EV/Revenue)	0%	\$26.40	\$0
Intrinsic Value			\$35.88
Price (As of April 18, 2018)			\$28.70
Estimated Upside			25.0%

- Pet acquisition cost headwinds met with aggressive reinvestment of rapidly growing adjusted operating income
- What Trupanion lacks in a differentiated product it makes up for in strong veterinary network advantages, solid execution, and a large under-penetrated market
- Long term growth potential is huge: U.S. pet insurance is a \$32 billion market that is 98% unpenetrated



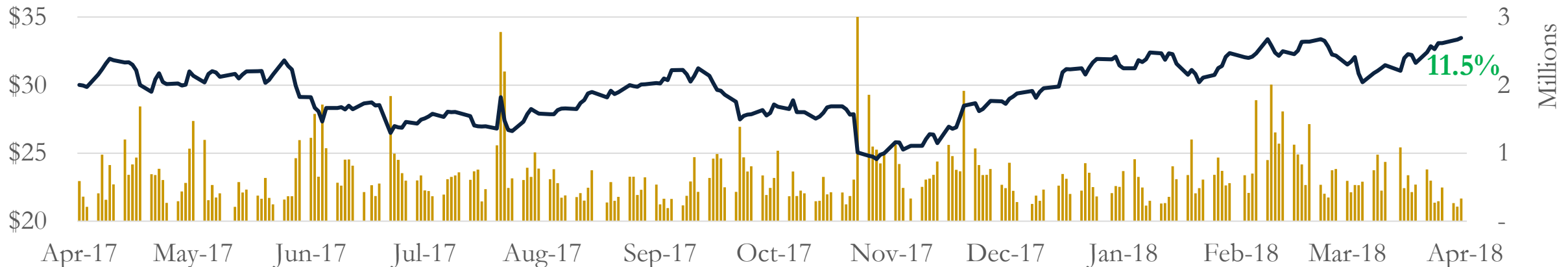
Company Highlights

- RBA is one of the world's largest used construction equipment auctioneers
- Gross Auction Proceeds of \$4.5 billion in 2017
- Operates primarily in the U.S. (53% of revenue) and Canada (28% of revenue)
- Unreserved auctions at 45 auction sites
- Recently launched Marketplace-E

Key Metrics

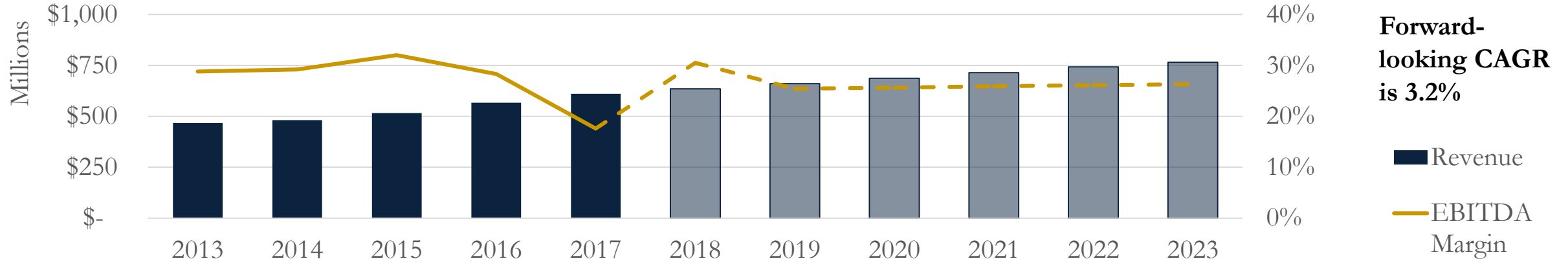
- Stock Price as of April 25, 2018 \$32.54
- TTM Price-to-Earnings 47.2x
- Market Capitalization \$3.5b
- Dividend Yield 2.0%
- TTM Adjusted Earnings Per Share \$0.69

One-Year Stock Price & Volume Chart





Revenue Projection & EBITDA Margin



Business Drivers

President Trump

- Infrastructure bill and tax law
- Construction growth

Acquisitions

- Leake Car Auctioneers
- Online auction space

Multi-Channel Sales

- Seller flexibility
- Network effect

Counter-Cyclicality

Market Differences

- Stronger economic locales
- Used equipment popularity

Dealer Network

- Primary competitor
- Reduction in used inventory





Valuation Summary



Recommendation: HOLD		Portfolio Decision: HOLD	
Valuation Method	Weight	Valuation	Contribution
Discounted Free Cash Flow	85%	\$39.28	\$33.39
Comparable Company Analysis (P/E)	6%	\$19.46	\$1.17
Comparable Company Analysis (EV/EBITDA)	6%	\$31.27	\$1.88
Comparable Company Analysis (EV/Revenue)	3%	\$22.02	\$0.66
Intrinsic Value			\$37.09
Price (As of April 18, 2018)			\$33.47
Estimated Upside			10.8%

- RBA serves as the dominant player in a highly fragmented market
- Network effects and online marketplace expansion will continue to drive GAP growth
- Multiple counter-cyclical factors of the company provide strong positioning in an economic downturn



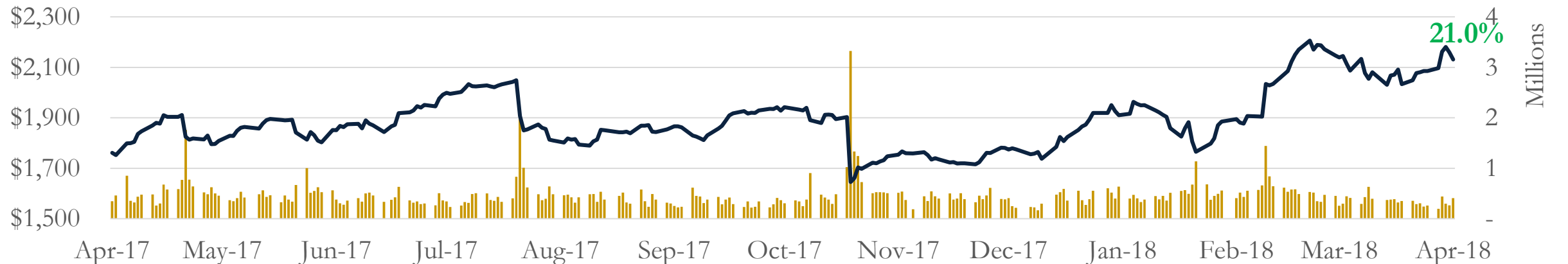
Company Highlights

- Known as The Priceline Group until February 21, 2018; World’s leading online travel company (OTC)
- High-margin, platform business model operating under a house of brands: Booking.com, Priceline.com, Kayak, Agoda, Rentalcars.com, OpenTable
- Driven primarily by international results (89% of consolidated gross profit)

Key Metrics

- Stock Price as of April 25, 2018 \$2,077.61
- TTM Price-to-Earnings 45.6x
- Market Capitalization \$102.9b
- Dividend Yield n/a
- TTM Adjusted Earnings Per Share \$55.40

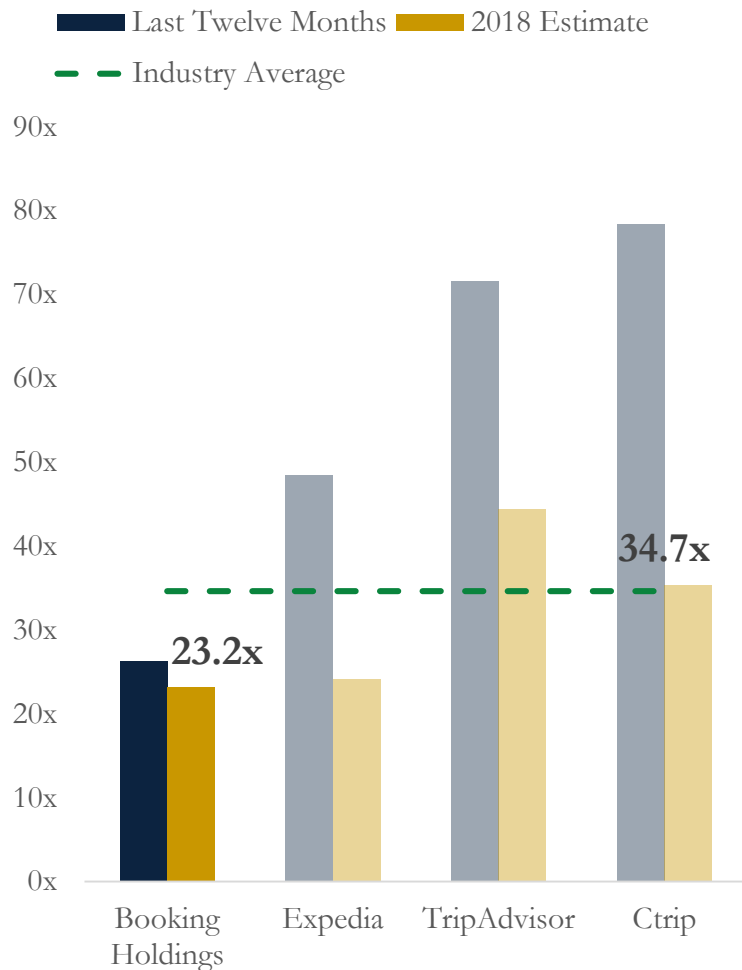
One-Year Stock Price & Volume Chart



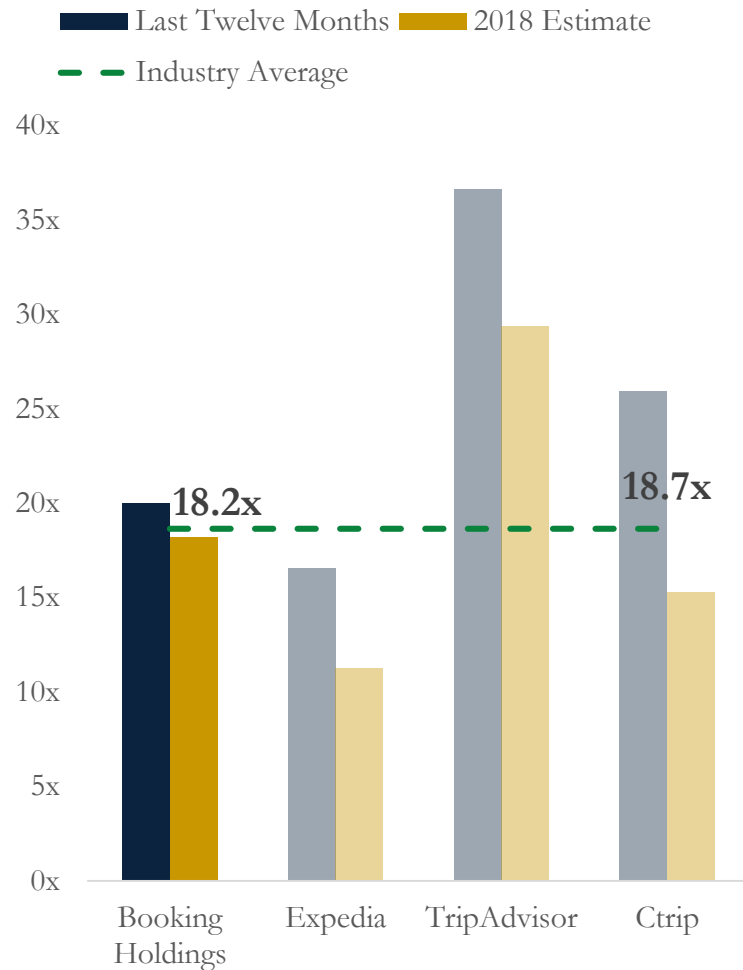


Relative Valuation

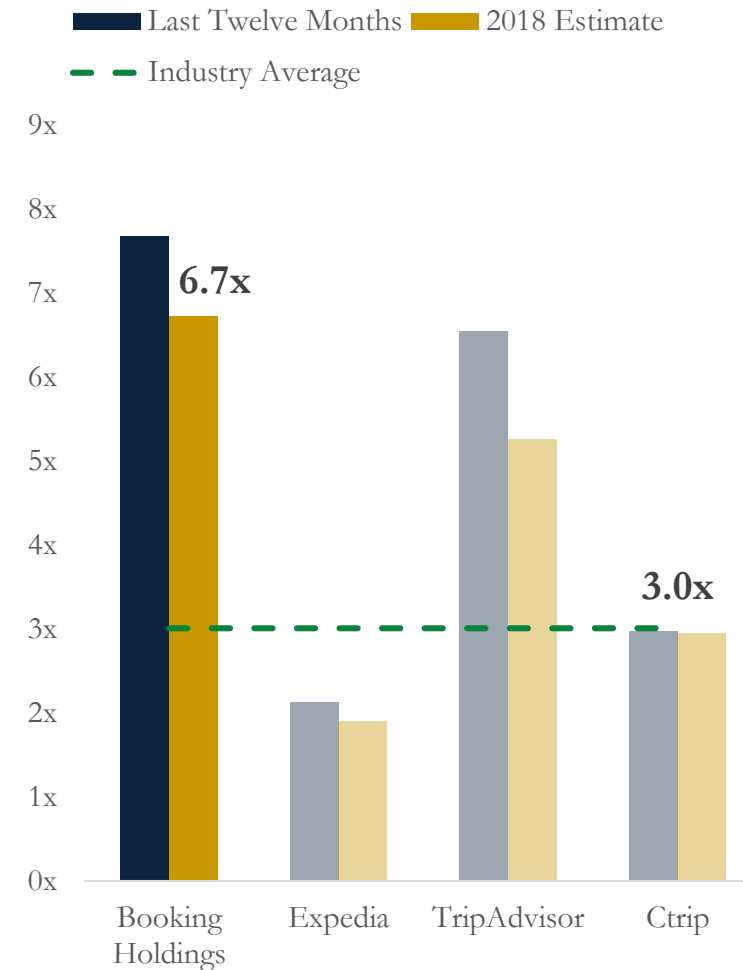
P / E



EV / EBITDA



EV / Revenue





Valuation Summary

Recommendation: HOLD

Portfolio Decision: SELL

Valuation Method	Weight	Valuation	Contribution
Discounted Free Cash Flow (Base)	80%	\$1,952.41	\$1,561.93
Comparable Company Analysis (P/E)	10%	\$2,803.42	\$280.34
Comparable Company Analysis (EV/EBITDA)	10%	\$2,241.32	\$224.13
Comparable Company Analysis (EV/Revenue)	0%	\$1,034.22	\$0
Intrinsic Value			\$2,066.40
Price (As of April 18, 2018)			\$2,180.60
Estimated Upside			(5.2%)

- First-mover advantage, strong network effects, int'l brand are a sustainable competitive advantage
- Best position to capture international growth (not reliant on slowing U.S. market)
- Industry leading margins/returns, strong balance sheet
- **Stock was priced at \$1,885 at the time it was pitched**



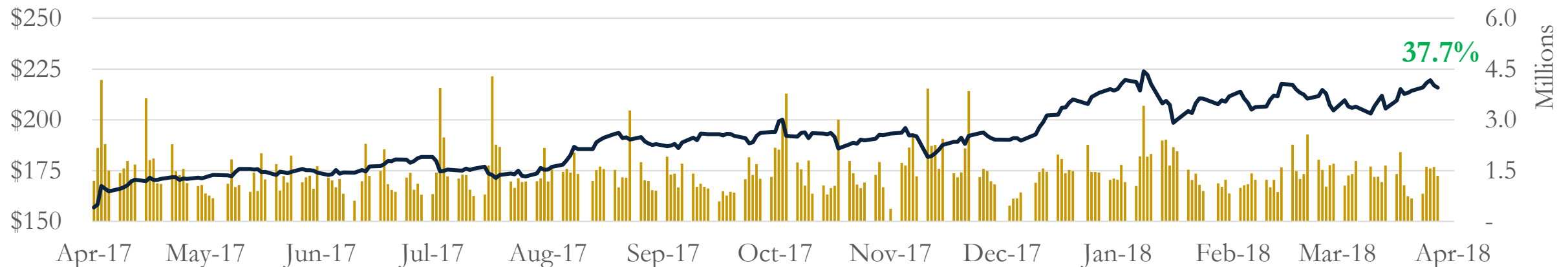
Company Highlights

- Diverse consumer, geographical & product mix
- Largest player in the medical research devices and equipment business
- Since 2016, \$13.2 billion invested in M&A
- 56% consumable revenue, recurring revenue

Key Metrics

- Stock Price as of April 25, 2018 \$214.47
- TTM Price-to-Earnings 22.8x
- Market Capitalization \$85.9b
- Dividend Yield 0.3%
- TTM Adjusted Earnings Per Share \$9.49

One-Year Stock Price & Volume Chart





Primary Discovery



Alex Mozorov, CFA
MD, Equity Research EMEA



Hold
\$190

Global pharma
R&D Spending
+75 bps

Long Term
Organic
Revenue
Growth rate
3.5%

Global regional
GDP growth
+100 bps

Patheon acquisition will not be dilutive to COGS and EBIT due to revenue from bio-production business @ 40% margin

Earnings and organic growth driven by China and emerging markets are the primary catalysts

Marc Casper and the management team is a competitive advantage with the acquisitive nature of the company



Paul Knight, CFA
MD, Lifesciences & healthcare



Buy
\$250



Valuation Summary

Recommendation: HOLD

Portfolio Decision: HOLD

Valuation Method	Weight	Valuation	Contribution
Discounted Free Cash Flow (Base)	90%	\$235.92	\$212.32
Comparable Company Analysis (P/E)	0%	\$270.22	\$0
Comparable Company Analysis (EV/EBITDA)	0%	\$271.98	\$0
Comparable Company Analysis (EV/Revenue)	10%	\$239.78	\$23.98
Intrinsic Value			\$236.30
Price (As of April 18, 2018)			\$219.53
Estimated Upside			7.6%

- China growth 17% CAGR since 2011, supported by government 5-year plan contracts
- Patheon acquisition makes TMO a one stop shop for research equipment and bio production of new drugs
- Strong and well diversified revenue mix in terms of geography, products, and end consumers



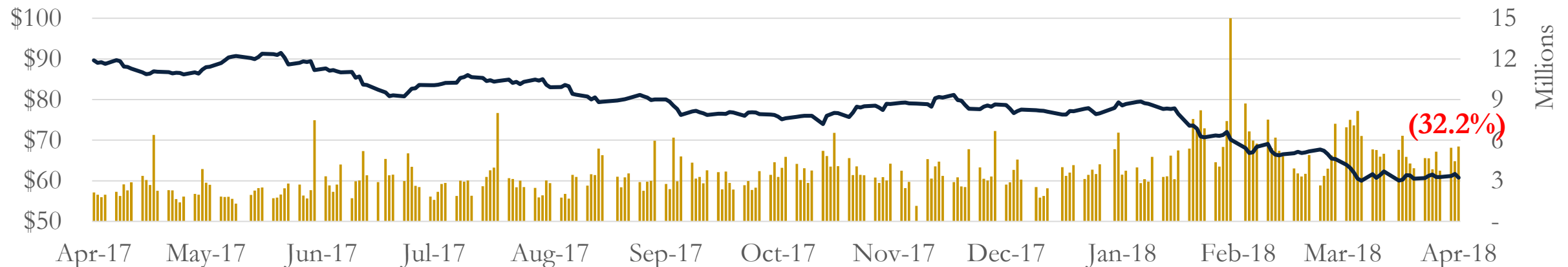
Company Highlights

- Leading packaged food company with eight brands worth above \$1 Billion
- Product mix includes condiments, frozen foods, cheese, ambient meals, meats & seafood, etc.
- In July 2015, Kraft Foods Group and H.J Heinz Holding merged to form Kraft Heinz

Key Metrics

- Stock Price as of April 25, 2018 \$56.85
- TTM Price-to-Earnings 6.5x
- Market Capitalization \$71.0b
- Dividend Yield 4.1%
- TTM Adjusted Earnings Per Share \$3.77

One-Year Stock Price & Volume Chart





Competitive Advantage



SWOT Analysis

Strengths

- Brand recognition
- Established supply chain

Weaknesses

- Highly competitive industry
- Changing consumer tastes

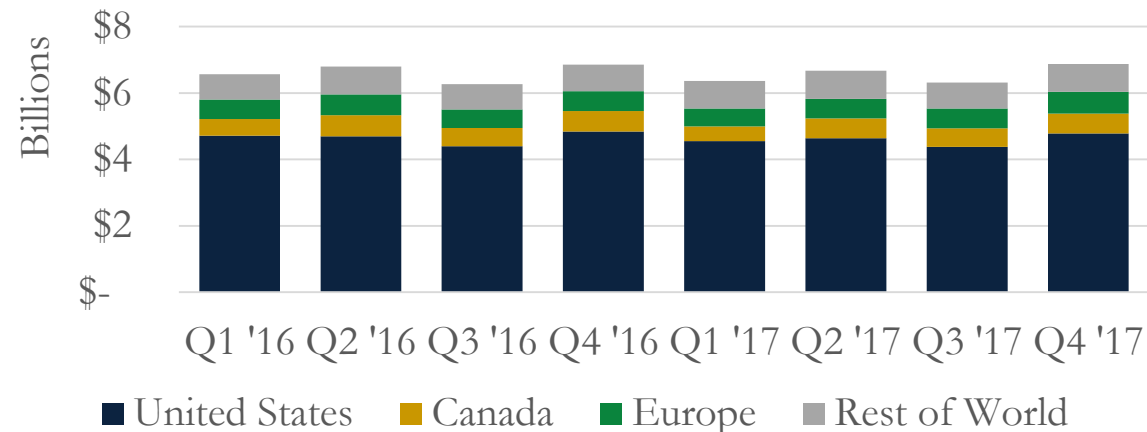
Opportunities

- Rising disposable income
- Increased health trends

Threats

- Economic downturn
- Changing retail landscape

Revenue Breakdown



Kraft Heinz Economic Moat

1 Strong Brand Recognition

- Sustained and effective brand spending

2 High Switching Costs for Retailers

- Trusted supplier with strong relationships



3 Size Advantage

- Streamlined supply-chain

4 Continued Cost Synergies

- History of driving out inefficiencies



Valuation Summary



Recommendation: BUY

Portfolio Decision: BUY

Valuation Method	Weight	Valuation	Contribution
Discounted Free Cash Flow	80%	\$67.78	\$54.23
Comparable Company Analysis (P/E)	20%	\$67.79	\$13.56
Comparable Company Analysis (EV/EBITDA)	0%	\$56.09	\$0
Comparable Company Analysis (EV/Revenue)	0%	\$33.50	\$0
Intrinsic Value			\$67.79
Price (As of April 18, 2018)			\$60.80
Estimated Upside			11.5%

- Strategically positioned to take advantage of emerging markets and overall global growth in the packaged food industry
- Wide economic moat shows its resilience to competitors and start-ups over time
- Experienced management team has been successful in decreasing inefficiencies and seeking new opportunities for potential M&A activity



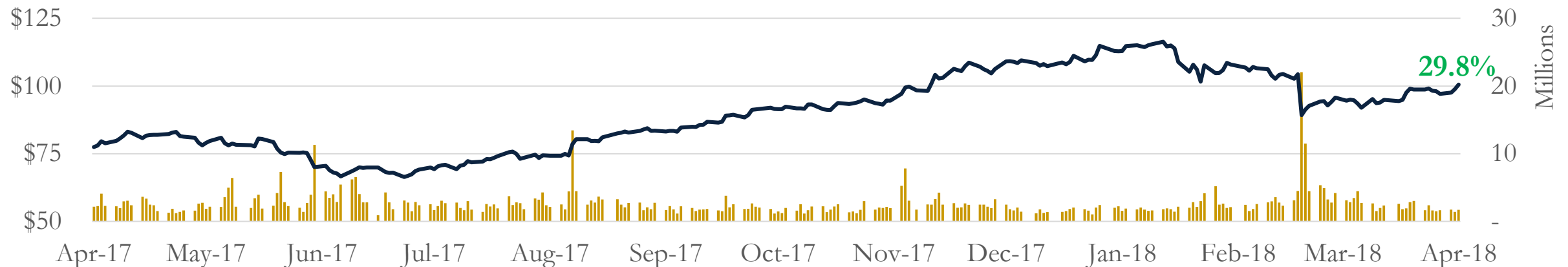
Company Highlights

- Largest operator of discount variety stores with 14,835 stores in the U.S. and Canada
- Dollar Tree offers products at a fixed price point of \$1
- Family Dollar sells basic necessities ranging from \$1 to \$10

Key Metrics

- Stock Price as of April 25, 2018 \$96.91
- TTM Price-to-Earnings 21.7x
- Market Capitalization \$23.2b
- Dividend Yield n/a
- TTM Adjusted Earnings Per Share \$4.52

One-Year Stock Price & Volume Chart





Industry Analysis



Drivers

Per-Capita Disposable Income

- Customers with higher disposable incomes will favor national brands and quality products

Poverty & Unemployment Rate

- 39% of Family Dollar's customers are below the poverty line

Population

- Population growth, especially in specific regions, increases potential customers

Key Factors

Customer Base

- Increase in middle class customers
- Acceptance of welfare programs
- On-site freezers and coolers

Risks & Weaknesses

- Low-incentivized employees
- Competition:



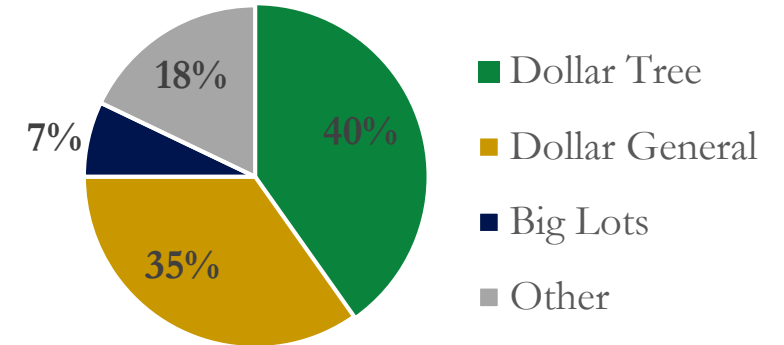
Walmart



E-Commerce

- Inefficient to ship small quantity items
- Membership fees too expensive
- Convenience factor

Market Share



Porter's Five Forces

Supplier Power	Low
Buyer Power	High
Threat of New Entry	Medium
Threat of Substitution	High
Competitive Rivalry	High



Valuation Summary



Recommendation: BUY

Portfolio Decision: BUY

Valuation Method	Weight	Valuation	Contribution
Discounted Free Cash Flow	85%	\$109.25	\$92.86
Comparable Company Analysis (P/E)	5%	\$105.98	\$5.30
Comparable Company Analysis (EV/EBITDA)	5%	\$95.52	\$4.78
Comparable Company Analysis (EV/Revenue)	5%	\$116.41	\$5.82
Intrinsic Value			\$108.76
Price (As of April 18, 2018)			\$100.52
Estimated Upside			8.2%

- **Stores:** Largest number of retail stores in America serving a diverse demographic
- **Expansion of Stores:** Opportunity for addition of freezers and coolers along with more acceptance of Electronic Benefit Transfer cards and food stamps
- **Potential Synergies:** \$300 million of run-rate cost synergies to be realized in the future along with the re-bannering of select stores



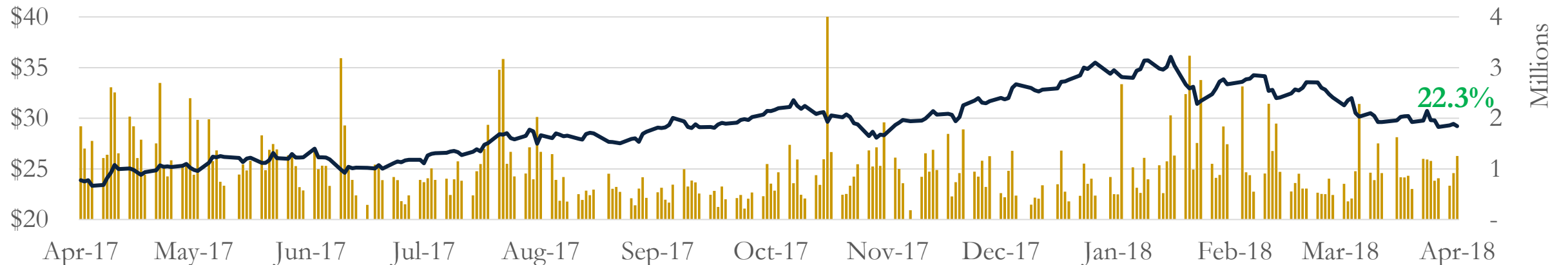
Company Highlights

- Alternative asset manager with \$249b AUM, operating under three core segments: PE (\$72b), Credit (\$164b), and Real Estate (\$12b)
- Ownership of Class A shares represent claims on primary sources of earnings: management fees and carried interest
- Superior top-quartile investment returns

Key Metrics

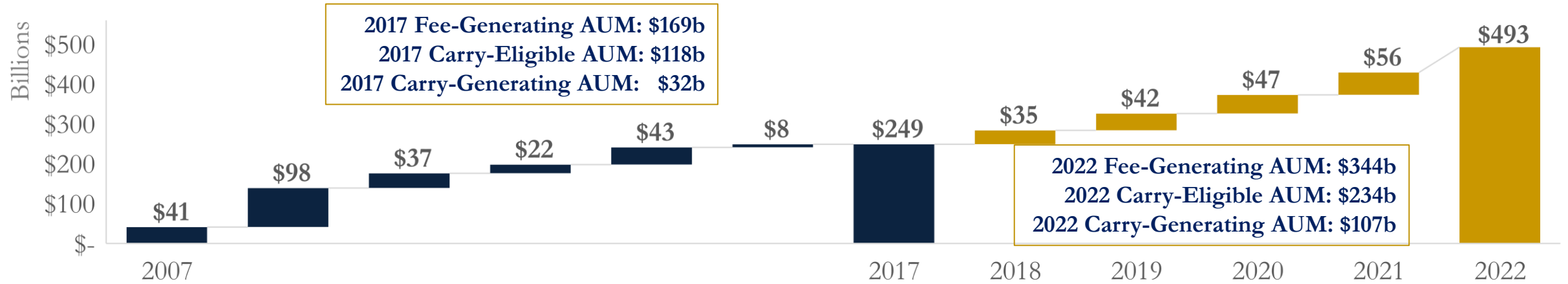
- Stock Price as of April 25, 2018 \$28.10
- TTM Price-to-Earnings 9.4x
- Market Capitalization \$12.0b
- Dividend Yield 7.0%
- TTM Adjusted Earnings Per Share \$3.10

One-Year Stock Price & Volume Chart





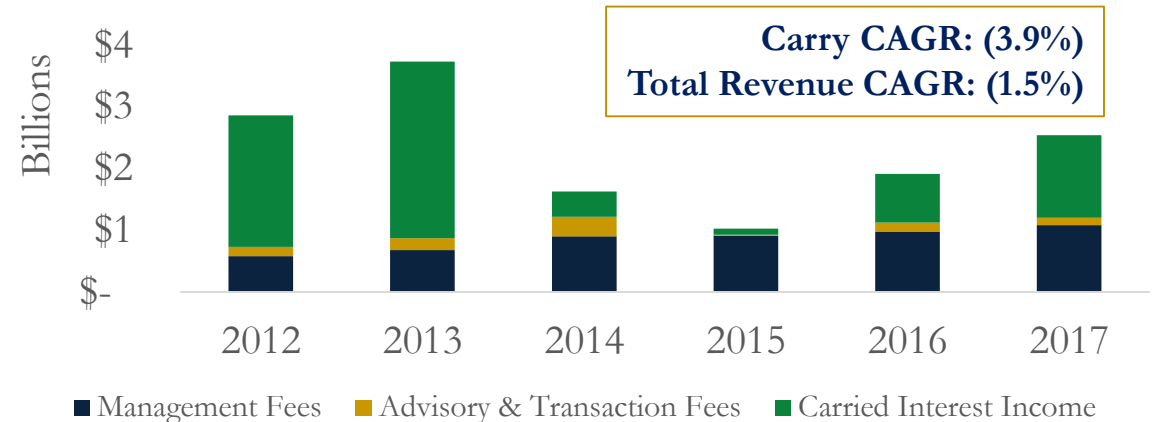
Historical AUM has Grown 6x Since 2007, Forecasting AUM to Grow 2x in Five Years



Forecasting Realized Cash Earnings

- Projecting \$493b of AUM by 2022 using segment specific CAGR's:
 - PE – 11.2%; Credit – 16.7%; RE – 4.9%
- AUM further disaggregated into fee-generating, carry-eligible, and carry-generating
 - Management fees average 64bps of total fee-generating AUM
 - Carry-generating AUM average historical percentage of 45.8% carry-eligible AUM
 - Actual carry an average historical percentage of 2.1% carry generating AUM

Key Risk: Cash Flow Volatility





Valuation Summary

APOLLO

Recommendation: BUY

Portfolio Decision: BUY

Valuation Method	Weight	Valuation	Contribution
Discounted Free Cash Flow	45%	\$36.05	\$14.74
Dividend Discount Model	45%	\$32.42	\$14.59
Comparable Company Analysis (EV/DE)	5%	\$32.47	\$1.62
Comparable Company Analysis (P/E)	5%	\$31.82	\$1.59
Intrinsic Value			\$34.03
Price (As of April 18, 2018)			\$29.21
Estimated Upside			16.5%

- Attractive asset class with increasing capital allocation to private markets
- Fee-generating AUM and top-quartile investment performance will further increase total realized cash earnings, 90% of which will be paid out to shareholders



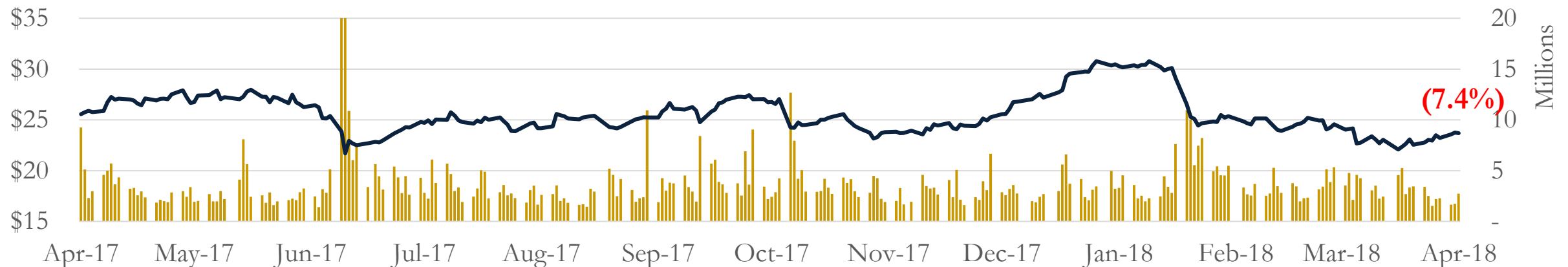
Company Highlights

- Specialize in lightweight metals engineering and manufacturing
- Headquarters: New York, NY
- FY 2017 Sales: \$13.0 billion
- 41,500 employees

Key Metrics

- Stock Price as of April 25, 2018 \$22.15
- TTM Price-to-Earnings 19.6x
- Market Capitalization \$11.4b
- Dividend Yield 1.0%
- TTM Adjusted Earnings Per Share \$1.21

One-Year Stock Price & Volume Chart

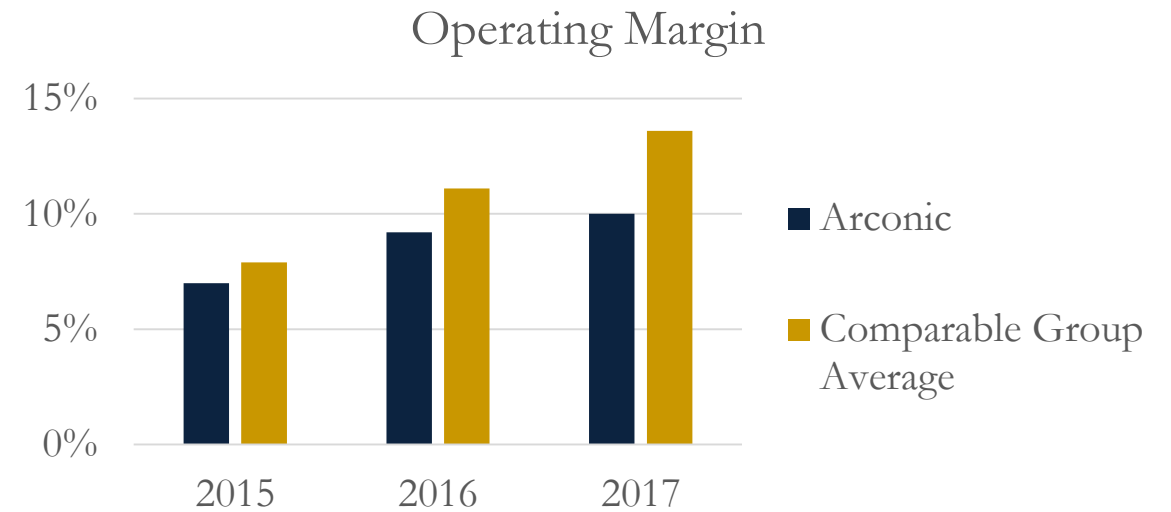
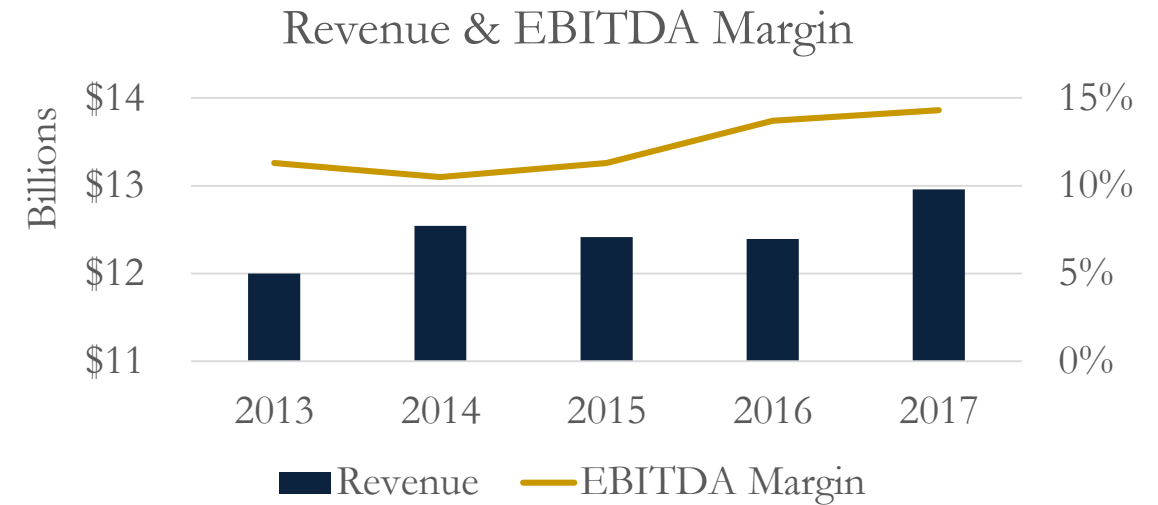




Fundamentals



- Improved and diversified product portfolio
 - Spent \$4.6 billion on three acquisitions in aerospace segment
 - Divested or shuttered lower margin businesses
- Significant opportunities to improve operational and financial performance
 - Operating margins are below industry median
 - Additional production volume generates higher incremental margins
- Continue to de-lever the balance sheet through debt repayment





Valuation Summary



ARCONIC

Recommendation: BUY

Portfolio Decision: BUY

Valuation Method	Weight	Valuation	Contribution
Discounted Free Cash Flow (Base)	90%	\$27.75	\$24.97
Price-to-Earnings Growth	10%	\$28.62	\$2.86
Comparable Company Analysis (P/E)	0%	\$25.23	\$0
Comparable Company Analysis (EV/EBITDA)	0%	\$23.45	\$0
Intrinsic Value			\$27.84
Price (As of April 18, 2018)			\$23.68
Estimated Upside			17.6%

- Increasing build rates of narrow-body aircraft will drive growth over the next several years
- Long-term contracts with the ability to pass-through metal prices
- Opportunities to improve operational and financial performance
- New CEO Chip Blankenship has significant experience in commercial aviation



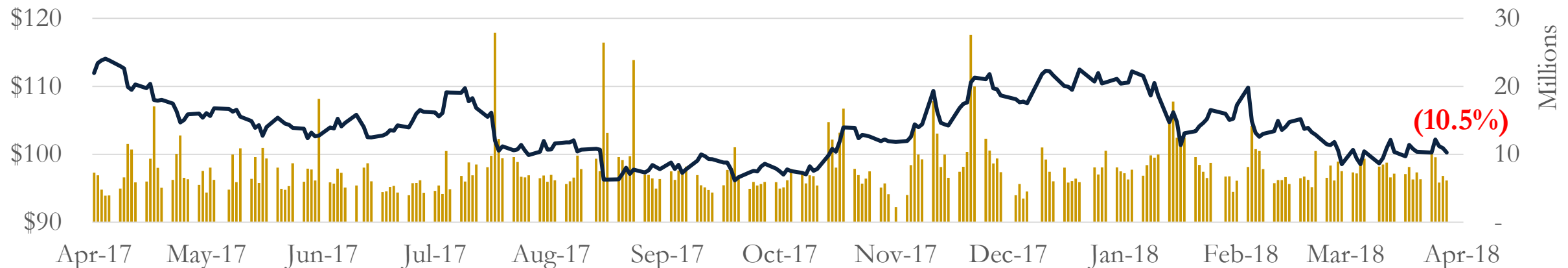
Company Highlights

- Consists of four segments: Media Networks, Parks and Resorts, Studio Entertainment, and Consumer Products
- Primary growth through M&A activity (21st Century Fox)
- Expanding in to the Direct-to-Consumer Live Streaming Business

Key Metrics

- Stock Price as of April 25, 2018 \$101.15
- TTM Price-to-Earnings 14.3x
- Market Capitalization \$150.7b
- Dividend Yield 1.7%
- TTM Adjusted Earnings Per Share \$5.70

One-Year Stock Price & Volume Chart

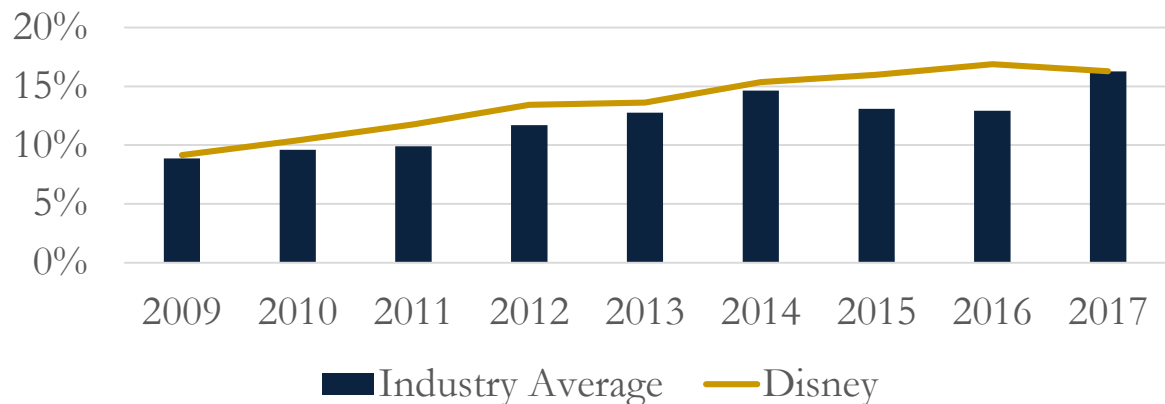




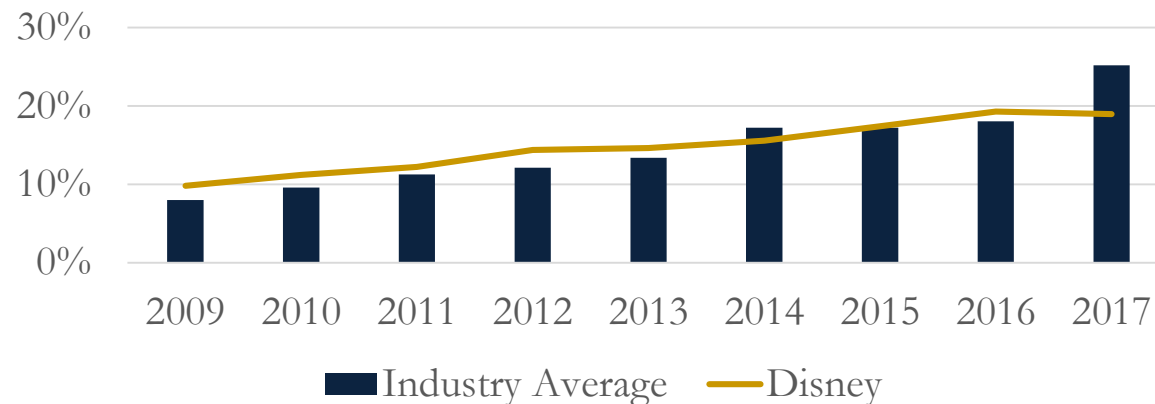
Fundamental Analysis



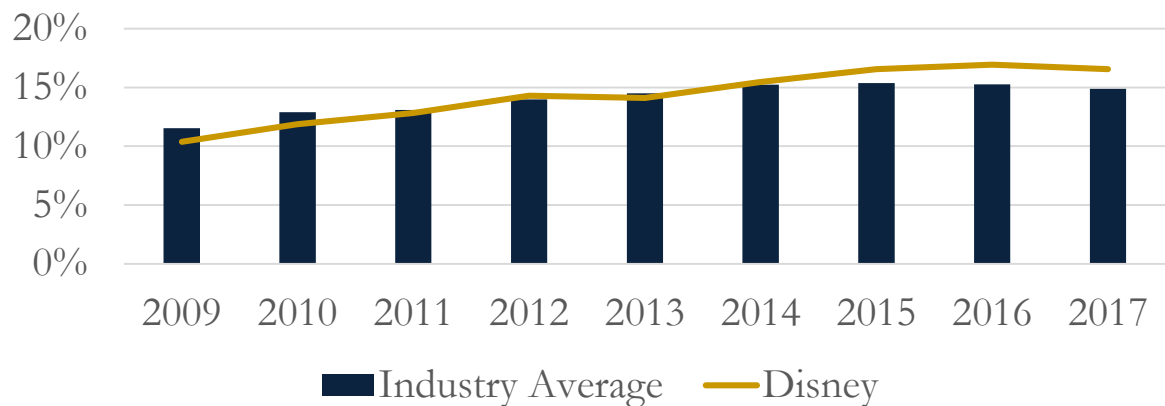
Net Income (Profit) Margin



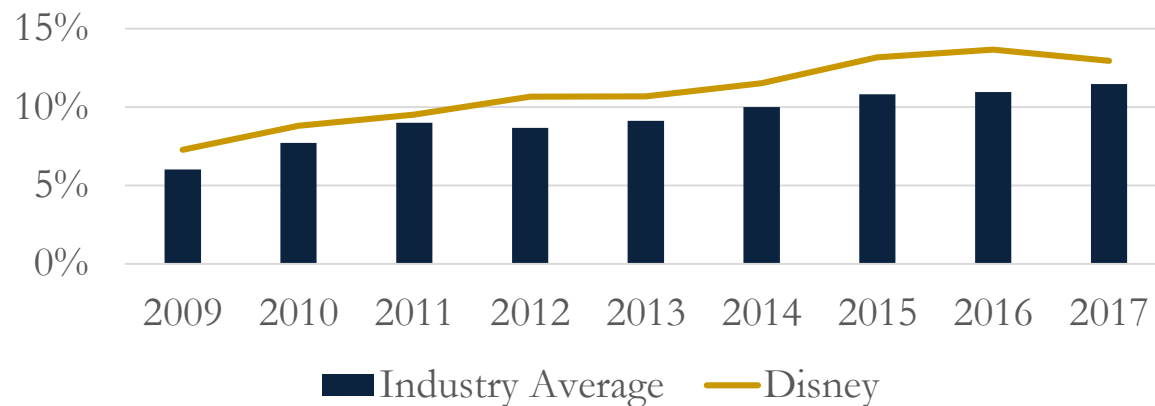
Return on Equity



After-Tax Operating Margin



Return on Capital



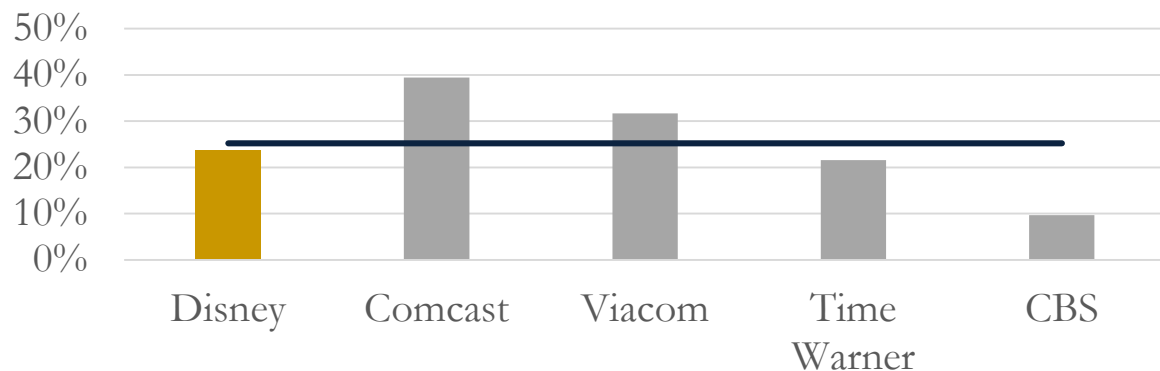


Fundamental Analysis

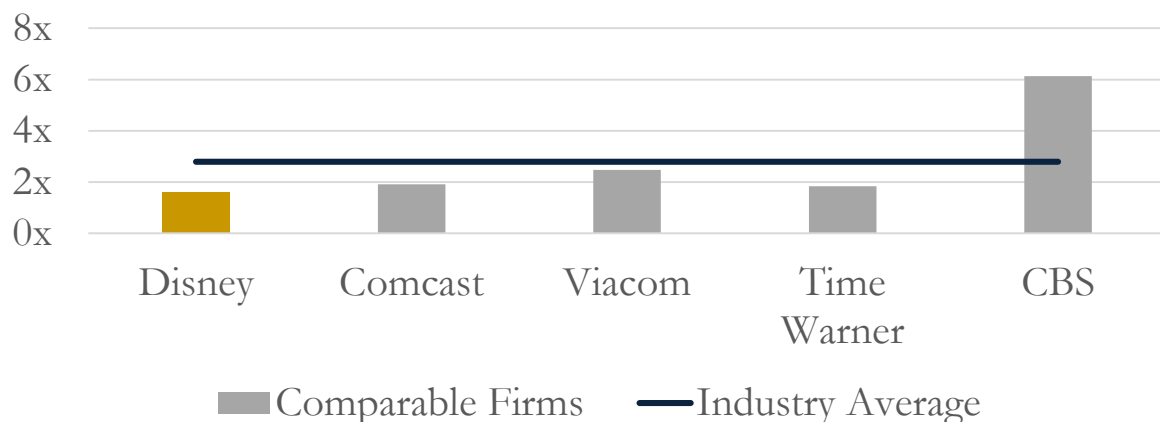


Return on Equity & Financial Leverage

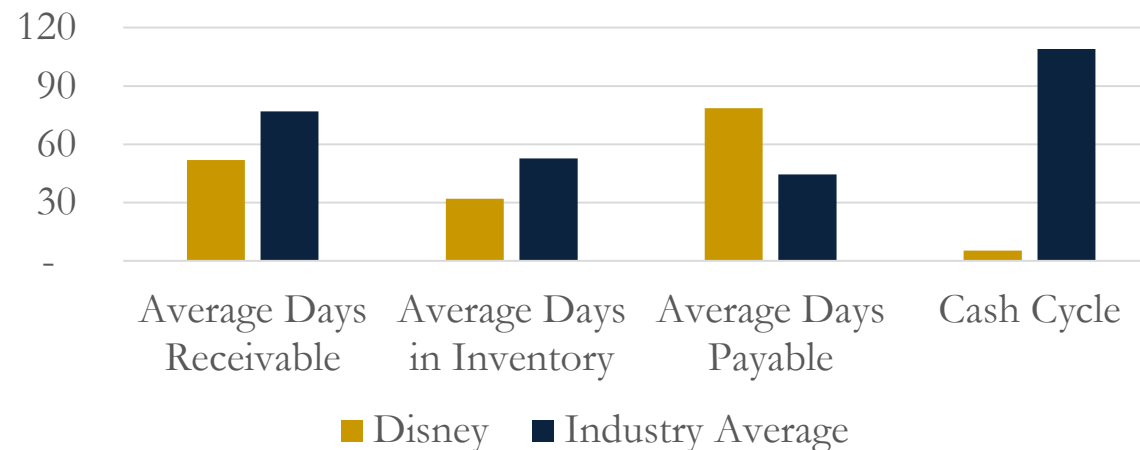
Return on Equity



Financial Leverage



Efficiency Ratios Versus Industry



- Achieves or beats the industry in all key profitability ratios, despite having far less financial leverage
- Has vastly superior efficiency ratios, leading to stronger cash flows
- Low cost of debt (A+ with S&P) and flexible capital structure gives Disney an advantage to grow both with M&A Activity as well as organically



Valuation Summary



Recommendation: BUY

Portfolio Decision: BUY

Valuation Method	Weight	Valuation	Contribution
Discounted Free Cash Flow (Base)	68.0%	\$109.51	\$74.47
Discounted Free Cash Flow (Bull)	8.5%	\$174.38	\$14.82
Discounted Free Cash Flow (Bear)	8.5%	\$54.68	\$4.65
Comparable Company Analysis (P/E) – 13.3x	5.0%	\$95.46	\$4.77
Comparable Company Analysis (EV/EBITDA)	5.0%	\$92.18	\$4.61
Comparable Company Analysis (EV/Revenue)	5.0%	\$114.16	\$5.71
Intrinsic Value			\$109.03
Price (As of April 20, 2018)			\$101.21
Estimated Upside			7.7%

- **Strong Competitive Advantages:** Capital structure, branding, best-in-class ratios, M&A-driven growth
- **Steady & Consistent Performance:** Improvement in ratios over time, growing EPS, steady dividend
- **Good Fit for AIM Portfolio:** Falls in the Consumer Discretionary sector and is a “value” stock



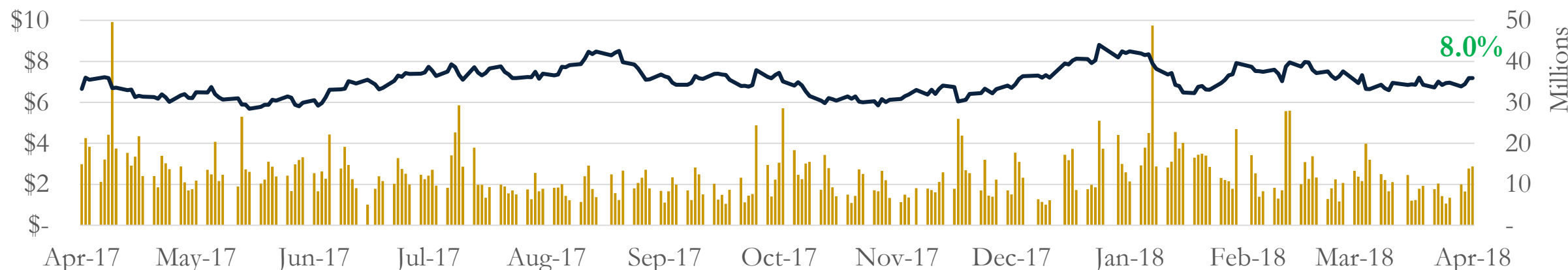
Company Highlights

- Largest and oldest independent iron ore mining company in the U.S.
- Major supplier of iron ore pellets to key North American steel customers, including: ArcelorMittal, AK Steel, and Algoma
- Misguided business decisions and poor acquisitions have sent the share price tumbling in past years

Key Metrics

- Stock Price as of April 25, 2018 \$7.48
- TTM Price-to-Earnings 5.8x
- Market Capitalization \$2.1b
- Dividend Yield n/a
- TTM Adjusted Earnings Per Share \$1.26

One-Year Stock Price & Volume Chart





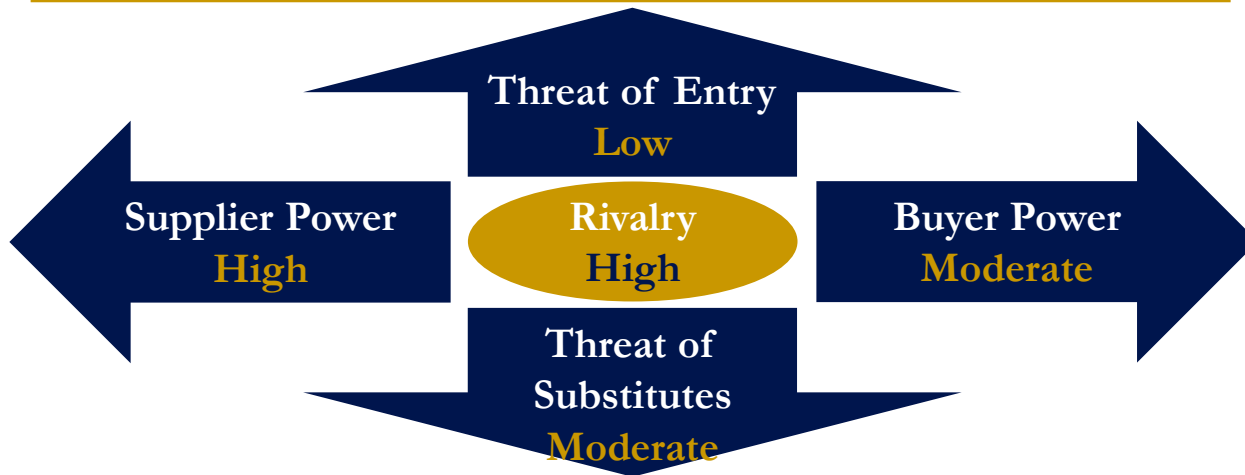
IODEX Spot Price: Iron Ore 62% Fe



Why This Matters for Cleveland Cliffs

- Revenues are based on price times volume
- Primary customers are in the steel industry, which has a strong outlook for 2018
- CLF's stock price historically has tracked closely to the IODEX

Porter's Five Forces



Key Takeaways for Cleveland Cliffs

- High exit barriers in the industry explain the slow financial healing process for CLF over the past seven fiscal years
- Steel industry shifting from blast furnace to EAF production



Valuation Summary



Recommendation: BUY

Portfolio Decision: BUY

Valuation Method	Weight	Valuation	Contribution
Discounted Free Cash Flow	100%	\$7.98	\$7.98
Comparable Company Analysis (P/E)	0%	\$9.17	\$0
Comparable Company Analysis (EV/EBITDA)	0%	\$10.32	\$0
Comparable Company Analysis (EV/Revenue)	0%	\$8.08	\$0
Intrinsic Value			\$7.98
Price (As of April 18, 2018)			\$7.19
Estimated Upside			11.0%

- Upside will be achieved through higher efficiency after cutting off operations in Western Australia and higher average pellet premiums due to the new HBI plant opening in Toledo, Ohio.
- Downside risks to consider:** Potential for sharp declines in iron ore commodity prices, new regulations, or a sudden industry shift toward EAF production in the upcoming fiscal year.



Portfolio Performance

Historical Performance Relative to Benchmarks

Best & Worst Performers

Portfolio Returns by Sector

Attribution Analysis

Risk-Adjusted Performance

40-Month 5-Factor Alpha Model & Period Beta

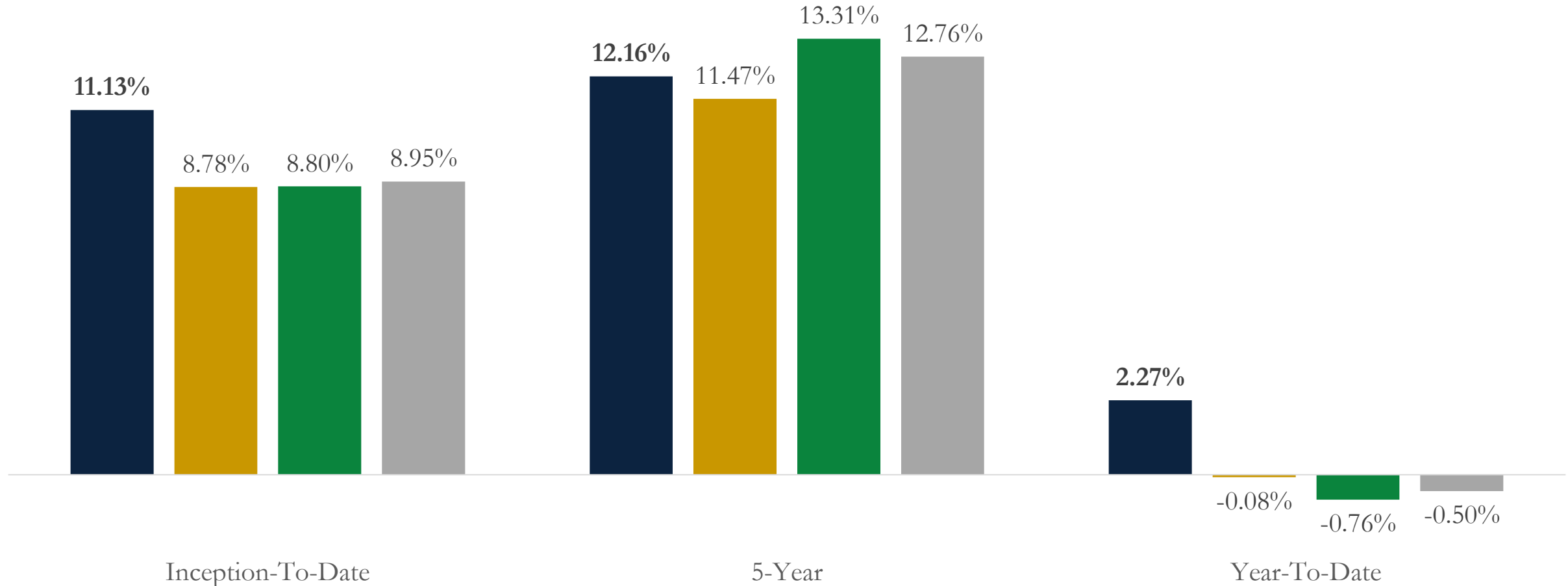
Portfolio Weights

Portfolio Changes



Historical Performance Relative to Benchmarks

■ AIM ■ Russell 2000 ■ S&P 500 ■ HBI



Observed through March 31, 2018

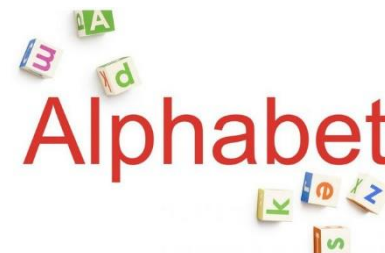




Best & Worst Performers

Top-Five Best Performers

Company	Since Purchase
Activision Blizzard Inc.	439%
Alphabet Inc.	230%
Microsoft Corporation	207%
Gilead Sciences, Inc.	104%
Total System Services	78%



Top-Five Worst Performers

Company	Since Purchase
IMPINJ Inc.	-47%
Kinder Morgan Inc.	-47%
Under Armour Inc.	-33%
Trupanion	-13%
Berry Global Plastics	-7%



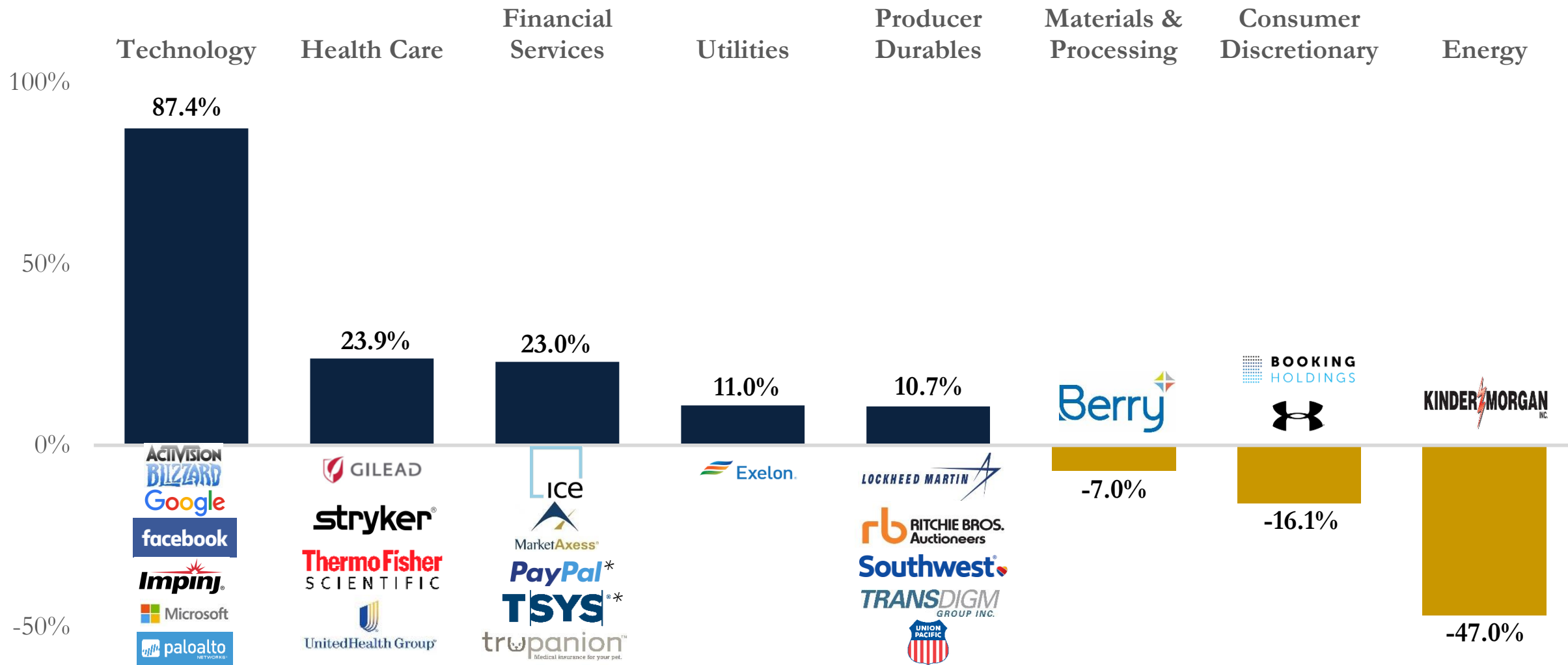
Returns on unrealized gains/losses are observed through March 31, 2018





Portfolio Returns by Sector

Holding Period Industry Price Appreciation (as of March 31, 2018)



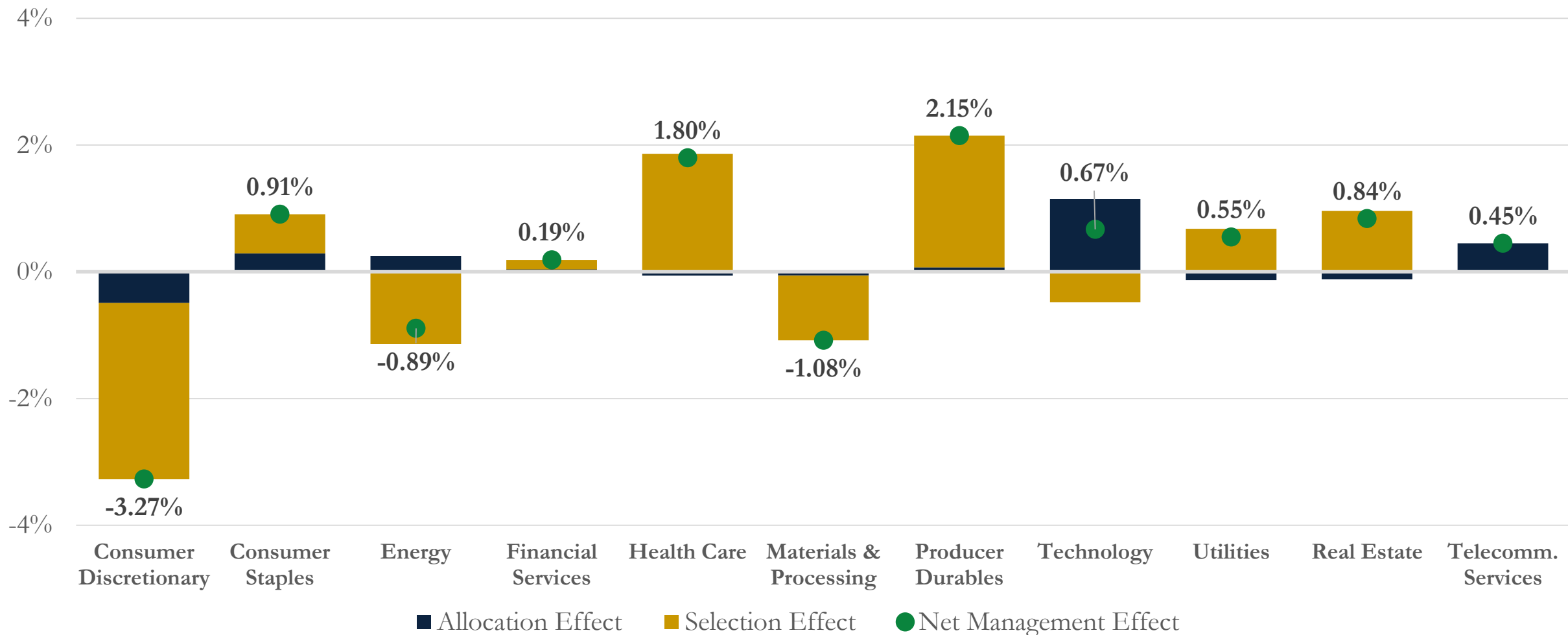
PayPal and TSS are classified as Financial Services under Russell and Technology under GICS





Attribution Analysis

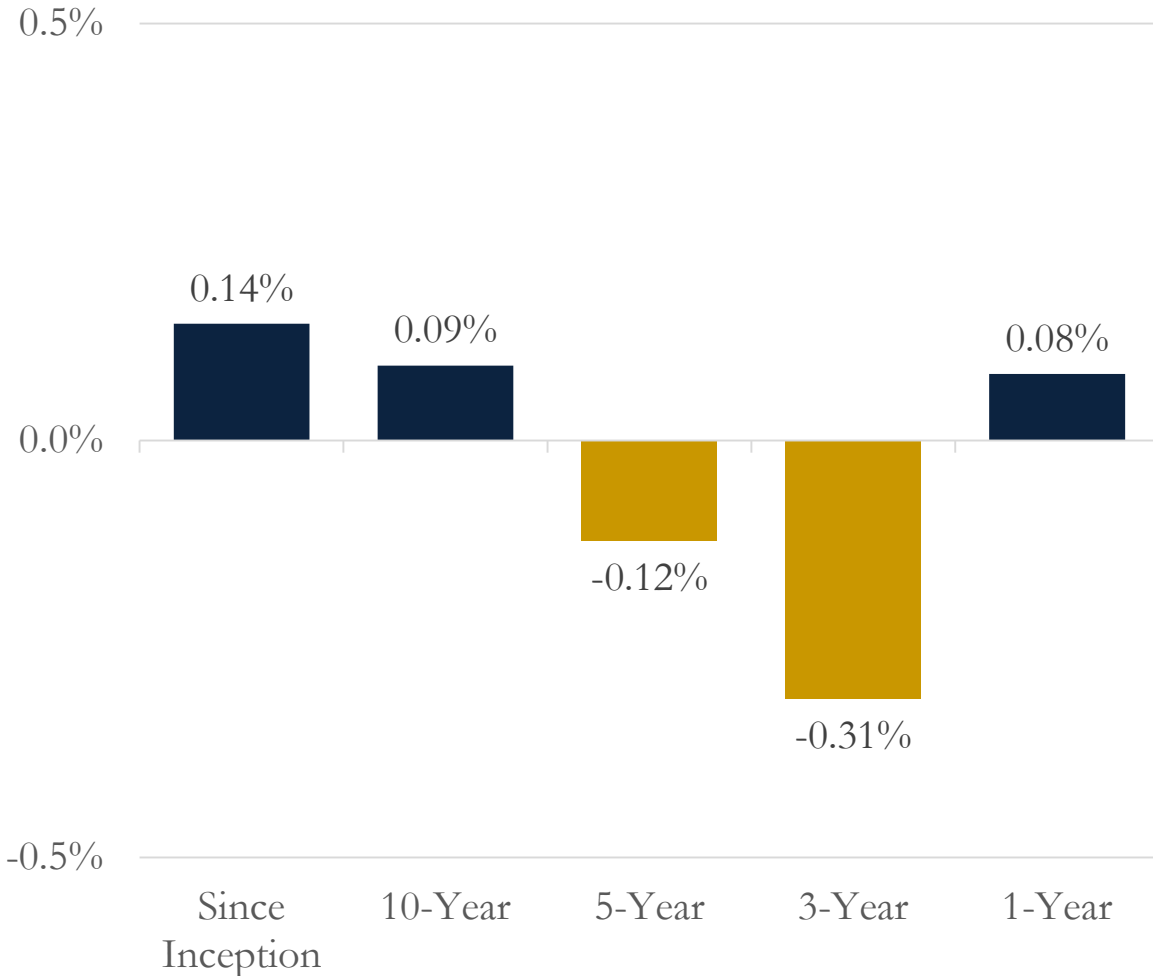
Net Management Effect by Sector (Trailing Twelve Months as of March 31, 2018)



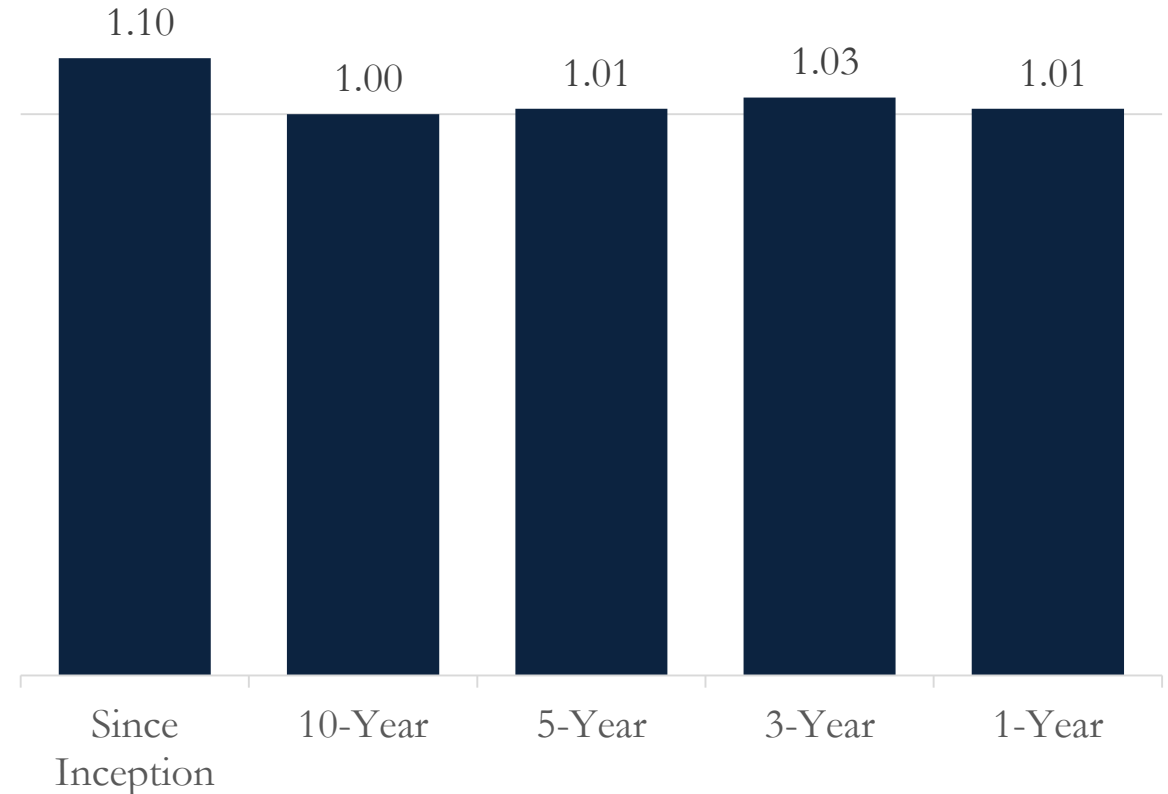


Risk-Adjusted Performance

CAPM Alpha (as of February 28, 2018)



CAPM Beta (as of February 28, 2018)

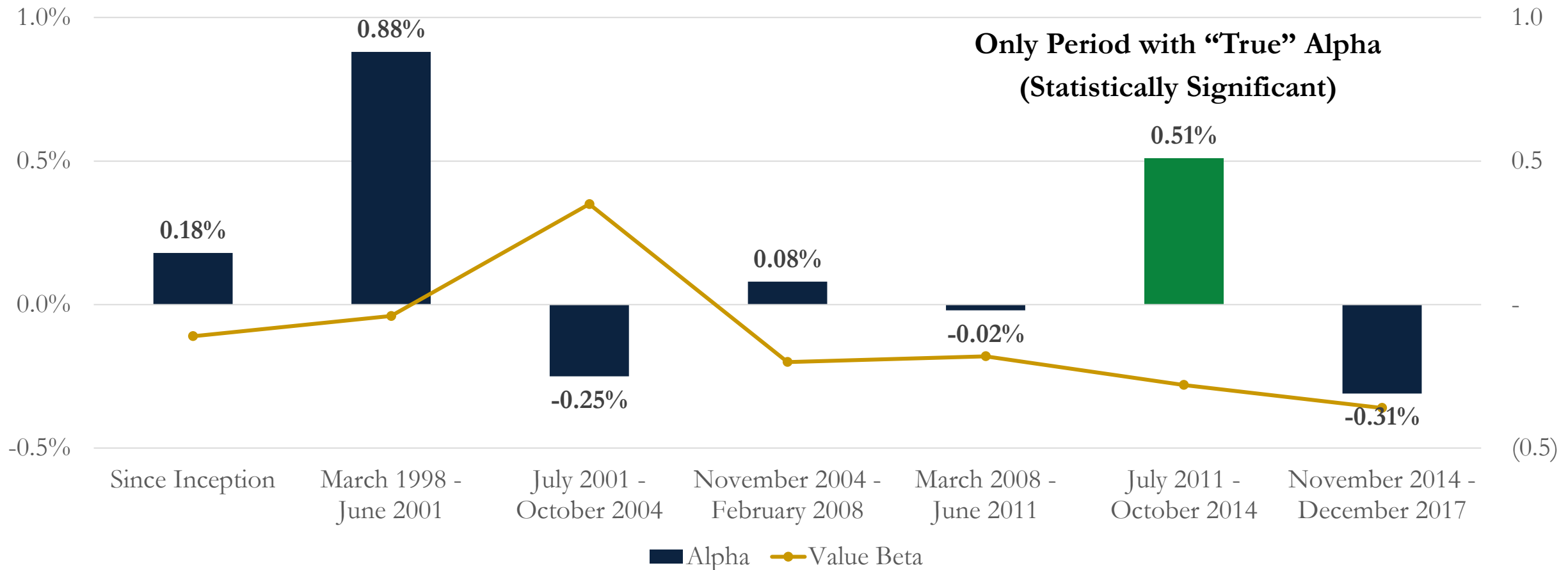


February is the latest data available for the Fama-French Factors

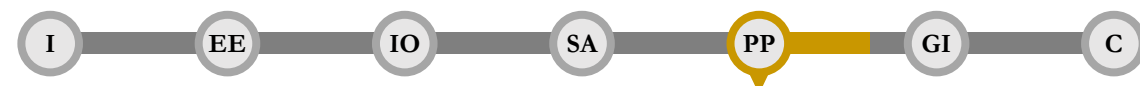




40-Month 5-Factor Alpha Model & Period Beta



The Value Beta is an indicator of consistent statistical significance. Negative exposure is beneficial in bull markets, but can compound the effects of a declining market (usually when the “value premia” hit)

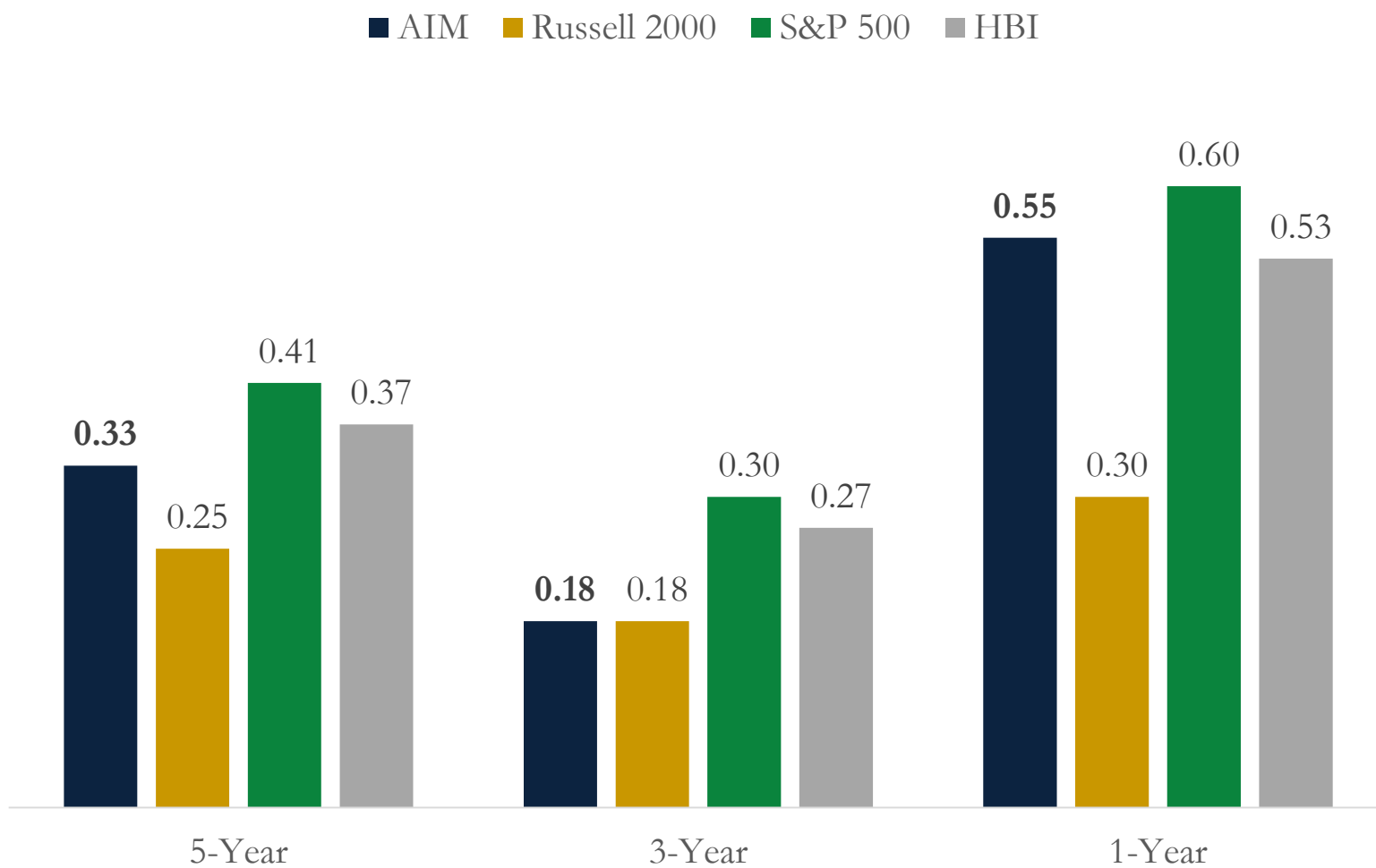




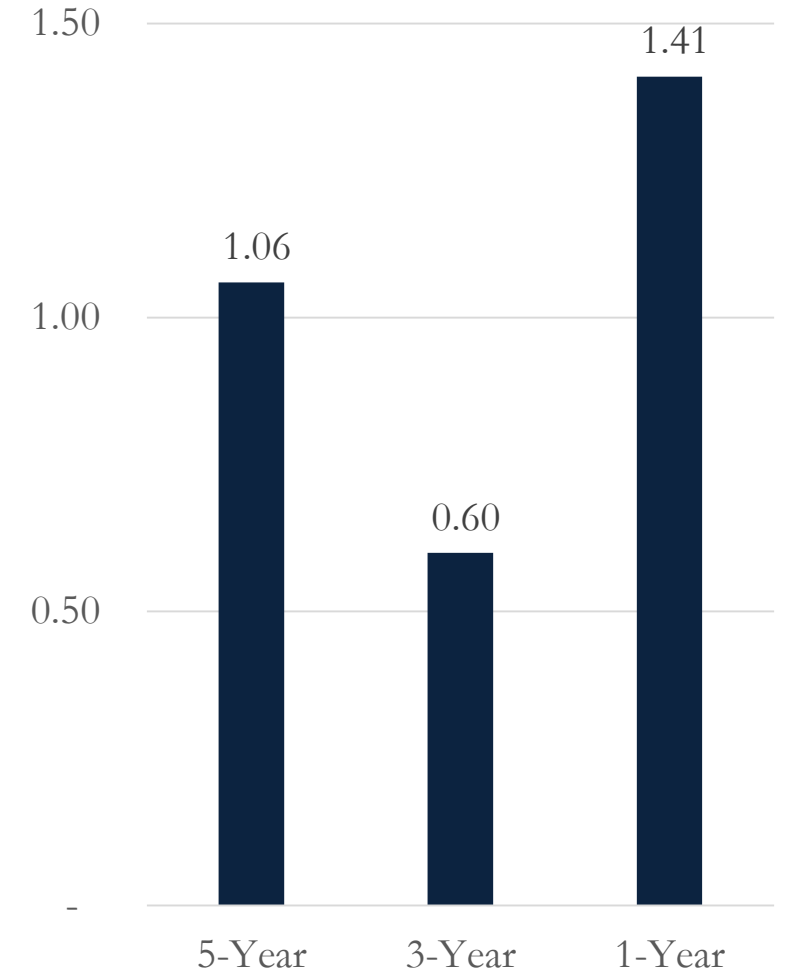
Risk-Adjusted Performance

Sharpe Ratio (as of February 28, 2018)

■ AIM ■ Russell 2000 ■ S&P 500 ■ HBI



Treynor Ratio (as of February 28, 2018)



February is the latest data available for the Fama-French Factors



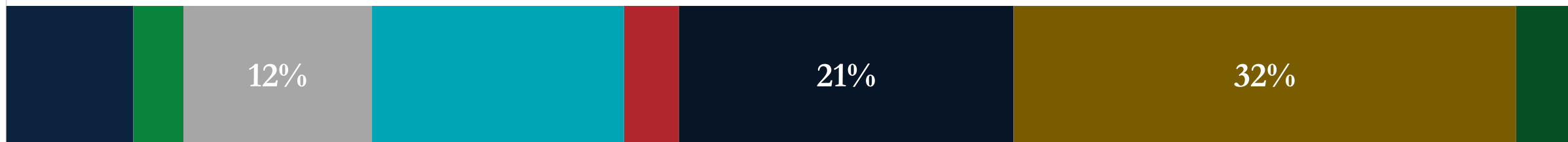


Portfolio Weights

S & P 500 Mix



Inherited Portfolio



New Portfolio



- Consumer Discretionary
- Consumer Staples
- Energy
- Financial Services
- Health Care
- Materials & Processing
- Producer Durables
- Technology
- Utilities
- Real Estate
- Telecommunication Services

The Portfolio weights are classified the same as the S&P 500 (GICS)



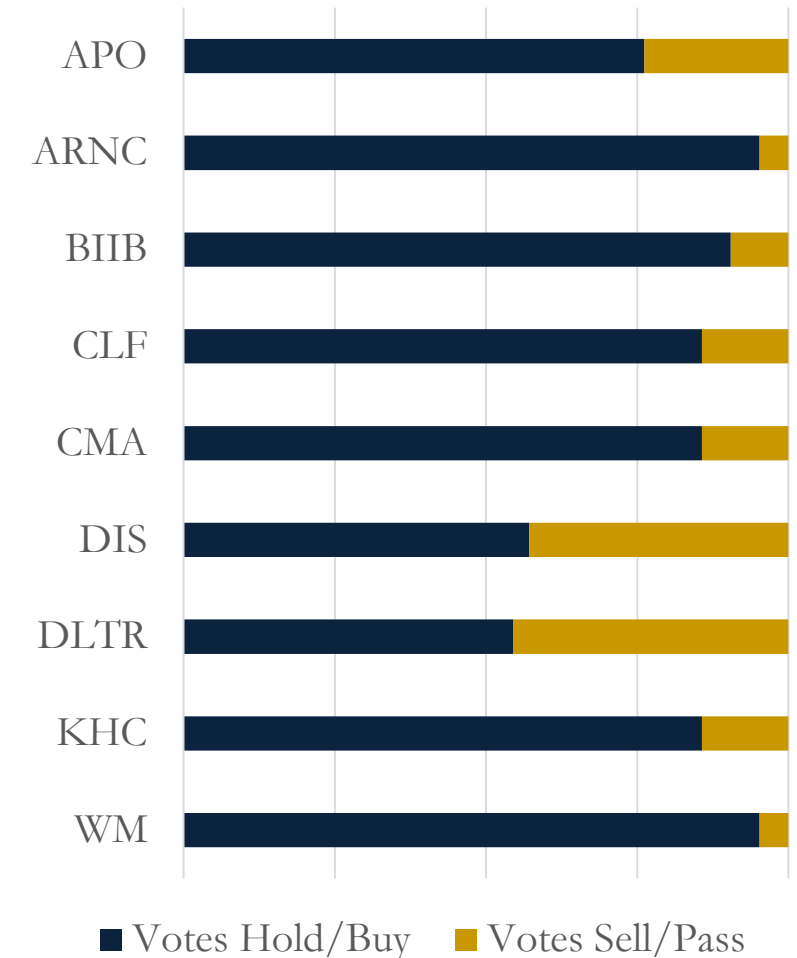


Portfolio Changes

Buys

• Apollo Global Mgmt	Large Cap	Financial Services
• Arconic	Large Cap	Producer Durables
• Biogen	Large Cap	Health Care
• Cleveland-Cliffs	Mid Cap	Materials & Processing
• Comerica	Large Cap	Financial Services
• Walt Disney Co	Large Cap	Consumer Discretionary
• Dollar Tree	Large Cap	Consumer Discretionary
• Kraft Heinz Co	Large Cap	Consumer Staples
• Waste Management	Large Cap	Producer Durables

Voting Results



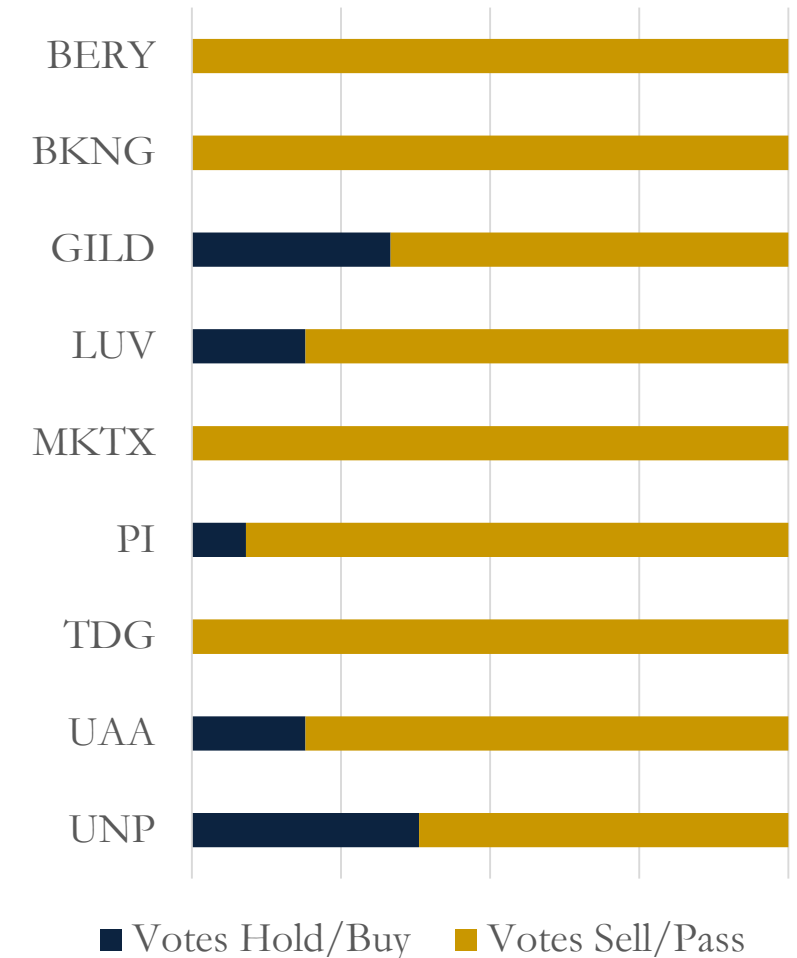


Portfolio Changes

Sells

• Berry Global Group	Mid Cap	Materials & Processing
• Booking Holdings	Large Cap	Consumer Discretionary
• Gilead Sciences	Large Cap	Health Care
• Southwest Airlines	Large Cap	Producer Durables
• Marketaxess Holdings	Mid Cap	Financial Services
• Impinj	Small Cap	Technology
• Transdigm Group	Large Cap	Producer Durables
• Under Armour	Mid Cap	Consumer Discretionary
• Union Pacific Corp	Large Cap	Producer Durables

Voting Results



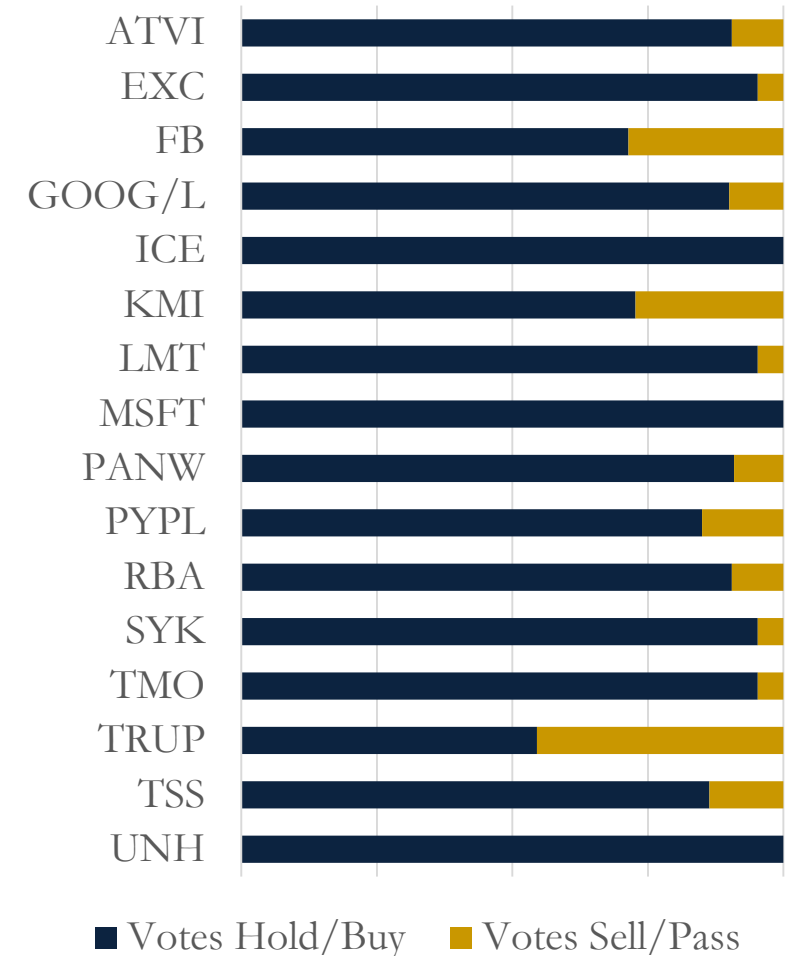


Portfolio Changes

Holds

• Activision Blizzard	Large Cap	Technology
• Exelon Corp	Large Cap	Utilities
• Facebook	Large Cap	Technology
• Alphabet	Large Cap	Technology
• Intercontinental Exchange	Large Cap	Financial Services
• Kinder Morgan	Large Cap	Energy
• Lockheed Martin Corp	Large Cap	Producer Durables
• Microsoft Corp	Large Cap	Technology
• Palo Alto Networks	Large Cap	Technology
• Paypal Holdings	Large Cap	Financial Services
• Ritchie Bros Auctioneers	Mid Cap	Producer Durables
• Stryker Corp	Large Cap	Health Care
• Thermo Fisher Scientific	Large Cap	Health Care
• Trupanion	Small Cap	Financial Services
• Total System Services	Large Cap	Financial Services
• Unitedhealth Group	Large Cap	Health Care

Voting Results





General Information & Conclusion

Chicago Trip

Networking

Acknowledgements



Chicago Trip

Notre Dame Hockey



Notre Dame defeats Michigan with last-second goal to advance to the National Championship Game

Railway Exchange Building



Attended meetings in historic Railway Exchange Building owned by Notre Dame



Chicago Trip

Farbman Group

Greg Salter
Vice President

AIM XXIX



Morningstar

RJ Hottovy, CFA
Consumer Equity Strategist

AIM IX



Prairie Capital

DJ Lipke
Vice President

AIM XVII



Gate City Capital

Mike Melby, CFA
Founder

AIM XV





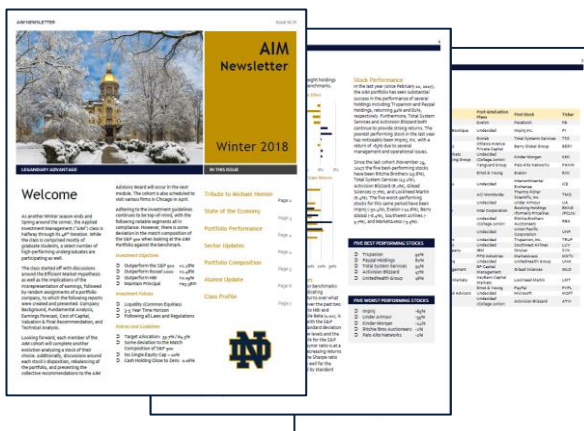
Networking

Guest Speakers

- **Scott Malpass** – Executive Vice President & CIO
- **James Quinn** – ND Investment Office
- **Joe Schuppig** – ND Investment Office
- **Kristen Collett-Schmitt** – Finance Professor
- **Pete Pietrewski** – Business Librarian

Newsletter

- Economic Report
- Portfolio Performance
- Portfolio Composition
- Analyst Profiles
- Alumni Updates



AIM Website: aim.nd.edu

- Course Description and History
- Current Portfolio
- Current Analysts & Coverage
- Board Presentations
- Alumni Newsletters



AIM Alumni Group – LinkedIn

- Network with over 650 AIM alumni
- Link to join is on the AIM website: aim.nd.edu





Acknowledgements

Thank you for all of your guidance and support

AIM Advisory Board

Howard Lanser

Michael Hemler

Scott Malpass

Notre Dame Investment Office

Pete Pietrewski

Shane Corwin

Brian Wrona

Kristen Collett-Schmitt

