Research Highlights

A weekly summary of our best ideas and developments in the companies we cover.

Morningstar Equity Research
June 4-8, 2018

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Interactive web-based models are available for our Best Ideas at Trefis.

Digital Advice Can Increase the Profits of Investment Services Firms

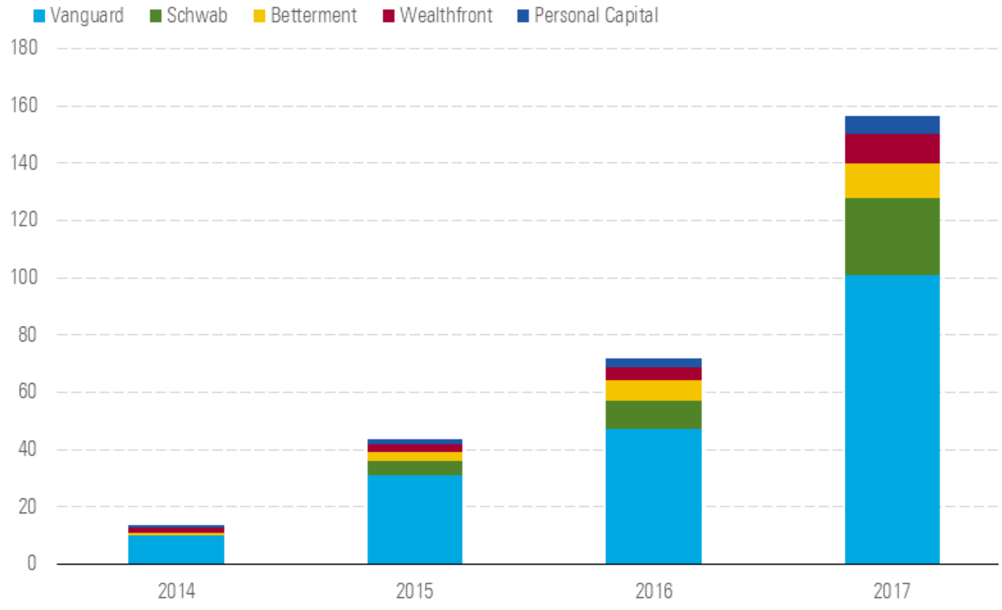
We agree that there's much to be skeptical of with the original robo-advisor business model. In fact, we wrote in 2015 about the challenging economics, how many stand-alone robo-advisors wouldn't survive, and robo-advisors integrated with established financial institutions would leapfrog the early leaders. However, new business models are addressing the three faults of the original robo-advisor model: high client acquisition costs, ongoing costs of servicing clients, and low revenue yield on client assets. Lead-generation tools and strategic partnerships are reducing acquisition costs, while building for scale and operating leverage eventually solves service costs. Revenue-enhancement strategies underpin much of our optimism for select robo-advisors becoming profitable. Upselling to human advice, ancillary service offerings, and incorporating proprietary products in portfolios are key revenue drivers.

We don't see robo-advisors disrupting moaty financial institutions. Instead, we expect established financial institutions will co-opt the technology and user experience improvements of robo-advisors to expand their own businesses.

Among the asset management, wealth management, and online brokerage firms that we cover, we believe Invesco, Credit Suisse, and UBS are trading at the most attractive valuations.

- Our dire assessment of the original robo-advisor business models has proved correct. They have failed to disrupt investment services incumbents and are still unprofitable. Many have sold themselves to established firms after realizing they can't count on investors giving them money.
- New robo-advisor business models and strategies influencing the key profitability determinants of client acquisition costs, ongoing operating costs, and revenue yield on client assets give us confidence that select robo-advisors will be profitable.
- Robo-advisors have three life-or-death choices: grow slowly and hope investors keep funding them, partner with an established financial services firm, or grow quickly with high-cost advertising.
- According to PitchBook Data, Betterment and Wealthfront have both raised capital in the last year. We reasonably conclude that they've eaten through $100 million-$200 million of capital to reach $10 billion of client assets.
- Moaty financial services firms, like Charles Schwab and Vanguard, have leapfrogged early robo-advisors with their digital advice offerings.

Exhibit 1 While Later to the Scene, Established Firms Charles Schwab and Vanguard Have Leapfrogged Early Robo-Advisors in Digital Advice Assets Under Management
($ Billions)



Source: Company regulatory filings, Morningstar estimates

- We still assess that advertising cost per account acquisition at robo-advisors is approximately $300 per gross new account and $1,000 per net new account. At their presumably low operating margin after they become profitable, the payback period on advertising costs can be more than a decade.

Exhibit 2 Payback Periods on $300 of Client Acquisition Costs for Robo-Advisors Are Lengthy
(Years)

	Adjusted Operating Income (bps)					
Account Size ($Thousands)	2.5	5	10	15	20	35
$25	48	24	12	8	6	3.4
$50	24	12	6	4	3	1.7
$75	16	8	4	2.7	2	1.1
$100	12	6	3	2	1.5	0.9
$150	8	4	2	1.3	1	0.6
$250	4.8	2.4	1.2	0.8	0.6	0.3

SCHW
AMTD
ETFC
Robo

Source: Company filings, Morningstar
Average account sizes at Charles Schwab, E*Trade, and TD Ameritrade are calculated as client assets divided by total active or funded brokerage accounts
Adjusted operating income excludes advertising, restructuring, and other unusual expenses

- Robo-advisors can use four strategies to lower their cost of client asset acquisition, but each has drawbacks.

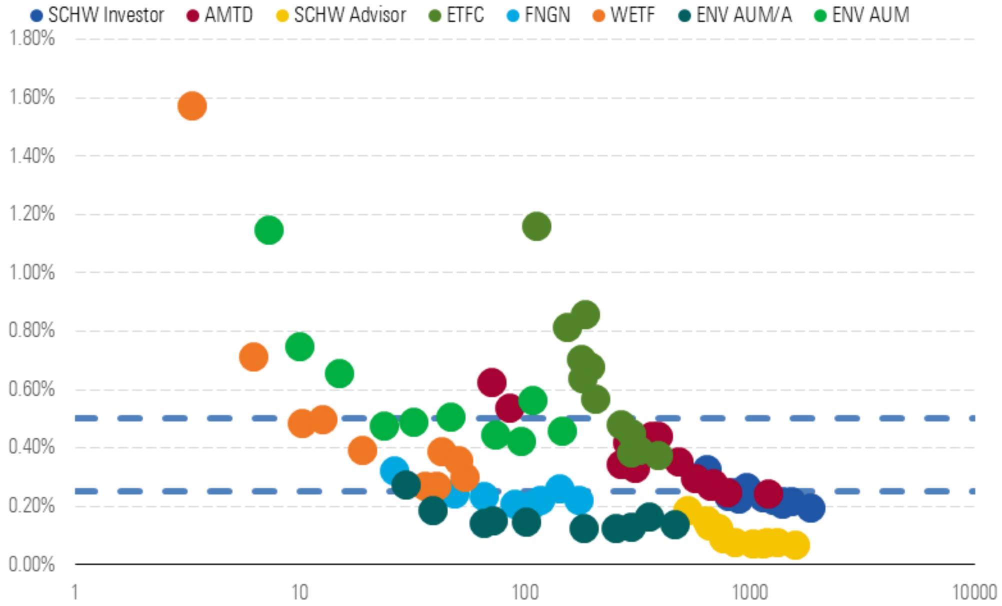
Exhibit 3 Each Client Asset Acquisition Strategy Has Drawbacks

Strategy	Drawback
Advertising	Expensive
3rd PartyPartnering	Lack of Control, Economics Sharing
Cross-Sell to Existing Customers	Cannibalization
Lead Generation Product	Development and Maintenance Costs
Higher Account Balance	Various

Source: Morningstar

- Robo-advisors need to build a high-operating-leverage business model to be profitable. We believe digital advice firms will spur growth in salaried financial consultants, as opposed to the traditional financial advisor compensation model of a percentage of revenue generated, to produce operating leverage.
- Expanded service offerings and higher revenue yields dramatically reduce the operating expense ratio and client asset hurdles to reach the goal of profitability. We estimate the break-even point for robo-advisors that sustain a 50-basis-point revenue yield could be $15 billion-$25 billion of client assets, 38%-63% lower than the break-even point for a robo-advisor that charges 25 basis points.

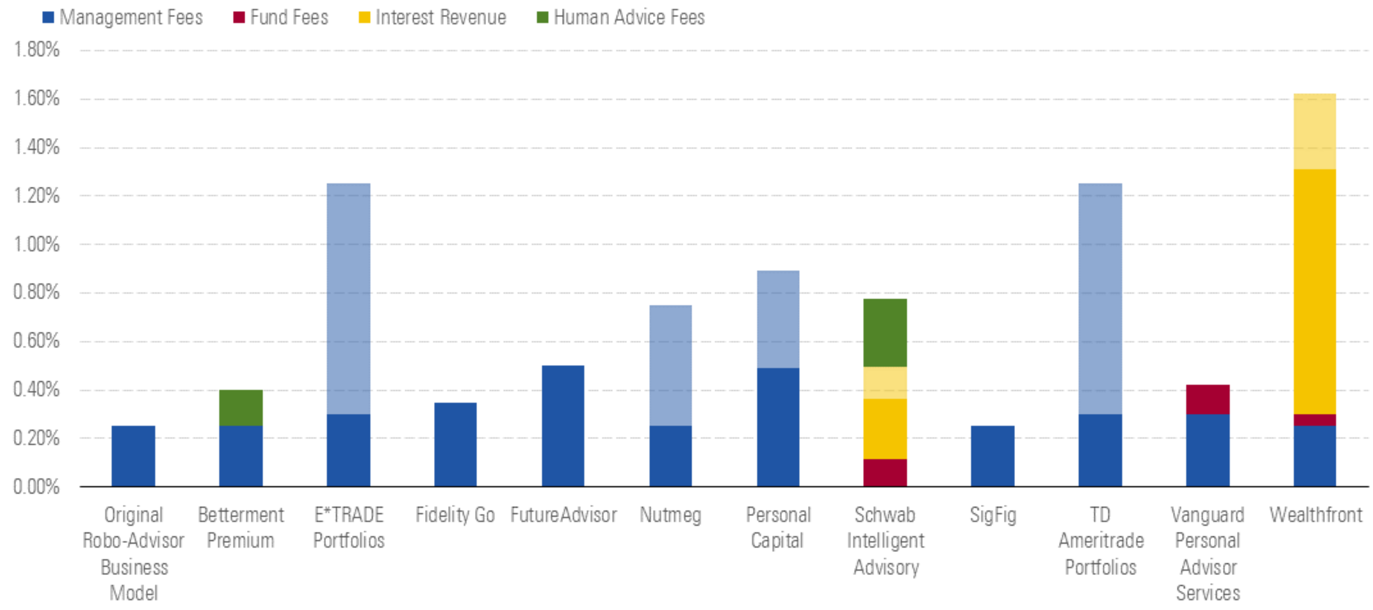
Exhibit 4 The Break-Even Point for a Robo-Advisor That Charges 50 Basis Points Could Be 38%-63% Lower Than for a Robo-Advisor That Charges 25 Basis Points
(Operating Expenses as Percentage of Client Assets; $ Billions)



Source: Company filings, Morningstar

- Four revenue-enhancing strategies at robo-advisors are charging more, upselling clients from a robo-advisor product to a digital advice offering, cross-selling additional products and services, and utilizing proprietary products in investment portfolios

Exhibit 5 New Business Models Are Transforming Robo-Advisors Into Moneymaking Machines
(Revenue as Percentage of Client Assets)



Source: Betterment, Charles Schwab, E*Trade, Fidelity, FutureAdvisor, Morningstar, Nutmeg, Personal Capital, SigFig, TD Ameritrade, Vanguard, Wealthfront
Schwab Intelligent Advisory revenue yield estimate is based on the asset allocation of a moderate-risk Schwab Intelligent Portfolio
Wealthfront revenue yield assumes maximum use of Portfolio Line of Credit

- Among the asset management, wealth management, and online brokerage firms that we cover, we believe Invesco, Credit Suisse, and UBS are currently trading at the most attractive valuations. Invesco is trading at a 30% discount to our fair value estimate and a 20% discount to its peers, which we believe is unwarranted based on its history of relatively strong organic asset growth. We see the relationships and sophisticated products offered by Credit Suisse and UBS to their ultra-high-net-worth clients as being particularly difficult for fintech companies to duplicate.

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We Don't Expect Treasury Wine's Growth to Live Up to Its Inflated Share Price

Treasury Wine has proved to be one of Australia's great recent turnaround stories, but the market's glass looks more than half full. We credit management for restructuring the winemaker's focus on the rapidly growing premium wine market since CEO Michael Clarke joined in 2014. However, the market has priced the stock at an increasingly high multiple to earnings, and shares now look substantially overvalued. We applaud the company for walking away from low-priced commercial bulk wine production that led to distributor inventory problems, write-offs, and wine destruction in prior years, focusing instead on higher-quality and higher-priced wine, which has improved profitability and returns on invested capital. But we expect earnings to slow and the high earnings multiple to ultimately collapse, and recommend a much lower price before considering long-term investment in Treasury Wine's shares.

Despite a rosy valuation, the future for Treasury Wine remains solid, especially overseas. Although many of the firm’s most well-known and highest-priced wines, such as the iconic Penfolds brand, are produced in Australia, the majority of earnings stem from Asia and North America. We expect these two regions to drive the bulk of income growth over the next five years, rising to 78% of operating income by fiscal 2022 from 68% in fiscal 2017. These gains will be driven by outsize economic growth in China, continued end-market premiumization, and positive profitability mix shift, albeit at a slower rate than the robust gains seen in recent years.

- China has driven the bulk of Treasury's recent volume growth, and the company should benefit from rising imports, particularly from Australia. But the market overestimates the medium-term volume growth potential, which we expect to slow because of cultural limitations and more-limited GDP gains.
- Treasury should enjoy the U.S. trend of increasing demand for higher-priced wines, boosting revenue growth and profitability. We forecast margins rising in this segment to 23% from 18% in fiscal 2017.
- Despite rising margins and above-market top-line growth, we don't think Treasury has carved an economic moat. The firm faces competition from both larger, global players and smaller, fragmented wine producers. Meanwhile, customer switching costs are low, and consumers are often price-sensitive.

Bulls Say

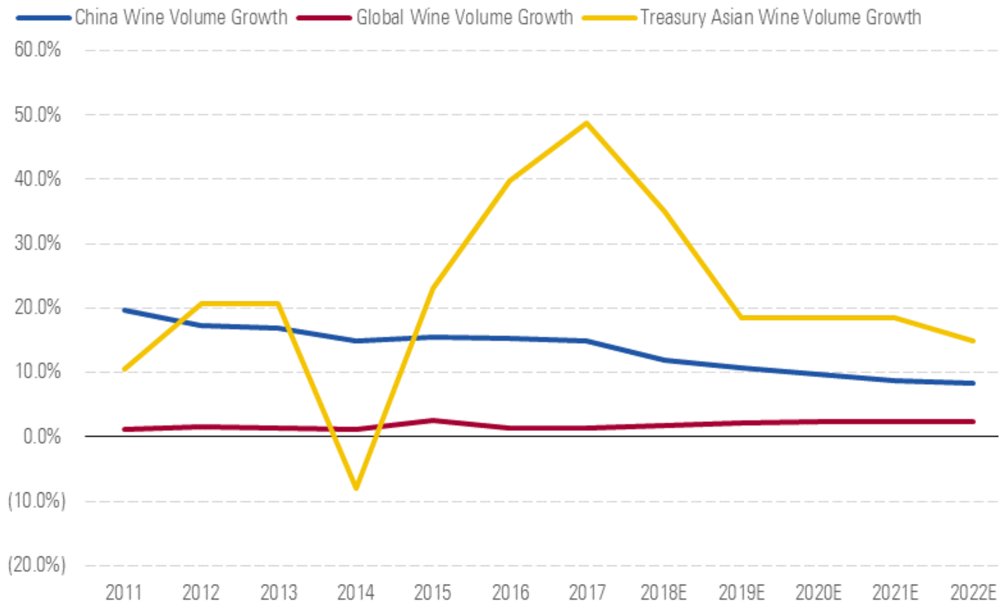
- Wine consumption growth in Asia, particularly China, should continue growing at high rates and is a high-margin business for Treasury given a focus on luxury and midrange wine.
- Treasury’s focus on higher-priced wine puts the company on-trend in global wine and should drive substantial earnings growth as profitability expands.
- Additions of new high-end wine brands, either organically or through acquisition, drive better grape utilization, improving margins, and higher ROICs.

Bears Say

- We expect the market for midrange wines to remain competitive, translating into per-bottle price growth falling below inflation.
- Treasury should enjoy rising profitability, but operating margins will likely continue to trail those of industry leaders, limiting the firm’s sustainable cost advantage.

- Wine companies face high working-capital investment, particularly in inventory, and the risk of aged wine inventory falling in value before its sale. Unpredictable weather, sensitivity to economic cycles, and fickle consumer preferences also make earnings hard to forecast.

Exhibit 1 Treasury's Asian Volume Growth Should Remain Robust, but the Slowing Trend Continues



Source: GlobalData, company filings, Morningstar. China and Treasury projections are Morningstar; global projections by GlobalData.

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Cruise Companies Find Ways to Increase Demand

In support of our positive outlook for cruise industry demand, recent visits with management teams aboard the Carnival Horizon and Norwegian Bliss have bolstered our confidence that cruise companies are effectively differentiating their operations by segmenting offerings to cater to specific consumer cohorts rather than a single total addressable global market. We think increased target market segmentation and geographic diversification should alleviate concerns over the supply of cruise capacity set to arrive in the next five years, ensuring that new ships don't merely cater to the same customer. Further, we contend that cruise operators still have plenty of untapped opportunities to support demand, both domestically and abroad, to cast a wider net and prevent yield erosion. Domestically, we think the industry can tap into new customers by entering markets with limited prior presence to increase penetration rates (Baltimore, for example, which very few ships have used as a home port), capitalizing on the 10,000 baby boomers who retire every day and the millennials who now have discretionary income to spend on experiences. Many of these efforts can also be applied abroad, increasing reach in key areas (including Europe and China) and with key consumers, stimulating demand. Of course as the economic cycle lengthens, the risk increases that new hardware could arrive at the same time as a global recession, ultimately constraining pricing, which we've factored into our 2%-3% normalized yield projections for the cruise lines. However, we think cruise operators—like Norwegian—are worth a look. With compelling value-added bundling and market-to-fill strategies, we think it's poised to pivot nimbly to capitalize on evolving consumer trends. In this vein, we see 9% sales growth and 110 basis points of EBITDA margin gains to 32.5% by 2022.

- Oversupply concerns have echoed through the marketplace in recent months, weighing on cruise operator shares. We think plenty of global demand remains untapped to support industry growth.
- Increasing market segmentation implies new hardware will cater to specific demographics and geographies, derisking overcapacity growth in any particular region or ship category.
- Norwegian remains the most undervalued of the three publicly traded cruise companies, trading at a more than 25% discount to our $69 fair value estimate and 11 times our 2018 EPS estimate.

Norwegian Cruise Line Holdings ★★★★

Norwegian Cruise Line's capacity has risen to more than 50,000 berths from around 30,000 prior to the acquisition of Prestige, making it an increasingly relevant competitor in the cruise industry. Capitalizing on decades of consumer analytics and best practices across brands, the firm can nimbly cater to changing trends, in our view. Additionally, we view Norwegian's freestyle cruising as a differentiated product, catering well to an older demographic, who may want to take their families on holiday, and millennials, who want increasing options. While the experience differs from traditional cruising, the lack of switching costs among cruise brands restrains the economic moat, rendering Norwegian a narrow-moat firm. With the inclusion of Prestige's brands and global diversification, we think the firm could fortify its moat through increasing brand awareness and scaling costs.

Our long-term thesis continues to evolve as Norwegian returned to the Asia-Pacific market in 2017 after a 15-year hiatus with the launch of Joy. This aids the firm's focus on itinerary scarcity (redeploying capacity to new markets and diversifying duration of itineraries) should prevent Norwegian's products from becoming commodified. We already viewed Norwegian’s capacity as scarce relative to its peers, as the Norwegian brand will have only 17 ships in operation by the end of 2020, and the differentiated product (freestyle cruising), along with Prestige’s tilt to high-net-worth consumers, carves out a differentiated base of consumer demand than many of its peers.

Bulls Say

- As Norwegian is relatively smaller than its North American cruise peers, we believe that it has significant global capacity growth potential over the next five years.
- As the baby boomers enter retirement, they are likely to travel more. Norwegian's freestyle cruising should play into cross-generational travel trends, allowing families across demographics to travel together.
- Norwegian can draw on knowledge of the leisure industry from its sponsors as well as the addition of high-end Prestige brands, gathering best practices and leverage with vendors.

Bears Say

- Weakness in consumer spending and confidence, or political or economic volatility, could affect demand and the ability to raise prices.
- Lack of credit availability could prevent inexpensive financing of new ship builds, slowing capacity growth, if export credit facility incentives wane.
- Genting and Apollo have lowered their ownership stake (8% of outstanding shares at the most recent proxy) but can still exert their own goals on the business with a member on the board, making outside shareholders more passive owners.

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Best Ideas

Interactive web-based models are available for our Best Ideas at Trefis.

Company and Industry	Morningstar Rating	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price / Fair Value	Market Cap (B)	Analyst
Basic Materials								
Cameco (CCJ)	★★★★	$17	$11.75	High	Narrow	0.69	4.80	Inton
Compass Minerals International (CMP)	★★★★	$83	$67.95	High	Wide	0.82	2.30	Goldstein
Martin Marietta Materials (MLM)	★★★★	$265	$229.55	High	Narrow	0.87	14.45	Inton
Communication Services								
BT Group (BT.A)	★★★★★	GBX 360	GBX 202.95	High	Narrow	0.56	20.14	C. Nichols
China Mobile (941)	★★★★	HKD 102	HKD 71.5	Medium	Narrow	0.70	1464.00	Baker
Telefonica (TEF)	★★★★★	$13	$7.58	High	Narrow	0.58	39.37	C. Nichols
Telstra (TLS)	★★★★★	AUD 4.4	AUD 2.77	Medium	Narrow	0.63	32.94	Han
Consumer Cyclical								
Advance Auto Parts (AAP)	★★★★	$157	$130.05	Medium	Narrow	0.83	9.63	Akbari
Bayerische Motoren Werke (BMW)	★★★★	EUR 117	EUR 86.63	High	Narrow	0.74	56.35	Hilgert
Domino's Pizza Enterprises (DMP)	★★★	AUD 53	AUD 52.91	Medium	Narrow	1.00	4.63	Faul
Expedia Group (EXPE)	★★★★	$180	$120.34	High	Narrow	0.67	18.07	Wasiolek
General Motors (GM)	★★★★	$56	$44.01	High	None	0.79	62.03	Whiston
Great Wall Motor (2333)	★★★★★	HKD 13.5	HKD 7.62	High	None	0.56	104.48	Hu
Hanesbrands (HBI)	★★★★★	$29	$19.81	Medium	Narrow	0.68	7.14	Hottovy
InvoCare (IVC)	★★★★	AUD 15.5	AUD 13.4	Medium	Wide	0.86	1.47	Ragonese
Mattel (MAT)	★★★★	$21.5	$16.46	High	Narrow	0.77	5.66	Katz
Walt Disney (DIS)	★★★★	$130	$102.47	Medium	Wide	0.79	152.35	Macker
Williams-Sonoma (WSM)	★★★★	$68	$61.47	Medium	Narrow	0.90	5.12	Katz
WPP (WPP)	★★★★	GBX 1500	GBX 1219.5	Medium	Narrow	0.81	15.39	Mogharabi
Consumer Defensive								
G8 Education (GEM)	★★★★	AUD 4	AUD 2.41	High	None	0.60	1.09	James
General Mills (GIS)	★★★★★	$59	$42.22	Low	Wide	0.72	24.07	Vora
Imperial Brands (IMB)	★★★★★	GBX 3900	GBX 2604.5	Low	Wide	0.67	24.84	Gorham
Kao (4452)	★★★★	JPY 8800	JPY 8362	Low	Wide	0.95	4127.79	Wei
Mondelez International (MDLZ)	★★★★	$51	$39.32	Medium	Wide	0.77	58.00	Lash
PepsiCo (PEP)	★★★★	$123	$101.16	Low	Wide	0.82	143.43	Vora
Procter & Gamble (PG)	★★★★★	$98	$75.76	Low	Wide	0.77	190.51	Lash
Reckitt Benckiser Group (RB.)	★★★★★	GBX 7300	GBX 5759	Low	Wide	0.79	40.66	Gorham
Energy								
Cenovus Energy (CVE)	★★★★	$21	$13.05	Very High	None	0.62	16.04	Gemino
Enbridge (ENB)	★★★★★	$64	$40.63	Medium	Wide	0.63	69.26	Gemino
Enterprise Products Partners (EPD)	★★★★	$31	$29.37	Low	Wide	0.95	63.81	Ellis
Royal Dutch Shell (RDS.B)	★★★★	$78	$73.12	Low	None	0.94	293.13	Good
Total (TOT)	★★★★	$74	$61.81	Medium	None	0.84	165.11	Good
Financial Services								
American International Group (AIG)	★★★★	$76	$53.87	Medium	None	0.71	48.36	Horn
Capital One Financial (COF)	★★★★	$123	$96.76	Medium	Narrow	0.79	47.07	Plunkett
Credit Suisse Group (CSGN)	★★★★	CHF 22	CHF 15.18	High	Narrow	0.69	38.56	Scholtz
Invesco (IVZ)	★★★★	$40	$27.76	Medium	Narrow	0.69	11.40	Warren
Mitsubishi UFJ Financial Group (8306)	★★★★	JPY 880	JPY 676.5	Medium	None	0.77	8904.66	Wu
QBE Insurance Group (QBE)	★★★★	AUD 13	AUD 9.33	High	Narrow	0.72	12.65	Ellis
Westpac Banking (WBC)	★★★★	AUD 35	AUD 27.61	Medium	Wide	0.79	93.49	Ellis

Source: Morningstar. As of June 8, 2018

Best Ideas

Interactive web-based models are available for our Best Ideas at Trefis.

Company and Industry	Morningstar Rating	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price / Fair Value	Market Cap (B)	Analyst
Healthcare								
Allergan (AGN)	★★★★★	$263	$163.27	Medium	Wide	0.62	55.36	Waterhouse
McKesson (MCK)	★★★★	$210	$145.63	Medium	Wide	0.69	29.42	Lekraj
Medtronic (MDT)	★★★★	$105	$86.63	Medium	Wide	0.83	117.32	Wang
Ramsay Health Care (RHC)	★★★★	AUD 82	AUD 56.66	Medium	Narrow	0.69	11.45	Kallos
Roche Holding (ROG)	★★★★★	CHF 325	CHF 207.7	Low	Wide	0.64	177.97	Andersen
Shire (SHP)	★★★★	GBX 4890	GBX 4009	Medium	Narrow	0.82	36.64	Andersen
Industrials								
Allegion (ALLE)	★★★★	$91	$80.21	Medium	Wide	0.88	7.62	Bernard
Anixter International (AXE)	★★★★★	$107	$65.05	Medium	Narrow	0.61	2.17	Bernard
Beijing Enterprises Holdings (392)	★★★★	HKD 58	HKD 42.8	Medium	Narrow	0.74	54.02	Song
Brambles (BXB)	★★★★	AUD 11.2	AUD 9.06	Medium	Wide	0.81	14.42	Fleck
CK Hutchison Holdings (1)	★★★★	HKD 124	HKD 90.05	Medium	None	0.73	347.38	Tan
G4S (GFS)	★★★★	GBX 337	GBX 278.5	Medium	None	0.83	4.32	Field
GEA Group (G1A)	★★★★	EUR 47	EUR 32.04	Medium	Wide	0.68	5.78	Molina
Grupo Aeroportuario del Pacifico (GAP B)	★★★★	MXN 216	MXN 172.04	High	Wide	0.80	96.51	Higgins
Guangshen Railway (525)	★★★★	HKD 6.8	HKD 4.58	High	None	0.67	37.87	Song
Johnson Controls International (JCI)	★★★★	$53	$34.94	High	Narrow	0.66	32.36	Bernard
KION GROUP (KGX)	★★★★	EUR 86	EUR 70.76	Medium	Narrow	0.82	8.34	Molina
Royal Philips (PHIA)	★★★★	EUR 42	EUR 36.14	Medium	Narrow	0.86	34.35	Vonk
Sodexo (SW)	★★★★	EUR 110	EUR 82.1	Medium	Narrow	0.75	12.18	Field
Stericycle (SRCL)	★★★★	$86	$64.17	High	Narrow	0.75	5.49	Young
Real Estate								
AVEO Group (AOG)	★★★★	AUD 3.1	AUD 2.5	Medium	None	0.81	1.45	Sherlock
Sun Hung Kai Properties (16)	★★★★	HKD 153	HKD 126.9	Medium	Narrow	0.83	367.63	Zhong
Welltower (WELL)	★★★★	$74	$57.59	High	None	NA	21.42	Brown
Technology								
Intel (INTC)	★★★★	$62	$55.88	Medium	Wide	0.90	260.40	Davuluri
KLA-Tencor (KLAC)	★★★	$125	$115.93	High	Wide	0.93	18.04	Davuluri
Microchip Technology (MCHP)	★★★★	$112	$102.22	Medium	Wide	0.91	24.03	Colello
Microsoft (MSFT)	★★★★	$122	$100.88	Medium	Wide	0.83	775.08	Nelson
MYOB Group (MYO)	★★★★	AUD 3.82	AUD 2.78	Medium	Narrow	0.73	1.67	James
Qualcomm (QCOM)	★★★★	$75	$60.64	High	Narrow	0.81	89.92	Davuluri
Salesforce.com (CRM)	★★★★	$158	$132.91	Medium	Wide	0.84	98.74	Nelson
Synaptics (SYNA)	★★★★	$64	$42.56	Very High	None	0.67	1.47	Davuluri
TDK (6762)	★★★	JPY 11500	JPY 11040	High	None	0.96	1393.25	Ito
Tencent Holdings (700)	★★★★	HKD 641	HKD 415	High	Wide	0.65	3943.83	Tam
Utilities								
Dominion Energy (D)	★★★★★	$84	$62.39	Low	Wide	0.74	40.73	Fishman
FirstEnergy (FE)	★★★★	$40	$33.34	Low	Narrow	0.83	15.90	Fishman
Gas Natural SDG (GAS)	★★★★	EUR 23.5	EUR 21.01	Medium	Narrow	0.89	21.01	Fulop
SCANA (SCG)	★★★★★	$57	$35.91	Medium	Narrow	0.63	5.12	Miller

Source: Morningstar. As of June 8, 2018

Highlighted Stocks

Microsoft MSFT

Morningstar Rating	Industry	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★	Technology	Stable	USD	122	101.82	Medium	Wide	0.83	775.08

Source: Morningstar. As of June 8, 2018

Although this deal is roughly one fourth the size of Microsoft's 2016 acquisition of LinkedIn, we suspect GitHub will provide unique opportunities for Microsoft Azure customers.

Analyst Note, June 4, 2018

Microsoft announced on June 4 that it has entered into an agreement to purchase GitHub for $7.5 billion, financed entirely by Microsoft stock. While we have our concerns about Microsoft issuing undervalued equity to finance this transaction, we were heartened to hear that it expects to repurchase shares beyond its normal quarterly pace to fully offset the size of the GitHub deal within six months.

Microsoft still has roughly $30 billion in authorized share repurchases to accommodate such action. GitHub is a community of 28 million software developers who contribute code to more than 85 million open-source software projects. Microsoft has been an avid proponent of GitHub for several years, rising to the top of the list in terms of code commitments to GitHub, and the companies have reportedly had on-and-off discussions about an acquisition for the past several years. Although this deal is roughly one fourth the size of Microsoft's 2016 acquisition of LinkedIn, we suspect GitHub will provide unique opportunities for Microsoft Azure customers, helping support our 31% compound annual growth rate for the business over the next 10 years.

Management expects GitHub to be accretive to adjusted operating income in fiscal 2020, while EPS dilution in fiscal 2019 and 2020 will be less than 1% on a non-GAAP basis. The deal is expected to close by the end of the calendar year, and Microsoft will seek regulatory approval from the U.S. and European Union. Regulatory scrutiny could be heightened in the wake of the implementation of General Data Protection Regulation, but we believe Microsoft's maintenance of GitHub's independent status will ultimately enable the deal's completion. We are maintaining our wide moat rating and $122 fair value estimate, representing roughly 20% upside from current levels.

According to PitchBook, GitHub exited 2016 with roughly $200 million in annual revenue, but we suspect Microsoft finds more immediate value in the 28 million developers who contribute to the open-source community.

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Allergan AGN

Morningstar Rating	Industry	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★★	Healthcare	Stable	USD	263	170.19	Medium	Wide	0.65	55.63

Source: Morningstar. As of June 8, 2018

We have no visibility on what activist investors may eventually demand, but Saunders has a long history of selling businesses.

Analyst Note, June 7, 2018
Media reports suggest that activist Carl Icahn, who has a history working with CEO Brent Saunders during his tenure at Forest Laboratories, has taken an undisclosed position in Allergan. This follows a letter from Appaloosa Management and Senator Investment Group earlier this week addressing the lack of investor confidence in the name and recommended changes, including separating the CEO and chairman roles. Given the company's depressed stock price, we're not particularly surprised to see activists circling, but it doesn't change our view that the company possesses unique wide-moat assets and remains undervalued. We're leaving our moat and fair value estimates unchanged for now. Besides management's recent intent to sell its women's health and infectious disease segments, splitting the business further is a potential option, but we believe potential dis-synergies from separating the remaining medical aesthetic, ophthalmology, CNS, and gastrointestinal segments deserves caution.

We have no visibility on what activist investors may eventually demand, but Saunders has a long history of selling businesses, including Bausch & Lomb, Forest, and the Actavis generics segment. Saunders also orchestrated Allergan's sale to Pfizer before U.S. Treasury Department rules quashed the deal. We still think Allergan's capital allocation decisions have been mostly prudent, including divesting noncore assets while building out the pipeline with more-innovative products. Despite some misses for assets like Kybella, other deals for Alloderm and CoolSculpting remain favorable, in our view. Meanwhile, Saunders' actions have supported his statements that the company isn't interested in large mergers or acquisitions, which would likely raise strategic and balance sheet concerns.

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Diamondback Energy FANG

Morningstar Rating	Industry	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★	Energy	Stable	USD	137	113.96	High	Narrow	0.83	11.25

Source: Morningstar. As of June 8, 2018

The bottom line is that investors not willing to stomach a high degree of volatility in the next 12-18 months should avoid the name. But in the long run, the firm's low cost structure will enable it to thrive under midcycle conditions.

Analyst Note, June 7, 2018

Oil prices remain lofty on the back of a yearlong rally, fueled by fears about geopolitical supply shortages, robust demand growth, and various bottlenecks capping near-term growth from U.S. shale. But more recently, prices have been moving in the opposite direction. West Texas Intermediate crude has slipped almost 10% since the May 22 high, and Diamondback shares have retreated, too, widening the discount to our fair value estimate to about 14%. As a result, the stock—which is our top pick in the upstream oil and gas space—is back in 4-star territory.

The firm's highly productive Permian acreage is characterized by very strong average production rates and favorable oil cuts. This provides a considerable cost advantage that underpins our narrow moat rating and enables the firm to generate best-in-class pretax operating earnings per barrel (which we calculate by subtracting finding and development costs from EBITDA). Though it trades at a premium to the E&P group, we doubt that the market appreciates the full value of this cost advantage. The recent sell-off therefore creates a buying opportunity.

To be sure, the road ahead could be bumpy. The firm has avoided the impact of pipeline congestion in the Permian Basin thus far, with realized crude prices coming within 5% of the WTI benchmark for three straight quarters (due to a combination of firm sales contracts, basis hedges, and exposure to international pricing, which is currently over $10/bbl above WTI). But it does have some exposure to Midland pricing and could see weaker prices until new pipeline capacity enters service in 2019. Likewise, there are question marks about the sustainability of strong global demand, as a full-blown trade war is increasingly likely and product prices have strengthened. On the other hand, further supply weakness in Venezuela or Iran could keep markets tight and drive prices even higher. The bottom line is that investors not willing to stomach a high degree of volatility in the next 12-18 months should avoid the name. But in the long run, the firm's low cost structure will enable it to thrive under midcycle conditions ($55/bbl for WTI), and the current price doesn't give it enough credit.

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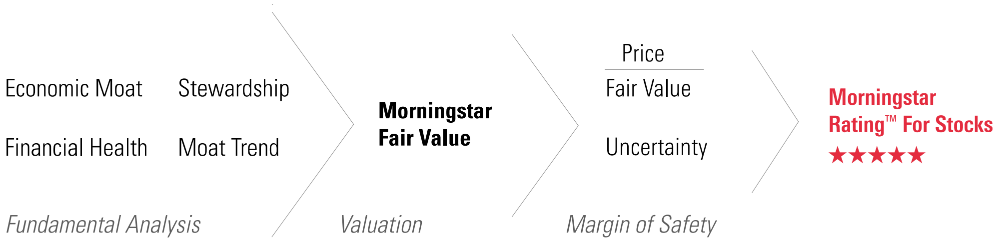
Research Methodology for Valuing Companies

Overview

At the heart of our valuation system is a detailed projection of a company's future cash flows, resulting from our analysts' research. Analysts create custom industry and company assumptions to feed income statement, balance sheet, and capital investment assumptions into our globally standardized, proprietary discounted cash flow, or DCF, modeling templates. We use scenario analysis, in-depth competitive advantage analysis, and a variety of other analytical tools to augment this process. Moreover, we think analyzing valuation through discounted cash flows presents a better lens for viewing cyclical companies, high-growth firms, businesses with finite lives (e.g., mines), or companies expected to generate negative earnings over the next few years. That said, we don't dismiss multiples altogether but rather use them as supporting cross-checks for our DCF-based fair value estimates. We also acknowledge that DCF models offer their own challenges (including a potential proliferation of estimated inputs and the possibility that the method may miss short-term market price movements), but we believe these negatives are mitigated by deep analysis and our long-term approach.

Morningstar's equity research group ("we," "our") believes that a company's intrinsic worth results from the future cash flows it can generate. The Morningstar Rating for stocks identifies stocks trading at a discount or premium to their intrinsic worth—or fair value estimate, in Morningstar terminology. Five-star stocks sell for the biggest risk-adjusted discount to their fair values, whereas 1-star stocks trade at premiums to their intrinsic worth.

Morningstar Research Methodology



Source: Morningstar.

Four key components drive the Morningstar rating: (1) our assessment of the firm's economic moat, (2) our estimate of the stock's fair value, (3) our uncertainty around that fair value estimate, and (4) the current market price. This process ultimately culminates in our single-point star rating.

Economic Moat

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. An economic moat is a structural feature that allows a firm to sustain excess profits over a long period of time. We define economic profits as returns on invested capital (ROIC) over and above our estimate of a firm's cost of capital, or weighted average cost of capital (WACC). Without a moat, profits are more susceptible to competition. We have identified five sources of economic moats: intangible assets, switching costs, network effect, cost advantage, and efficient scale.

Companies with a narrow moat are those we believe are more likely than not to achieve normalized excess returns for at least the next 10 years. Wide-moat companies are those in which we have very high confidence that excess returns will remain for 10 years, with excess returns more likely than not to remain for at least 20 years. The longer a firm generates economic profits, the higher its intrinsic value. We believe low-quality, no-moat companies will see their normalized returns gravitate toward their cost of capital more quickly than companies with moats.

To assess the sustainability of excess profits, analysts perform ongoing assessments of the moat trend. A firm's moat trend is positive in cases where we think its sources of competitive advantage are growing stronger, stable where we don't anticipate changes to competitive advantages over the next several years, or negative where we see signs of deterioration.

Estimated Fair Value

Combining our analysts' financial forecasts with the firm's economic moat helps us assess how long returns on invested capital are likely to exceed the firm's cost of capital. Returns of firms with a wide economic moat rating are assumed to fade to the perpetuity period over a longer period of time than the returns of narrow-moat firms, and both will fade slower than no-moat firms, increasing our estimate of their intrinsic value.

Our model is divided into three distinct stages:

Stage I: Explicit Forecast

In this stage, which can last 5 to 10 years, analysts make full financial statement forecasts, including items such as revenue, profit margins, tax rates, changes in working capital accounts, and capital spending. Based on these projections, we calculate earnings before interest, after taxes (EBI) and net new investment (NNI) to derive our annual free cash flow forecast.

Stage II: Fade

The second stage of our model is the period it will take the company's return on new invested capital—the return on capital of the next dollar invested (RONIC)—to decline (or rise) to its cost of capital. During the Stage II period, we use a formula to approximate cash flows in lieu of explicitly modeling the income statement, balance sheet, and cash flow statement as we do in Stage I. The length of the second stage depends on the strength of the company's economic moat. We forecast this period to last anywhere from one year (for companies with no economic moat) to 10–15 years or more (for wide-moat companies). During this period, cash flows are forecast using four assumptions: an average growth rate for EBI over the period, a normalized investment rate, average return on new invested capital (RONIC), and the number of years until perpetuity, when excess returns cease. The investment rate and return on new invested capital decline until a perpetuity value is calculated. In the case of firms that do not earn their cost of capital, we assume marginal ROICs rise to the firm's cost of capital (usually attributable to less reinvestment), and we may truncate the second stage.

Stage III: Perpetuity

Once a company's marginal ROIC hits its cost of capital, we calculate a continuing value, using a standard perpetuity formula. At perpetuity, we assume that any growth or decline or investment in the business neither creates nor destroys value and that any new investment provides a return in line with estimated WACC.

Because a dollar earned today is worth more than a dollar earned tomorrow, we discount our projections of cash flows in stages I, II, and III to arrive at a total present value of expected future cash flows. Because we are modeling free cash flow to the firm—representing cash available to provide a return to all capital providers—we discount future cash flows using the WACC, which is a weighted average of the costs of equity, debt, and preferred stock (and any other funding sources), using expected future proportionate long-term, market value weights.

Uncertainty Around That Fair Value Estimate

Morningstar's uncertainty rating captures a range of likely potential intrinsic values for a company and uses it to assign the margin of safety required before investing, which in turn explicitly drives our stock star rating system. The uncertainty rating represents the analysts' ability to bound the estimated value of the shares in a company around the fair value estimate, based on the characteristics of the business underlying the stock, including operating and financial leverage, sales sensitivity to the overall economy, product concentration, pricing power, and other company-specific factors.

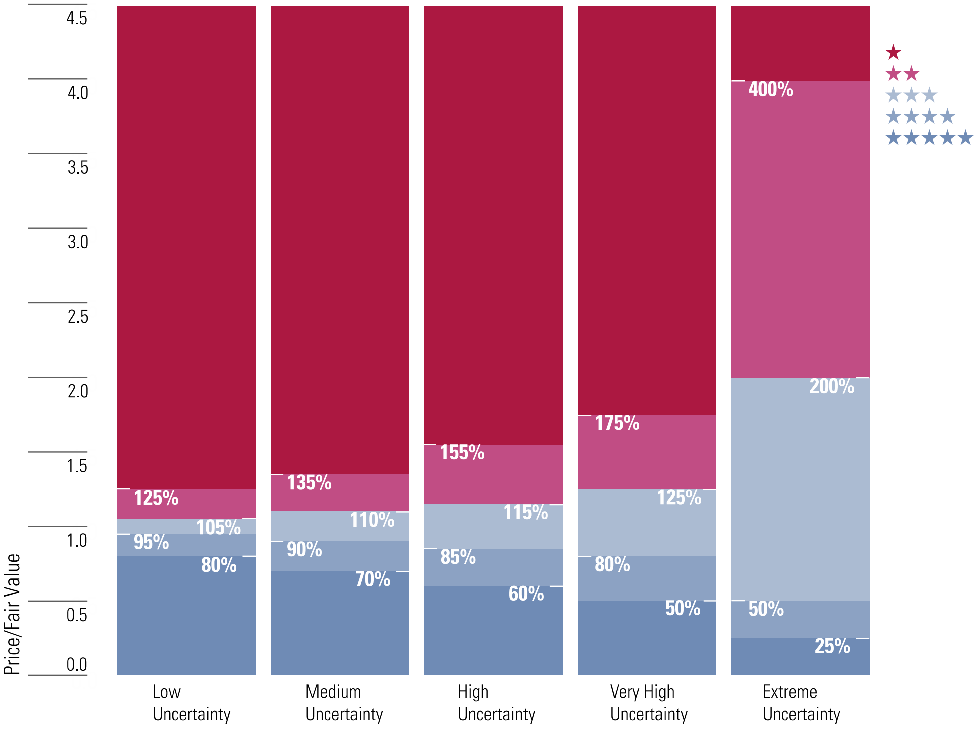
Analysts consider at least two scenarios in addition to their base case: a bull case and a bear case. Assumptions are chosen such that the analyst believes there is a 25% probability that the company will perform better than the bull case and a 25% probability that the company will perform worse than the bear case. The distance between the bull and bear cases is an important indicator of the uncertainty underlying the fair value estimate.

Our recommended margin of safety widens as our uncertainty regarding the estimated value of the equity increases. The more uncertain we are about the estimated value of the equity, the greater the discount we require relative to our estimate of the value of the firm before we would recommend the purchase of the shares. In addition, the uncertainty rating provides guidance in portfolio construction based on risk tolerance.

Our uncertainty ratings for our qualitative analysis are low, medium, high, very high, and extreme.

- Low: Margin of safety for 5-star rating is a 20% discount and for 1-star rating is a 25% premium.
- Medium: Margin of safety for 5-star rating is a 30% discount and for 1-star rating is a 35% premium.
- High: Margin of safety for 5-star rating is a 40% discount and for 1-star rating is a 55% premium.
- Very high: Margin of safety for 5-star rating is a 50% discount and for 1-star rating is a 75% premium.
- Extreme: Margin of safety for 5-star rating is a 75% discount and for 1-star rating is a 300% premium.

Morningstar Equity Research Star Rating Methodology



Market Price

The market prices used in this analysis and noted in the report come from the exchange on which the stock is listed, which we believe is a reliable source.

For more details about our methodology, please go to http://global.morningstar.com/equitydisclosures.

Morningstar Star Rating for Stocks

Once we determine the fair value estimate of a stock, we compare it with the stock's current market price on a daily basis, and the star rating is automatically recalculated at the market close on every day the market on which the stock is listed is open. Our analysts keep close tabs on the companies they follow and, based on thorough and ongoing analysis, raise or lower their fair value estimates as warranted.

Please note, there is no predefined distribution of stars. That is, the percentage of stocks that earn 5 stars can fluctuate daily, so the star ratings, in the aggregate, can serve as a gauge of the broader market's valuation. When there are many 5-star stocks, the stock market as a whole is more undervalued, in our opinion, than when very few companies garner our highest rating.

We expect that if our base-case assumptions are true, the market price will converge on our fair value estimate over time, generally within three years (although it is impossible to predict the exact time frame in which market prices may adjust).

Our star ratings are guideposts to a broad audience, and individuals must consider their own specific investment goals, risk tolerance, tax situation, time horizon, income needs, and complete investment portfolio, among other factors.

The Morningstar Star Ratings for stocks are defined below:

★★★★★ We believe appreciation beyond a fair risk-adjusted return is highly likely over a multiyear time frame. Scenario analysis developed by our analysts indicates that the current market price represents an excessively pessimistic outlook, limiting downside risk and maximizing upside potential.

★★★★ We believe appreciation beyond a fair risk-adjusted return is likely.

★★★ Indicates our belief that investors are likely to receive a fair risk-adjusted return (approximately cost of equity).

★★ We believe investors are likely to receive a less than fair risk-adjusted return.

★ Indicates a high probability of undesirable risk-adjusted returns from the current market price over a multiyear time frame, based on our analysis. Scenario analysis by our analysts indicates that the market is pricing in an excessively optimistic outlook, limiting upside potential and leaving the investor exposed to capital loss.

Risk Warning

Please note that investments in securities are subject to market and other risks, and there is no assurance or guarantee that the intended investment objectives will be achieved. Past performance of a security may or may not be sustained in the future and is no indication of future performance. A security investment return and an investor's principal value will fluctuate so that, when redeemed, an investor's shares may be worth more or less than their original cost. A security's current investment performance may be lower or higher than the investment performance noted within the report. Morningstar's uncertainty rating serves as a useful data point with respect to sensitivity analysis of the assumptions used in our determining a fair value price.

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