

# BetaShares Australian High Interest Cash ETF AAA

<b>Morningstar Analyst Rating</b> <b>Neutral</b> 13 Jan 2022 18:43, UTC Steven Le, Analyst	<b>Morningstar Rating</b> — — —	<b>Sustainability Rating</b>  31 May 2022	<b>Morningstar Category</b> Australia Fund Australian Cash	<b>Category Index</b> Morningstar AUD 1M Cash GR AUD	<b>Prospectus Benchmark</b> 30 Day Bank Bill Swap Rate
<b>Total Assets</b> 2.3 AUD Bil	<b>Inv Mgmt Fee %</b> 0.18	<b>12-Month Yield</b> 0.56	<b>Replication Method</b> Not Applicable	<b>3-Mo. Avg. Daily Vol. (Shrs '000)</b> 254,088	<b>Exchange</b> ASX - ALL MARKETS

**Steven Le**  
Analyst

**Morningstar Pillars**

Process (13 Jan 2022)		Average
People (13 Jan 2022)		Average
Parent (15 Mar 2021)		Average
Performance (13 Jan 2022)		
Price (13 Jan 2022)		

**Historical Analyst Rating**

	2020	2021	2022
Gold			
Silver			
Bronze			
Neutral			
Negative			
Under Review			
Not Ratable			

**Role in Portfolio:** Core

**Morningstar Analyst Rating**  
Morningstar evaluates funds based on five key pillars, which its analysts believe lead to fund that are more likely to outperform over the long term on a risk-adjusted basis. Investment research is produced and issued by subsidiaries of Morningstar, Inc. including, but not limited to, Morningstar Research Services LLC, registered with and governed by the U.S. Securities and Exchange Commission.

## A convenient cash offering, but there are shortcomings.

**Summary** Steven Le, 13 Jan 2022 18:43 UTC

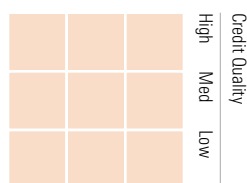
BetaShares Australian High Interest Cash ETF AAA is a cash vehicle that offers convenience, though there are some flaws which restrain our conviction.

AAA aims to generate an after fee return in excess of the 30-day bank bill swap rate. It gives investors access to different types of interest-earning bank deposits accounts without the administrative burden of seeking out the best rate with multiple banks. Its capital pool is deposited into at-call accounts, notice accounts, and term deposits. Notice accounts have historically been the prominent exposure, averaging around 58% between 2017 and 2020. However, as of October 2021, strong cash inflows into the fund have resulted in at-call accounts edging marginally ahead making up for 50% of the portfolio, with notice accounts at 48% and the remaining 2% in term deposits.

This strategy has met its objective since its inception in 2012, delivering strong peer-relative results over a sustained period between 2013 to 2020. However, falling cash rates and the injection of liquidity from the term funding facility to Australian banks have eroded BetaShares' bargaining power to negotiate improved interest rates with its panel of banks over the past several years. The net annual spread above the RBA cash rate has consequently compressed steadily, from 54 basis points to a mere 26 basis points per year between September 2018 to October 2021. AAA is not alone in this regard, though we are mindful that its annual 18-basis-point fee has taken an increasingly large chunk out of returns investors ultimately receive.

Investors in this fund should be aware that they effectively forgo the government guarantee of AUD 250,000, unlike savers in retail accounts. Banks also typically offer higher interest rates initially to entice retail investors. Admittedly, these rate specials are often limited time offers which revert to normal levels. Still, an enterprising investor will likely have their time rewarded shopping around, at least for higher introductory

**Fixed Income Style** Surveyed 30 Sep 2022




Interest Rate Sensitivity  
Average Effective Maturity  
Average Effective Duration

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD	
<b>Investment Style</b> Fixed Income Style Box												
<b>Total Return % (AUD)</b>												
Investment	—	3.73	3.40	2.69	2.26	2.03	2.05	1.69	0.75	0.34	0.67	
Category Average	3.72	2.71	2.41	2.01	1.82	1.65	1.60	1.28	0.39	0.03	0.43	
Category Index	4.03	2.83	2.61	2.13	1.81	1.56	1.79	1.34	0.22	-0.05	0.42	
<b>Performance Quartile</b> (within Category)											N/A	
Percentile Rank	—	2	4	6	11	10	11	21	10	6	N/A	
# of Inv in Cat.	71	78	79	79	77	59	62	70	61	50	39	


YTD Investment as of 30 Sep 2022 | Category: Australia Fund Australian Cash as of 19 Oct 2022 | Index: Morningstar AUD 1M Cash GR AUD as of 19 Oct 2022 | *Italics indicate Extended Performance. Extended performance is an estimate based on the performance of the fund's oldest share class, adjusted for fees. Performance data presented is non-standardized. For standardized performance see the Standardized and Tax Adjusted Returns Disclosure Statement. \*Performance Disclosure: The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please visit <http://advisor.morningstar.com/familyinfo.asp>.*

# BetaShares Australian High Interest Cash ETF AAA

Morningstar Analyst Rating	Morningstar Rating	Sustainability Rating	Morningstar Category	Category Index	Prospectus Benchmark
<b>Neutral</b>	—		Australia Fund Australian Cash	Morningstar AUD 1M Cash GR AUD	30 Day Bank Bill Swap Rate
13 Jan 2022 18:43, UTC Steven Le, Analyst	—	31 May 2022			

levels.

AAA has delivered on its objective since its inception, but there are several drawbacks which temper our view.

**Process**  Average | Steven Le, 13 Jan 2022 18:43 UTC


## Approach

BetaShares Australian High Interest Cash holds at-call cash and notice accounts (up to 90 days) with seven banks: NAB, Bendigo and Adelaide Bank, Bank of Queensland, Rabobank, Bank of Tokyo Mitsubishi UFJ, JP Morgan Chase Bank, and Citibank. In 2020, Citibank was added to this panel, with JP Morgan added in 2019 and Mitsubishi UFG in 2018. The fund can also hold term deposits. BetaShares judges bank suitability qualitatively, though it avoids banks with a negative credit outlook assigned by ratings agencies. BetaShares then negotiates deposit rates, aiming for a spread over the 30-day bank bill swap rate. Banks retain discretion to alter this at any time. AAA has offered higher interest rates than institutional norms (though below the highest retail levels). Its diversified investor base has been considered relatively sticky and attractive to banks seeking a stable deposit base. However, banks have lowered rates on at-call accounts, which has prompted BetaShares to further expand into notice accounts (and away from cash and term deposits) since 2014. Though, strong cash inflows into the fund saw at-call accounts edging marginally ahead notice accounts in October 2021. Factors such as regulatory rules dictating risk weightings for bank capital and the supply of and demand for deposits are pivotal. This vehicle lacks the safeguard of the Australian government's guarantee on retail bank deposits up to AUD 250,000. AAA pays distributions monthly.

## Portfolio

Term deposits and online savings accounts have often been used to earn an incremental premium over standard at-call accounts by forgoing some level of accessibility. Early access can result in termination fees, so they shouldn't strictly be classed as "cash," or at least such conditions should be well understood. The Australian government guarantee on deposits in financial institutions supervised by the Australian Prudential Regulation Authority is effectively moot for BetaShares AAA, given its total AUD 2.9 billion of assets as of October 2021. It's arguable that investors should demand some interest-rate premium to compensate for the extra risk in choosing a product that lacks this safeguard. Banks have competed aggressively for retail deposit funding as it was considered safer by virtue of being stickier--that is, less prone to significant swings in volume than capital lent by institutional investors. However, interest rates have fallen across the board since the heights of 2008, and the premium available on retail deposit accounts continues to fall. It was also not helped more recently by the Reserve Bank establishing the Term Funding Facility to provide liquidity to deposit-taking institutions. To maintain a competitive rate, BetaShares AAA has historically leaned on notice accounts, which composed just less than half of the portfolio as of October 2021. Investors can use AAA as a Core cash allocation.

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<b>Neutral</b>	–		Australia Fund Australian Cash	Morningstar AUD 1M Cash GR AUD	30 Day Bank Bill Swap Rate
13 Jan 2022 18:43, UTC Steven Le, Analyst	–	31 May 2022			

## People Average | Steven Le, 13 Jan 2022 18:43 UTC

BetaShares' investment team is led by chief investment officer Louis Crous. Crous is a veteran at BetaShares, having joined in 2009 from nabInvest where he was a senior investment product specialist. At BetaShares, Crous oversees the team of portfolio managers. Portfolio manager Chamath De Silva is involved in the day-to-day management of BetaShares' cash and fixed interest products. De Silva joined in May 2016 after a stint at the Reserve Bank of Australia, where he had dealing and analyst responsibilities. Jing Jia is also involved on the cash and bond strategies, and arrived in late 2018 from Australian Unity. Parker Guan is the most recent joiner, commencing as an assistant trader in September 2020 to assist the cash and fixed-interest leads with trade execution. Also, in 2020, investment analyst Luke Sheather left after close to four years' service, mainly on the firm's domestic equity and leveraged products. Despite the changes, overall resources have been bolstered to comprise seven members at the end of 2020. The shop has other portfolio managers dedicated to other asset classes, and has steadily grown over the years as its product set has expanded.

## Parent Average | Edward Huynh, CFA, CAIA, 15 Mar 2021 13:55 UTC

BetaShares' strong growth has seen it gobble up an increasing market share of the Australian exchange-traded fund market; however, product proliferation tempers our view.


BetaShares is an Australia-based ETF provider that manages AUD 16.5 billion and more than 60 ETFs as at March 2021. BetaShares was founded by Alex Vynokur, David Nathanson, and Ilan Israelstam. All founding members remain at the firm as CEO, managing director, and head of strategy and marketing, respectively. On 8 March 2021, BetaShares announced that private equity firm TA Associates had taken a majority equity stake through acquiring both Mirae Asset Financial Group's holding and a passive stake held by minority shareholders.

BetaShares pioneered a range of ETFs, which have historically been dominated by market-cap-weighted products. It introduced currency, currency-hedged, commodities, fundamental factor indexes, and short market-based ETFs. Additionally, the introduction and popularity of low-cost market-cap-weighted funds have contributed to the ETF industry, reducing their fees. We don't believe everything has been positive--namely, the introduction of niche complex products that include gearing, futures, and options, which investors may have difficulty understanding. BetaShares has nonetheless helped shape the Australian ETF landscape and will continue to do so.

## Performance

BetaShares Australian High Interest Cash AAA ETF has provided an excess yield over the RBA 90-Day Bank Bill rate benchmark, as well as its internal 30-Day Bank Bill Swap Rate hurdle, dating back to its inception in March 2012. This margin did steadily decline in the years after this vehicle was launched until early 2019. AAA returned as much as 1% above the RBA 90-Day Bank Bill rate in 2013 before dwindling to being barely

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above this marker by 2019 as interest rates continued to fall. As at October 2021, further interest rate cuts and banks access to stimulus liquidity saw the spread compress year over year to stand at 26 basis points above the RBA cash rate. Competing cash and money market ETFs have been launched over time, some of which have achieved inferior returns after fees to AAA, though investment universes do differ. BetaShares AAA has delivered returns that are modestly below those attainable on high-interest retail deposits, including term deposits.

## Price

It's critical to evaluate expenses, as they come directly out of returns. The share class on this report levies a fee that ranks in its Morningstar category's second-cheapest quintile. Even so, based on our assessment of the fund's People, Process and Parent pillars in the context of these fees, we don't think this share class will be able to deliver positive alpha relative to the category benchmark index, explaining its Morningstar Analyst Rating of Neutral.

## ESG Commitment Level

An ESG Commitment Level is not assigned to this fund.

### How do we decide what funds receive an ESG Commitment Level ?

Morningstar analysts award an ESG Commitment Level to funds that also receive Morningstar Analyst Ratings. Not all funds currently have ESG Commitment Levels. Morningstar is expanding its coverage, prioritizing funds that are most relevant to investors. ■■

# BetaShares Australian High Interest Cash ETF AAA

Process |  Average

## Morningstar Category

Australia Fund Australian Cash

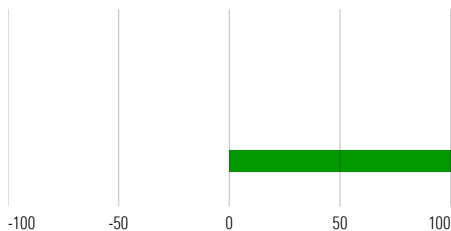
## Category Index

Morningstar AUD 1M Cash GR AUD

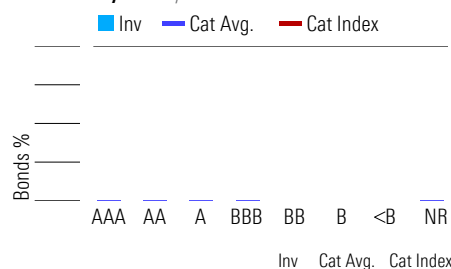
## Prospectus Benchmark

30 Day Bank Bill Swap Rate

### Asset Allocation 30 Sep 2022



### Credit Quality Surveyed



Investment Grade	AAA	AA	A	BBB	BB	B	<B	NR
Inv	—	—	—	—	—	—	—	—
Cat Avg.	56.2	28.3	10.0	5.1	—	—	—	—
Cat Index	—	—	—	—	—	—	—	—
<b>Total %</b>	<b>99.6</b>							

Below Investment Grade	BB	B	Below B	Not Rated
Inv	—	—	—	—
Cat Avg.	0.0	0.0	0.0	0.5
Cat Index	—	—	—	—
<b>Total %</b>	<b>0.5</b>			

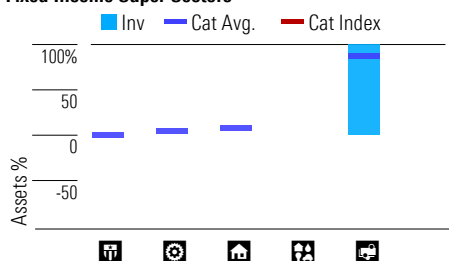
### Interest Rate Sensitivity 30 Sep 2022

	Inv	Cat Avg.	Cat Index
Avg Effective Duration	—	0.2	—
Avg Modified Duration	—	0.2	—
Avg Effective Maturity	—	—	—

Asset Class	Net	Short	Long	Cat Avg.	Cat Index
Fixed Income	0.00	—	0.00	11.68	—
Preferred	0.00	—	0.00	0.00	—
Convertible	0.00	—	0.00	0.30	—
Equity	0.00	—	—	—	—
Cash	100.00	—	100.00	85.98	—
Other	0.00	—	0.00	2.04	—
<b>Total</b>	<b>100.00</b>	<b>—</b>	<b>100.00</b>	<b>100.00</b>	<b>—</b>

### Sectors

#### Fixed Income Super Sectors



Fixed Income Sectors	Inv	Cat Avg.	Cat Index
<b>Government</b>	0.0	0.4	—
Treasury	0.0	0.0	—
Inflation Protected	0.0	0.0	—
Agency/Quasi-Agency	0.0	0.3	—
Other Government Related	—	—	—
<b>Corporate</b>	0.0	4.5	—
Corporate Bond	0.0	4.1	—
Bank Loan	0.0	0.0	—
Convertible	0.0	0.3	—
Preferred	0.0	0.0	—
<b>Securitized</b>	0.0	7.4	—
Agency Mortgage-Backed	0.0	6.8	—
Non Agency Residential	0.0	0.0	—
Commercial MBS	0.0	0.0	—
Asset-Backed	0.0	0.4	—
Covered Bond	0.0	0.2	—
<b>Municipal</b>	0.0	—	—
<b>Cash &amp; Equivalents</b>	100.0	87.7	—
<b>Other</b>	0.0	0.0	—

### World Regions %

	Inv	Cat Avg.	Cat Index
<b>Americas</b>	—	<b>3.58</b>	—
North America	—	3.58	—
Latin America	—	0.00	—
<b>Greater Europe</b>	—	<b>5.70</b>	—
United Kingdom	—	0.00	—
Europe-Developed	—	5.70	—
Europe-Emerging	—	0.00	—
Africa/Middle East	—	0.00	—
<b>Greater Asia</b>	—	<b>90.72</b>	—
Japan	—	2.54	—
Australasia	—	86.88	—
Asia-Developed	—	1.30	—
Asia-Emerging	—	0.00	—
<b>Not Classified</b>	—	<b>0.00</b>	—
<b>Developed Markets</b>	—	<b>100.00</b>	—
<b>Emerging Markets</b>	—	<b>0.00</b>	—

### Top Country Exposure % 30 Sep 2022

Country	Inv	Cat Avg.	Cat Index
Australia	—	86.30	—
Switzerland	—	3.79	—
Japan	—	2.52	—
Canada	—	2.33	—
United States	—	1.23	—
France	—	0.85	—
South Korea	—	0.84	—
Netherlands	—	0.82	—
Other Countries	—	0.67	—
Singapore	—	0.45	—

### Income 30 Sep 2022

	Inv	Cat Avg.	Cat Index
12-Month Yield	0.6	0.2	—
Average Coupon	—	3.3	—
Avg Coupon surveyed 30 Sep 2022	—	—	—

### Top Portfolio Holdings 30 Sep 2022

	Country	Currency	Assets %	Super Sector	Primary Sector	Secondary Sector
Cash	—	—	100.00	 Cash & Equivalents	—	Cash

# BetaShares Australian High Interest Cash ETF AAA

People |  Average

<b>Morningstar Category</b> Australia Fund Australian Cash	<b>Category Index</b> Morningstar AUD 1M Cash GR AUD	<b>Prospectus Benchmark</b> 30 Day Bank Bill Swap Rate
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Management	Inception Date	Number of Mgrs	Longest Tenure	Average Tenure	Advisor(s)	Subadvisor(s)
	6 Mar 2012	1	—	—	BetaShares Capital Ltd	—

Timeline  Past  Current

Portfolio Manager	Tenure (Years)	Start Date	Timeline										End Date	Position In Investment				
			2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		2022	0K	10	50	100
Not Disclosed	10.6	03/06/2012											N/A					

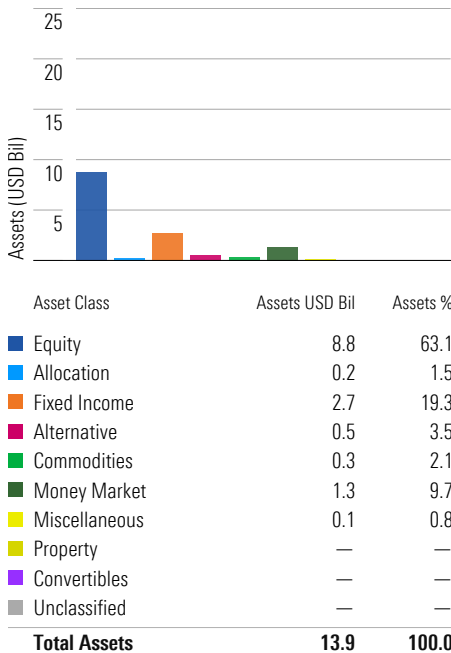
# BetaShares Australian High Interest Cash ETF AAA

Parent |  Average

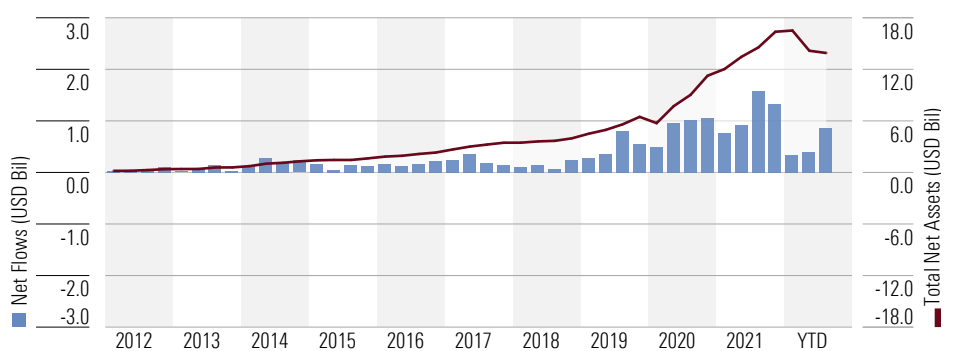
<b>Morningstar Category</b> Australia Fund Australian Cash	<b>Category Index</b> Morningstar AUD 1M Cash GR AUD	<b>Prospectus Benchmark</b> 30 Day Bank Bill Swap Rate
<b>Firm / Investment Provider</b> BetaShares Capital Ltd	<b>Advisor</b> BetaShares Capital Ltd	<b>Subadvisor</b> —

**Branding Company Breakdowns:** BetaShares 30 Sep 2022

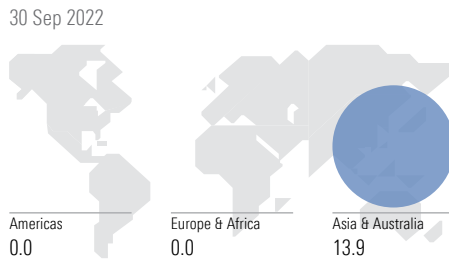
**Global Asset Class Breakdown 30 Sep 2022**



**Global Total Firm Assets and Investment Flows**



**Global Assets By Region, By Domicile USD Bil**



# BetaShares Australian High Interest Cash ETF AAA

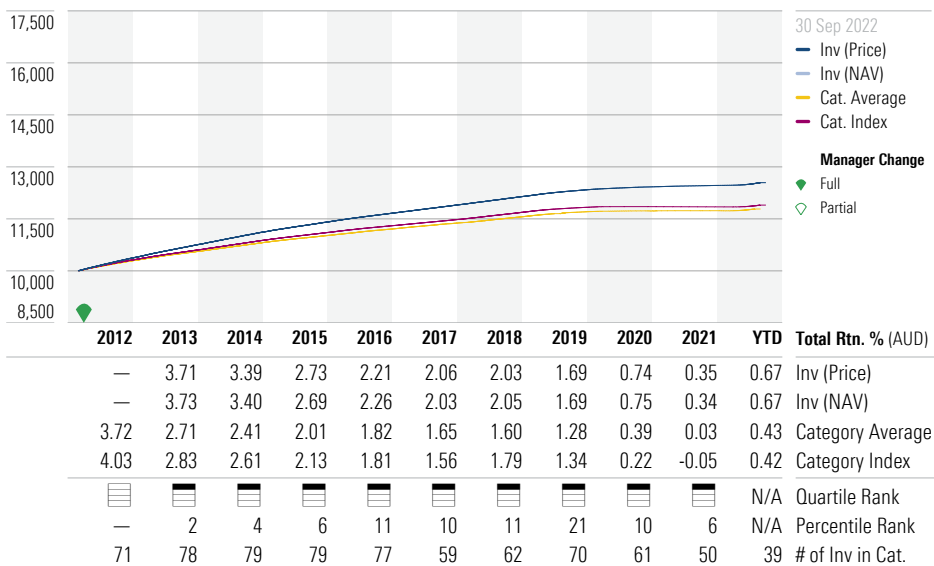
## Performance

<b>Morningstar Category</b> Australia Fund Australian Cash	<b>Category Index</b> Morningstar AUD 1M Cash GR AUD	<b>Prospectus Benchmark</b> 30 Day Bank Bill Swap Rate
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### Morningstar Rating and Risk —

Period / Inv in Cat	Total Return %	Morningstar Ret vs Cat	Morningstar Risk vs Cat	Morningstar Rating
3 Years	0.69	—	—	—
5 Years	1.20	—	—	—
10 Years	2.06	—	—	—
Overall	—	—	—	—

### Growth of \$10,000



### 3-Year Risk vs. Category Avg —



### 3-Year Return vs. Category Avg —



### 3-Year Market Volatility Measures 30 Sep 2022

	Inv	Cat Avg.	Cat Index
Upside Capture Ratio %	178.76	119.97	0.95
Downside Capture Ratio %	-687.44	-26.10	-0.50
<b>Maximum Drawdown %</b>	—	<b>-0.04</b>	<b>-0.07</b>
Drawdown Peak Date	—	2/1/21	11/1/20
Drawdown Valley Date	—	2/28/21	4/30/22
Max Drawdown Duration	—	1 Mo.	18 Mo.

### Trailing Returns (Annualized) 30 Sep 2022

	Total Ret %	Investor Ret %	% Rank in Cat	Category Ret %	Index Ret %
1 Year	0.73	—	1.00	0.42	0.41
3 Years	0.69	—	7.00	0.36	0.27
5 Years	1.20	—	10.00	0.88	0.82
10 Years	2.06	—	8.00	1.58	1.55
Earl Avail*	2.20	—	—	—	—

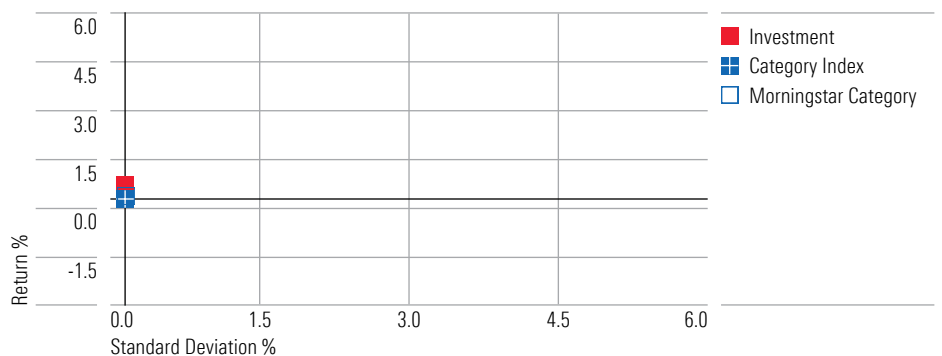
\*Earliest Available as of 06 Mar 2012

### Rolling Return Summary 30 Sep 2022

36-Month Rolling Periods	Quartile	%
71 Observations, 6 Years	10	10
	0	0
	0	0
	0	0

The shading and percentages correspond to how often the strategy returns landed in each category quartile.

### 3-Year Risk vs. Return Scatterplot 30 Sep 2022



### Risk & Return Measures 30 Sep 2022

Trailing	3-Year			5-Year			10-Year		
	Investment	Cat Avg.	Cat Index	Investment	Cat Avg.	Cat Index	Investment	Cat Avg.	Cat Index
Alpha	0.43	0.11	-0.18	0.38	0.07	-0.14	0.54	0.04	-0.11
Beta	1.08	1.10	0.00	1.05	1.10	0.00	1.33	1.03	0.00
R-Squared	87.26	67.36	5.44	74.10	52.12	3.65	60.04	34.68	0.28
Sharpe Ratio	2.30	-0.98	-2.16	2.60	-0.93	-2.13	3.90	-1.11	-1.92
Standard Deviation %	0.15	0.16	0.15	0.22	0.23	0.23	0.32	0.31	0.29

# BetaShares Australian High Interest Cash ETF AAA

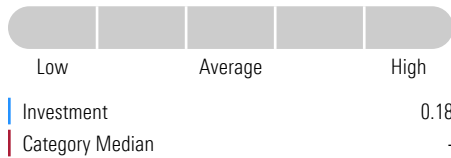
## Price

**Morningstar Category**  
Australia Fund Australian Cash

**Category Index**  
Morningstar AUD 1M Cash GR AUD

**Prospectus Benchmark**  
30 Day Bank Bill Swap Rate

### Prospective TCR 20 Sep 2021



### Fee Level

Fee Level	Peer Group
-	-

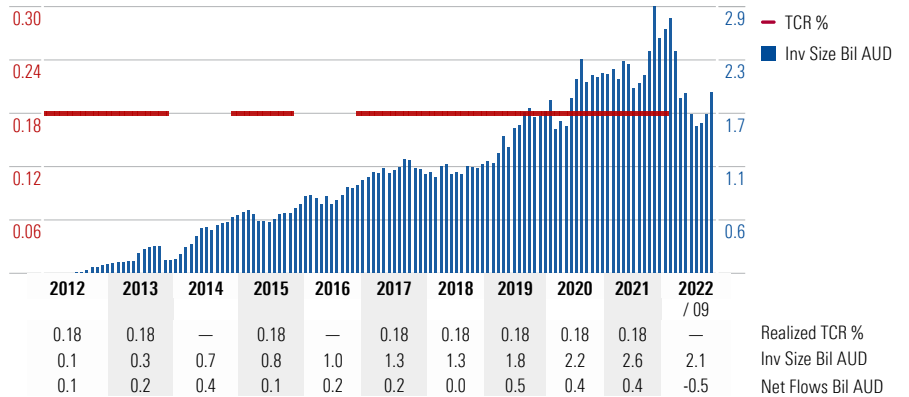
Fee Level Breakpoints	
High	-
Above Average	-
Average	-
Below Average	-
Low	-

Inv 0.18  
Peer Median -

### Prospective Expense Breakdown 20 Sep 2021

Total Cost Ratio (Prospective) %	0.18
Investment Management Fee %	0.18
Performance Fee Costs %	-
Administration Fees & Costs %	-
Annual Dollar-Based Charges	-
Net T&O Costs 06/30/21	0.00
Representative Cost 10/31/22	0.18

### Expense History 20 Sep 2021



### Historical Expense Ratio % 20 Sep 2021

	2018	2019	2020	2021	2022
Investment	0.180	0.180	0.180	0.180	-
Category Average	-	-	-	-	-
Comparison Group	-	-	-	-	-

Realized TCRt | Fee Level Comparison Group: -

### Share Class Information

Investment Name	APIR	Status	Fee Level	TCR (P)	Performance Fee Costs	Net T&O Cost	Minimum Initial Investment	Assets	1-Yr Flow	Currency
BetaShares Aus...erest Cash ETF	-	Open	-	0.18	-	0.00	500	2.33 Bil	-342.35 Mil	AUD

**Total Firm Assets and Investment Flows** 30 Sep 2022

<b>Total Net Assets (USD Bil)</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>YTD</b>
Q1	0.18	0.40	0.73	1.42	1.84	2.68	3.46	4.51	5.73	12.03	16.52
Q2	0.20	0.40	1.02	1.45	1.94	3.01	3.61	4.95	7.71	13.46	14.16
Q3	0.28	0.58	1.13	1.45	2.15	3.24	3.68	5.60	9.03	14.55	13.90
Q4	0.38	0.58	1.30	1.64	2.32	3.46	3.97	6.47	11.25	16.37	0.00
<b>Net Flows (USD Bil)</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>YTD</b>
Q1	0.03	0.02	0.13	0.17	0.16	0.24	0.10	0.28	0.49	0.76	0.33
Q2	0.02	0.06	0.28	0.05	0.12	0.35	0.14	0.35	0.95	0.93	0.40
Q3	0.07	0.15	0.19	0.14	0.16	0.18	0.07	0.80	1.01	1.59	0.87
Q4	0.10	0.02	0.23	0.13	0.23	0.14	0.24	0.55	1.05	1.33	0.00

## Standardized and Tax Adjusted Returns Disclosure Statement

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end please visit <http://advisor.morningstar.com/familyinfo.asp>

An investment in a money-market vehicle is not insured or guaranteed by the FDIC or any other government agency. The current yield quotation reflects the current earnings of the money market more closely than the total return quotation. Although money markets seek to preserve the value of your investment at \$1.00 per share, it is possible to lose money by investing in them.

Standardized Returns assume reinvestment of dividends and capital gains. They depict performance without adjusting for the effects of taxation, but are adjusted to reflect sales charges and ongoing fund expenses.

If adjusted for taxation, the performance quoted would be significantly reduced. For variable annuities, additional expenses will be taken into account, including M&E risk charges, fund-level expenses such as management fees and operating fees, contract-level administration fees, and charges such as surrender, contract, and sales charges.

After-tax returns are calculated using the highest individual federal marginal income tax rates, and do not reflect the impact of state and local taxes. Actual after-tax returns depend on the investor's tax situation and may differ from those shown. The after-tax returns shown are not relevant to investors who hold their fund shares through tax-deferred arrangements such as 401(k) plans or an IRA. After-tax returns exclude the effects of either the alternative minimum tax or phase-out of certain tax credits. Any taxes due are as of the time the distributions are made, and the taxable amount and tax character of each distribution are as specified by the fund on the dividend declaration date. Due to foreign tax credits or realized capital losses, after-tax returns may be greater than before-tax returns. After-tax returns for exchange-traded funds are based on net asset value.

### Annualized Returns 09-30-2022

Standardized Returns (%)	7-day Yield		1Yr	5Yr	10Yr	Since Inception	Inception Date	Max Front Load %	Max Back Load %	Net Exp Ratio %	Gross Exp Ratio %	Max Redemption %
	Subsidized	Unsubsidized										
BetaShares Aus High Interest Cash ETF - NAV	—	—	0.73	1.20	2.06	2.20	03-06-2012	—	—	—	—	—
BetaShares Aus High Interest Cash ETF - Market	—	—	0.74	1.20	2.06	—	03-06-2012	N/A	N/A	—	—	N/A
<b>Bloomberg US Agg Bond TR USD</b>			<b>-14.60</b>	<b>-0.27</b>	<b>0.89</b>	<b>6.63</b>	<b>01-03-1980</b>					
<b>MSCI EAFE NR USD</b>			<b>-25.13</b>	<b>-0.84</b>	<b>3.67</b>	<b>7.93</b>	<b>03-31-1986</b>					
<b>Morningstar AUD 1M Cash GR AUD</b>			<b>0.41</b>	<b>0.82</b>	<b>1.55</b>	<b>3.63</b>	<b>07-01-2019</b>					
<b>S&amp;P 500 TR USD</b>			<b>-15.47</b>	<b>9.24</b>	<b>11.70</b>	<b>10.51</b>	<b>01-30-1970</b>					
<b>USTREAS T-Bill Auction Ave 3 Mon</b>			<b>1.08</b>	<b>1.19</b>	<b>0.71</b>	<b>3.84</b>	<b>02-28-1941</b>					

### Return after Tax (%)

	On Distribution				Inception Date	On Distribution and Sales of Shares			
	1Yr	5Yr	10Yr	Since Inception		1Yr	5Yr	10Yr	Since Inception
BetaShares Aus High Interest Cash ETF	—	—	—	—	03-06-2012	—	—	—	—

## Disclosure Statement

The Managed Investment Report is supplemental sales literature, and therefore must be preceded or accompanied by the investment's current prospectus or an equivalent statement. Please read this information carefully. In all cases, this disclosure statement should accompany the Managed Investment Report. Morningstar is not itself a FINRA-member firm. All data presented is based on the most recent information available to Morningstar as of the release date and may or may not be an accurate reflection of current data for securities included in the fund's portfolio. There is no assurance that the data will remain the same.

Unless otherwise specified, the definition of "funds" used throughout this Disclosure Statement includes closed-end funds, exchange-traded funds, grantor trusts, index mutual funds, open-ended mutual funds, collective investment trust funds, and unit investment trusts. It does not include exchange-traded notes or exchange-traded commodities. The definition of "managed investment" includes funds, variable annuity or variable life subaccounts, separate accounts, and models.

Prior to 2016, Morningstar's methodology evaluated open end mutual funds and exchange-traded funds as separate groups. Each group contained a subset of the current investments included in our current comparative analysis. In this report, historical data presented on a calendar-year basis and trailing periods ending at the most recent month-end reflect the updated methodology.

Risk measures (such as alpha, beta, r-squared, standard deviation, mean, or Sharpe ratio) are calculated for securities or portfolios that have at least a three-year history.

Most Morningstar rankings do not include any adjustment for one-time sales charges, or loads. Morningstar does publish load-adjusted returns and ranks such returns within a Morningstar Category in certain reports. The total returns for ETFs and fund share classes without one-time loads are equal to Morningstar's calculation of load-adjusted returns. Share classes that are subject to one-time loads relating to advice or sales commissions have their returns adjusted as part of the load-adjusted return calculation to reflect those loads.

### Comparison of Fund Types

Funds, including closed-end funds, exchange-traded funds (ETFs), money market funds, open-end funds, and unit investment trusts (UITs), have many similarities, but also many important differences. In general, publicly offered funds are investment companies registered with the Securities and Exchange Commission under the Investment Company Act of 1940, as amended. Funds pool money from their investors and manage it according to an investment strategy or objective, which can vary greatly from fund to fund. Funds have the ability to offer diversification and professional management, but also involve risk, including the loss of principal.

A closed-end fund is an investment company, which typically makes one public offering of a fixed number of shares. Thereafter, shares are traded on a secondary market. As a result, the secondary market price may be higher or lower than the closed-end fund's net asset value (NAV). If these shares trade at a price above their NAV, they are said to be trading at a premium. Conversely, if they are trading at a price below their NAV, they are said to be trading at a discount. A closed-end mutual fund's expense ratio is an annual fee charged to a shareholder. It includes operating expenses and management fees but does not take into account any brokerage costs. Closed-end funds may also have 12b-1 fees. Income distributions and capital gains of the closed-end fund are subject to income tax, if held in a taxable account.

An ETF is an investment company that typically has an investment objective of striving to achieve a similar return as a particular market index. The ETF will invest in either all or a representative sample of the securities included in the index it is seeking to imitate. Like closed-end funds, an ETF can be traded on a secondary market and thus have a market price that may be higher or lower than its net asset value. If these shares trade at a price above their NAV, they are said to be trading at a premium. Conversely, if they are trading at a price below their NAV, they are said to be trading at a discount. ETFs are not actively managed, so their value may be affected by a general decline in the U.S. market segments relating to their underlying indexes. Similarly, an imperfect match between an ETF's holdings and those of its underlying index may cause its performance to vary from that of its underlying index. The expense ratio of an ETF is an annual fee charged to a shareholder. It includes operating expenses and management fees but does not take into account any brokerage costs. ETFs do not have 12b-1 fees or sales loads. Capital gains from funds held in a taxable account are subject to income tax. In many, but not all cases, ETFs are generally considered to be more tax-efficient when compared to similarly invested mutual funds.

Holding company depository receipts (HOLDRs) are similar to ETFs, but they focus on narrow industry groups. HOLDRs initially own 20 stocks, which are unmanaged, and can become more concentrated due to mergers, or the disparate performance of their holdings. HOLDRs can only be bought in 100-share increments. Investors may exchange shares of a HOLDR for its underlying stocks at any time.

A money-market fund is an investment company that invests in commercial paper, banker's acceptances, repurchase agreements, government securities, certificates of deposit and other highly liquid securities, and pays money market rates of interest. Money markets are not FDIC-insured, may lose money, and are not guaranteed by a bank or other financial institution.

An open-end fund is an investment company that issues shares on a continuous basis. Shares can be purchased from the open-end mutual fund itself, or through an intermediary, but cannot be traded on a secondary market,

such as the New York Stock Exchange. Investors pay the open-end mutual fund's current net asset value plus any initial sales loads. Net asset value is calculated daily, at the close of business. Open-end mutual fund shares can be redeemed, or sold back to the fund or intermediary, at their current net asset value minus any deferred sales loads or redemption fees. The expense ratio for an open-end mutual fund is an annual fee charged to a shareholder. It includes operating expenses and management fees but does not take into account any brokerage costs. Open-end funds may also have 12b-1 fees. Income distributions and capital gains of the open-end fund are subject to income tax, if held in a taxable account.

A unit investment trust (UIT) is an investment company organized under a trust agreement between a sponsor and trustee. UITs typically purchase a fixed portfolio of securities and then sell units in the trust to investors. The major difference between a UIT and a mutual fund is that a mutual fund is actively managed, while a UIT is not. On a periodic basis, UITs usually distribute to the unit holder their pro rata share of the trust's net investment income and net realized capital gains, if any. If the trust is one that invests only in tax-free securities, then the income from the trust is also tax-free. UITs generally make one public offering of a fixed number of units. However, in some cases, the sponsor will maintain a secondary market that allows existing unit holders to sell their units and for new investors to buy units. A one-time initial sales charge is deducted from an investment made into the trust. UIT investors may also pay creation and development fees, organization costs, and/or trustee and operation expenses. UIT units may be redeemed by the sponsor at their net asset value minus a deferred sales charge and sold to other investors. UITs have set termination dates, at which point the underlying securities are sold and the sales proceeds are paid to the investor. Typically, a UIT investment is rolled over into successive trusts as part of a long-term strategy. A rollover fee may be charged for the exercise of rollover purchases. There are tax consequences associated with rolling over an investment from one trust to the next.

### Comparison of Other Managed Investment Types

Variable annuities are tax-deferred investments structured to convert a sum of money into a series of payments over time. Variable annuity policies have limitations and are not viewed as short-term liquid investments. An insurance company's fulfillment of a commitment to pay a minimum death benefit, a schedule of payments, a fixed investment account guaranteed by the insurance company, or another form of guarantee depends on the claims-paying ability of the issuing insurance company. Any such guarantee does not affect or apply to the investment return or principal value of the separate account and its subaccount. The financial ratings quoted for an insurance company do not apply to the separate account and its subaccount. The insurance company offering a variable contract will charge several fees to investors, including annual contract charges that compensate the insurance company for the cost of maintaining and administering the contract, mortality and expense

risk (M&E Risk) charges based on a percentage of a sub-account's assets to cover costs associated with mortality and expense risk, and administration fees that are based on a percentage of a subaccount's assets to cover the costs involved in offering and administering the subaccount. A variable annuity investor will also be charged a front-end load by the insurance company on their initial contribution, ongoing fees related to the management of the fund, and surrender charges if the investor makes a withdrawal prior to a specified time. If the variable annuity subaccount is invested in a money-market fund, the money market fund is not FDIC-insured, may lose money, and is not guaranteed by a bank or other financial institution.

Variable life insurance is a cash-value life insurance that has a variable cash value and/or death benefit depending on the investment performance of the subaccount into which premium payments are invested. Unlike traditional life insurance, variable life insurance has inherent risks associated with it, including market volatility, and is not viewed as a short-term liquid investment. For more information on a variable life product, including each subaccount, please read the current prospectus. Please note, the financial ratings noted on the report are quoted for an insurance company and do not apply to the separate account and its subaccount.

A separate account is a portfolio of securities (such as stocks, bonds, and cash) that follows a specified investment strategy and is managed by an investment professional. The securities in the portfolio are directly owned by the separate account's owner. Separate accounts are unregistered investment vehicles; therefore, they do not have the same performance and holding reporting responsibilities that registered securities have. Separate account performance data is reported to Morningstar from the investment manager as a composite of similarly managed portfolios. As such, investors in the same separate account may have slightly different portfolio holdings because each investor has customized account needs, tax considerations and security preferences. The method for calculating composite returns can vary. The composite performance for each separate account manager may differ from actual returns in specific client accounts during the same period for a number of reasons. Different separate account managers may use different methods in constructing or computing performance figures. Thus, performance and risk figures for different separate account managers may not be fully comparable to each other. Likewise, performance and risk information of certain separate account managers may include only composites of larger accounts, which may or may not have more holdings, different diversification, different trading patterns and different performance than smaller accounts with the same strategy. Finally, composite performance of the separate account offered by the money manager may or may not reflect the reinvestment of dividends and capital gains. Gross returns are collected on a monthly and quarterly basis for separate accounts and commingled pools. This information is collected directly from the asset management firm running the product(s). Morningstar

calculates total returns, using the raw data (gross monthly and quarterly returns), collected from these asset management firms. The performance data reported by the separate account managers will not represent actual performance net of management fees, brokerage commissions or other expenses. Management fees as well as other expenses a client may incur will reduce individual returns for that client. Because fees are deducted regularly, the compounding effect will increase the impact of the fee deduction on gross account performance by a greater percentage than that of the annual fee charged. For example, if an account is charged a 1% management fee per year and has gross performance of 12% during that same period, the compounding effect of the quarterly fee assessments will result in an actual return of approximately 10.9%. Clients should refer to the disclosure document of the separate account manager and their advisor for specific information regarding fees and expenses. The analysis in this report may be based, in part, on adjusted historical returns for periods prior to an insurance group separate account's (IGSA's) actual inception. When pre-inception data are presented in the report, the header at the top of the report will indicate this and the affected data elements will be displayed in italics. These calculated returns reflect the historical performance of the oldest share class of the underlying fund, adjusted to reflect the management fees of the current IGSA. While the inclusion of pre-inception data provides valuable insight into the probable long-term behavior of an IGSA based on the underlying fund's performance, investors should be aware that an adjusted historical return can only provide an approximation of that behavior. These adjusted historical returns are not actual returns. Calculation methodologies utilized by Morningstar may differ from those applied by other entities, including the IGSA itself. Morningstar % Rank within Morningstar Category does not account for a separate account's sales charge (if applicable).

A model, as defined by Morningstar, is a portfolio of securities (such as mutual funds, ETFs, and cash) created by a model manager (such as a broker-dealer, investment adviser, or asset manager) that is distributed through centralized platforms to various types of investors or financial professionals. Models are not created with regard to the investment objectives, financial situation, or particular needs of any specific investor and therefore will not be suitable for everyone. A model is intended to provide information to assist investors in making their own investment decisions; investors must exercise their own independent judgment as to the suitability of a model and its holdings in light of their own investment objectives, experience, taxation status, and financial position. Model managers do not guarantee the performance of a model or its underlying holdings, or that a model's objective will be achieved. An investor using a model can incur a loss. Unless the model manager and an investor enter in an agreement stating otherwise, the model manager is not responsible for an investor's decision to invest in accordance with a model, the suitability of the model for a specific investor, or trading decisions, and does not manage

or have access to the investor account. Instead, the investor (or their financial professional) chooses whether and how to implement the model and is ultimately responsible for related investment decisions. If an investor chooses to invest in accordance with a model, the securities in the account are directly owned by the investor.

A collective investment trust (CIT) may also be called a commingled or collective fund. CITs are tax-exempt, pooled investment vehicles maintained by a bank or trust company exclusively for qualified plans, including 401(k)s, and certain types of government plans. CITs are unregistered investment vehicles subject to banking regulations of the Office of the Comptroller of the Currency (OCC), which means they are typically less expensive than other investment options due to lower marketing, overhead, and compliance-related costs. CITs are not available to the general public but are managed only for specific retirement plans.

### Sustainalytics

Sustainalytics is an environmental, social, and governance and corporate governance research, ratings, and analysis firm. Morningstar acquired Sustainalytics in 2020. Sustainalytics provides ESG scores on companies, which are evaluated within global industry peer groups, and tracks and categorizes ESG-related controversial incidents on companies. Morningstar uses Sustainalytics' company level ESG analytics to calculate ratings for managed products and indexes using Morningstar's portfolio holdings database.

### Performance

The performance data given represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's shares, when sold, may be worth more or less than the original investment. Managed investment portfolio statistics change over time. Funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution.

Morningstar calculates after-tax returns using the highest applicable federal marginal income tax rate plus the investment income tax and Medicare surcharge. As of 2018, this rate is 37% plus 3.8% investment income plus 0.9% Medicare surcharge, or 41.7%. This rate changes periodically in accordance with changes in federal law.

### Pre-Inception Returns

The analysis in this report may be based, in part, on adjusted historical returns for periods prior to the inception of the share class of the fund shown in this report ("Report Share Class"). If pre-inception returns are shown, a performance stream consisting of the Report Share Class and older share class(es) is created. Morningstar adjusts pre-inception returns downward to reflect higher expenses in the Report Share Class, we do not hypothetically adjust returns upwards for lower expenses. For more information regarding calculation of pre-inception returns please see the Morningstar Extended Performance Methodology.

**When pre-inception data is presented in the report, the header at the top of the report will indicate this. In addition, the pre-inception data included in the report will appear in italics.**

While the inclusion of pre-inception data provides valuable insight into the probable long-term behavior of newer share classes of a fund, investors should be aware that an adjusted historical return can only provide an approximation of that behavior. For example, the fee structures of a retail share class will vary from that of an institutional share class, as retail shares tend to have higher operating expenses and sales charges. These adjusted historical returns are not actual returns. The underlying investments in the share classes used to calculate the pre-performance string will likely vary from the underlying investments held in the fund after inception. Calculation methodologies utilized by Morningstar may differ from those applied by other entities, including the fund itself.

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**Historical Analyst Rating**

	2020	2021	2022
Gold			
Silver			
Bronze			
Neutral			
Negative			
Under Review			
Not Ratable			

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**The Morningstar Analyst Rating™ for Managed Investments**

The Morningstar Analyst Rating™ for Managed Investments is a forward-looking analysis of a managed investment. The Morningstar Analyst Rating does not express a

view on a given asset class or peer group; rather, it seeks to evaluate each managed investment within the context of its objective, an appropriate benchmark, and peer group.

The date shown next to the Morningstar Analyst Rating is the date on which a Morningstar Manager Research analyst assigned or reaffirmed the current rating for the managed investment based on the analyst's latest review and research report for the managed investment.

- For actively managed strategies, people and process each receive a 45% weighting in their analysis, while parent receives a 10% weighting.
- For passive strategies, process receives an 80% weighting, while people and parent each receive a 10% weighting.
- For both active and passive strategies, performance has no explicit weight as it is incorporated into the analysis of people and process; price at the share-class level (where applicable) is directly subtracted from an expected gross alpha estimate derived from the analysis of the other pillars.
- The impact of the weighted pillar scores for people, process and parent on the final Morningstar Analyst Rating is further modified by a measure of the dispersion of historical alphas among relevant peers.
- For certain peer groups where standard benchmarking is not applicable, the modification by alpha dispersion is not used.

#### The Five (5) Pillars

Morningstar has identified five key areas that we believe are crucial to predicting the future success of managed investments: People, Parent, Process, Performance, and Price. Each pillar is evaluated when assessing a managed investment as well as the interaction between the pillars, which we believe is crucial to understanding a managed investment's overall merit.

#### People

The overall quality of a managed investment's investment team is a significant key to its ability to deliver superior performance relative to its benchmark and/or peers. Evaluating a managed investment's investment team requires that analysts assess several relevant items including how key decisions are made.

#### Parent

We believe the parent organization is of utmost importance in evaluating managed investment. The managed investment's management set the tone for key elements of our evaluation, including capacity management, risk management, recruitment and retention of talent, and incentive pay. Beyond these operational areas, we prefer firms that have a culture of stewardship and put investors first to those that are too heavily weighted to salesmanship.

#### Process

We look for managed investments with a performance objective and investment process (for both security selection and portfolio construction) that is sensible, clearly

defined, and repeatable. In addition, the portfolio should be constructed in a manner that is consistent with the investment process and performance objective.

#### Performance

We do not believe past performance is necessarily predictive of future results. This factor receives no explicit weighting in our analysis but is referenced instead in our evaluation of people and process. We strive not to anchor on short-term performance. However, we do believe that the evaluation of long-term return and risk patterns is vital to determining if a managed investment is delivering to our expectations.

#### Price

To reflect actual investor experience, rated managed investments are directly penalized by the amount of their fee, including of any performance fee charged, when we assign the rating. Fees are assessed at the level of the vehicle at which they are charged, in the case of open-end funds, for example, this occurs at the share-class level. Vehicles with multiple classes with different fees are therefore likely to have differentiated ratings reflecting the different impact of their fees on our expected net alpha.

Morningstar Analyst Ratings are assigned on a five-tier scale running from Gold to Negative. The top three ratings, Gold, Silver, and Bronze, all indicate that our analysts think highly of a managed investment; the difference between them corresponds to differences in the level of analyst conviction in a managed investment ability to outperform its benchmark and peers through time, within the context of the level of risk taken.

#### Gold

Represents managed investment that our analyst has the highest conviction in for that given investment mandate. By giving a managed investment a Gold rating, we are expressing an expectation that it will outperform its relevant performance benchmark and/or peer group within the context of the level of risk taken over the long term (defined as a full market cycle or at least five years). To earn a Gold rating, a managed investment must distinguish itself across the five pillars that are the basis for our analysis.

#### Silver

Represents managed investments our analyst has high conviction in, but not in all of the five pillars. With those fundamental strengths, we expect these managed investments will outperform their relevant performance benchmark and/or peer group within the context of the level of risk taken over the long term (defined as a full market cycle or at least five years).

#### Bronze

Represents managed investments that have advantages that clearly outweigh any disadvantages across the pillars, giving analyst the conviction to award them a positive rating. We expect these managed investments to beat their relevant performance benchmark and/or peer group within the context of the level of risk taken over a full

market cycle (or at least five years).

#### Neutral

Represents managed investments in which our analysts don't have a strong positive or negative conviction. In our judgment, these managed investments are not likely to deliver standout returns, but they aren't likely to seriously underperform their relevant performance benchmark and/or peer group either.

#### Negative

Represents managed investments that possess at least one flaw that our analysts believe is likely to significantly hamper future performance, such as high fees or an unstable management team. Because of these faults, we believe these managed investments are inferior to most competitors and will likely underperform their relevant performance benchmark and/or peer group, within the context of the level of risk taken, over a full market cycle.

Morningstar may also use two other designations in place of a rating:

#### Under Review

This designation means that a change that occurred with the managed investment or at the managed investment company requires further review to determine the impact on the rating.

#### Not Ratable

This designation is used only where we are providing a report on a new strategy or on a strategy where there are no relevant comparators, but where investors require information as to suitability.

For more information about our Analyst Rating methodology please go to <http://corporate1.morningstar.com/ResearchLibrary/>

#### Morningstar Star Rating

The Morningstar Star Rating is a proprietary data point that is quantitatively driven. Funds are rated from one to five stars based on how well the fund performed (after adjusting for risk and accounting for sales charges) in comparison to similar funds. Within each Morningstar Category, the top 10% of funds receive five-stars and the bottom 10% receives one-star. Funds are rated for up to three time periods –three-, five-, and ten-years– and these ratings are combined to produce an overall star rating, which is noted within the Report. Funds with less than three years of history are not rated. Morningstar Star Ratings are based entirely on a mathematical evaluation of past performance. Morningstar Star Ratings are in no way to be considered a buy or sell signal nor should be viewed as a statement of fact.

#### Equity-Related Data Points

The Report lists the percentage of the managed investment's underlying holdings that have a wide, narrow, or no moat.

#### Economic Moat

An economic moat is a structural feature that Morningstar believes positions a firm to sustain excess profits over

a long period of time, with excess profits defined as returns on invested capital above our estimate of a firm's cost of capital. The economic moat rating is not an indicator of the investment performance of the investment highlighted in this report. Narrow moat companies are those Morningstar believes are more likely than not to achieve normalized excess returns for at least the next 10 years. Wide-moat companies are those in which Morningstar believes excess returns will remain for 10 years, with excess returns more likely than not to remain for at least 20 years. Firms without a moat, including those that have a substantial threat of value destruction related risks related to ESG, industry disruption, financial health, or other idiosyncratic issues, are more susceptible to competition. Morningstar has identified five sources of economic moats: intangible assets, switching costs, network effect, cost advantage, and efficient scale.

For more information about methodology in analyzing stocks, please go to [global.morningstar.com/equitydisclosures](http://global.morningstar.com/equitydisclosures).

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**For Recipients in Australia and New Zealand: Information regarding Flagship Fund Analyst Rating**  
The Morningstar Flagship Fund Analyst Rating has been allocated to platform versions of the relevant strategy. A Morningstar Analyst Rating is assigned to the flagship fund which is the primary share class that the Australian manager research team considers to best represent the underlying strategy, using criteria such as fund size and its age. Platform vehicles are typically distributed through

channels that are separate to the manager of the flagship fund. Platform versions of Australia and New Zealand funds carrying the Flagship Fund Analyst Rating have not been separately rated under the Morningstar Analyst Rating methodology. This approach recognises that platform versions can have negotiable fees and reliable representative cost data may not be readily available. As a result, platform versions of the strategy retain the linkage and the rating of the Flagship share class.

When a fund is assigned a Flagship Fund Analyst Rating, all text commentary refers to the relevant Flagship fund. Consequently, the price text commentary may not align with the fee charged by the share class shown in this report. All other data shown remains relevant to this report. Please refer to the fund's product disclosure statement for further information on fees.

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## Data Definitions

### 12 Month Yield %

12 Month Yield % is derived by summing the trailing 12-months' income distributions and dividing the sum by the last month's ending NAV, plus any capital gains distributed over the same period. Income refers only to interest payments from fixed-income securities and dividend payoffs from common stocks.

### 12b1 Expense %

A 12b-1 fee is a fee used to pay for a fund's distribution costs. It is often used as a commission to brokers for selling the fund. The amount of the fee is taken from a fund's returns.

### 30-Day SEC Yield

The 30-day SEC Yield is a calculation based on a 30-day period ending on the last day of the previous month. It is computed by dividing the net investment income per share earned during the period by the maximum offering price per share on the last day of the period. The figure listed lags by one month. When a dash appears, the yield available is more than 30 days old. This information is taken from fund surveys.

### 30-Day Unsubsidized Yield

The 30-day Unsubsidized Yield is computed under a SEC standardized formula based on net income earned over the past 30 days. It excludes contractual expense reimbursements, resulting in a lower yield.

### Alpha

Alpha is a measure of the difference between a security or portfolio's actual returns and its expected performance, given its level of risk (as measured by beta.) Alpha is often seen as a measure of the value added or subtracted by a portfolio manager.

### Asset Allocation

Asset Allocation reflects asset class weightings of the portfolio. The "Other" category includes security types that are not neatly classified in the other asset classes,

such as convertible bonds and preferred stocks, or cannot be classified by Morningstar as a result of missing data. Morningstar may display asset allocation data in several ways, including tables or pie charts. In addition, Morningstar may compare the asset class breakdown of the managed investment against its three-year average, category average, and/or index proxy.

Asset allocations shown in tables may include a breakdown among the long, short, and net (long positions net of short) positions. These statistics summarize what the managed investment's managers are buying and how they are positioning the managed investment's portfolio. When short positions are captured in these portfolio statistics, investors get a more robust description of the managed investment's exposure and risk. Long positions involve buying the security outright and selling it later, with the hope the security's price rises over time. Short positions are taken with the hope of benefitting from anticipated price declines. The investor borrows the security from another investor, sells it and receives cash, and then is obligated to buy it back at some point in the future. If the price falls after the short sale, the investor will have sold high and can buy low to close the short position and lock in a profit. However, if the price of the security increases after the short sale, the investor will experience a loss buying it at a higher price than the sale price.

Most managed investment portfolios hold fairly conventional securities, such as long positions in equities and bonds. Morningstar may generate a colored pie chart for these portfolios. Other portfolios use other investment strategies or securities, such as short positions or derivatives, in an attempt to reduce transaction costs, enhance returns, or reduce risk. Some of these securities and strategies behave like conventional securities, while other have unique return and risk characteristics. Portfolios that incorporate investment strategies resulting in short positions or portfolio with relatively exotic derivative positions often report data to Morningstar that does not meet the parameters of the calculation underlying a pie chart's generation. Because of the nature of how these securities are reported to Morningstar, we may not always get complete portfolio information to report asset allocation. Morningstar, at its discretion, may determine if unidentified characteristics of managed investment holdings are material. Asset allocation and other breakdowns may be rescaled accordingly so that percentages total to 100 percent. (Morningstar used discretion to determine if unidentified characteristics of managed investment holdings are material, pie charts and other breakdowns may rescale identified characteristics to 100% for more intuitive presentation.)

Note that all other portfolio statistics presented in this report are based on the long (or long rescaled) holdings of the managed investment only.

### Asset Class Breakdown

The asset class breakdown section shows the amount

and percentage of assets by asset class for managed investments associated with a Parent Company.

### Attribution Statistics

Total attribution, or excess return, is the difference between the managed investment and category index performance figures. Morningstar separates a managed investment's total attribution into several factors known as attribution effects. The primary effects are: sector weightings, country weightings, security selection, and fees. Sector weightings effect refers to the portion of a managed investment's value- add attributable to the managed investment manager's decision on how much to allocate to each Morningstar Global Equity Sector (a managed investment manager's decision to have an overweighting or an underweighting in certain sectors compared with the benchmark). For managed investments in the international-stock categories, country weightings effect is provided to measure the impact of a managed investment's country allocation as a secondary decision, based on the Morningstar Country classification. In this case, a managed investment manager's decision to have an overweighting or an underweighting in certain countries within each sector is evaluated. Security selection effect represents the portion of performance attributable to the managed investment manager's stock- picking skill. Fee effect represents the impact of managed investment expense ratio on excess return. Morningstar attribution analysis primarily focuses on these four attribution effects. There are two remaining effects, known as interaction and residual, in order for the total attribution to be the sum of the effects. The interaction effect, as its name suggests, is the interaction between the combination of sector weightings and country weightings relative to the security selection effects, and it does not represent an explicit decision of the managed investment manager and is thus not considered a primary focus of Morningstar attribution analysis. The residual effect is the portion of return that cannot be explained by the equity and cash- holdings composition at the beginning of the analysis period.

If a managed investment holds another managed investment as part of its holdings (such as when a mutual fund holds an exchange-traded fund or another mutual fund), the calculation will drill down to the individual security holdings of the underlying managed investment for analysis. The following securities are excluded from the attribution analysis, and the remaining holdings are rescaled to 100% when performing attribution analysis.

- ▶ Nonequity securities (except cash, which is included as a standalone sector).
- ▶ Unidentified or unrecognized securities. These are securities Morningstar is not able to identify.
- ▶ Unclassified securities. These are securities that are missing sector or country classification.
- ▶ Missing performance. These are securities that are missing returns for the month; they are excluded from that monthly attribution calculation.

Ranking is provided for three-year attribution statistics.

Each managed investment is ranked against its peers in the same Morningstar Category.

### Average Effective Duration

Average Effective Duration is a weighted average of the effective durations of fixed income and certain derivative holdings. The portfolio average is computed by weighting each holding effective duration by the market value of the holding (notional value for derivatives) and then averaging by the sum of holding values. Effective duration is a measure of price elasticity relative to change in yield which accounts for the impact of redemption options on return of principal. It is expressed as a factor which represents the percentage change in value that is expected for a specific unit change in yield.

### Average Effective Maturity

Average Effective Maturity is a weighted average of the length of time, measured in years, until return of principal can be reasonably expected for debt securities, and is computed by weighting each holding effective maturity term by the market value of the holding and then averaging by the sum of holding values. The effective maturity may be the nominal maturity date, the next put date, the average life of a sinking fund, the weighted average life of an amortizing prepayment, or a proxy maturity date for perpetual securities. NOTE: Effective Maturity is measured only for holdings which have a principal value or reference a security with a principal value and exclude many derivatives.

### Average Market Capitalization

Average Market Capitalization is a measure of the size of the companies in which a portfolio invests.

### Average Weighted Coupon

Average weighted Coupon is the weighted average of the rates of interest paid of the fixed income and certain derivative securities in a portfolio. The average is computed by weighting each holding price by the market value of the holding and then averaging by the sum of holding values. For securities which pay no periodic interest but accrete in value at an assigned interest rate, (e.g. zero coupons), the value of the coupon is 0%. For non-periodic instruments which pay interest at maturity, (e.g. short-term bills/notes), the interest rate at issuance is assigned as the coupon rate.

### Beta

Beta is a measure of a security or portfolio's sensitivity to market movements (proxied using an index.) A beta of greater than 1 indicates more volatility than the market, and a beta of less than 1 indicates less volatility than the market.

### Book Value Growth %

Book value is the estimation of the book value growth for a stock. This is calculated by averaging the book-value growth rate per share of the stock for up to the previous four years. A managed investment's book value % is calculated by taking an asset-weighted average of the book value of all the stocks in the portfolio.

### Cash Flow Growth %

Cash Flow Growth is the estimation of the cash flow growth for a stock. This is calculated by averaging the cash flow growth rate per share of the stock for up to the previous four years. A managed investment's cash flow growth % is calculated by taking a share-weighted average of the cash flow of all the stocks in its portfolio.

#### Cash Return %

Cash return is calculated by dividing the company's free cash flow by its enterprise value, or market capitalization, plus net debt. This number tells you what cash return you would get if you bought the entire company, including its debt.

#### Company ESG Score Description

The ESG Score Description ranks the company-level ESG Risk Score for companies against their Sustainability peer group. The ESG Score Description is depicted as a range from Negligible to Severe, where Negligible equals a company that scores well below average relative to its peer group and Severe equals a company that scores well above average relative to its peer group. Breakpoints for the score description are established annually by determining how company scores fall into the following ranges within a peer group:

Negligible	Highest 5%
Low	Next 11%
Medium	Next 68%
High	Next 11%
Severe	Lowest 5%

Each month, a company's ESG Risk Score is compared to its peer group breakpoints and assigned a company score description. Morningstar lists the ESG Score Description for the largest holdings underlying a managed investment's portfolio.

#### Cost Illustration

The cost illustration chart provides an example of the fees you would pay over a one-, five-, or ten-year holding period for a \$10,000 investment in the managed investment, and assumes you redeem all of your shares at the end of the period. The example assumes that investment earns a 5.00% return, and that the investment's operating expenses remain the same. Fees may be paid by you in a variety of ways: when you purchase a managed investment; by direct withdrawal from your account during the time you own a managed investment; or when you sell the managed investment.

The cost illustration is designed to provide information to help you assess the importance of fees and expenses, and to understand how changes in your holding period may impact your investment. Assumptions and calculations applied in this analysis are critical to the outcomes shown in the cost illustration.

The fee projection analysis was generated using a managed investment, investment amount, and hypothetical rate of return. It is important that these assumptions be accurate estimations, as they are key inputs that impact the fee projection analysis. Applicable

front-end charges were assessed at the point of purchase and deferred charges and redemption fees, when applicable, were assessed at the point of sale. The analysis does not account for reinvestment of any applicable dividends or capital gains.

The information generated in the cost illustration is hypothetical in nature and assumes the managed investment's returns and expenses remain the same each year. Because returns and expenses vary over time, an investor's actual returns and expenses may be higher or lower. The hypothetical rate of return used in this analysis should not be considered indicative of future results. Actual results may differ substantially from that shown here. Principal value and investment return will fluctuate, so that your shares of securities, when redeemed, may be worth more or less than your original investment, and may include a possible loss of your principal.

Morningstar uses the Prospectus Net Expense Ratio in its ongoing fees, fee level, and ranking calculations for most funds. However, the Annual Report Net Expense Ratio is used for closed-end funds because prospectuses are published infrequently.

Purchase fees and expenses are those costs incurred by an investor when they buy shares of a fund. Such fees and expenses may include front-end loads and/or trading commissions.

Redemption fees and expenses are those costs incurred by an investor when they sell shares of a fund.

Ongoing fees and expenses are those costs an investor incurs while holding shares of a fund. Such expenses may include asset-based fees and operating and management fees.

#### Credit Quality

The credit quality breakdowns are shown for corporate bond holdings and depict the quality of bonds in the underlying portfolio. The report shows the percentage of fixed-income securities that fall within each credit-quality rating as assigned by a NRSRO. Bonds not rated by an NRSRO are included in the not-rated category.

#### Credit Quality Breakdown

Displays the weighted distribution of holdings by credit rating symbol categories. The percentage for each rating category is computed by weighting each holding's credit rating by the market value of the holding and then averaging by the sum of holding values. For holdings that have more than one credit rating the ratings will be combined and an average rating for the holding will be computed. The distribution is based upon available credit ratings from recognized credit rating agencies such as a Nationally Recognized Statistical Rating Organization (NRSRO) in the U.S. (For a list of all NRSROs, please visit <https://www.sec.gov/ocr/ocr-current-nrsros.html>.) The categories are based on the rating scale produced by Morningstar Credit Ratings, LLC and range from AAA, indicating the highest level of credit quality, to D,

indicating a security which has defaulted on its payment obligations. Holdings for which no credit rating is available are assigned to a "Not Rated", or "NR" category. Morningstar calculates Long, Short, and Net values.

#### Current Yield

Current yield is derived by taking the ratio of a bond's annual interest payment to the current price.

#### D/C Ratio

The debt-to-capital ratio for a managed investment's underlying stock holdings is calculated by dividing each security's long-term debt by its total capitalization (the sum of common equity plus preferred equity and long-term debt) and is a measure of the company's financial leverage.

All else being equal, stocks with high D/C ratios are generally riskier than those with low D/C ratios. Note that debt-to-capital figures can be misleading owing to accounting conventions.

Because balance sheets are based on historic cost accounting, they may bear little resemblance to current market values. Morningstar aggregates debt-to-capital figures for managed investments using a median methodology, whereby domestic stocks are ordered from highest to lowest based on their D/C ratios. One adds up the asset weighting of each holding until the total is equal to or greater than half of the total weighting of all domestic stocks in the managed investment. The debt/total cap for that stock is then used to represent the debt/total cap of the total portfolio.

#### Deferred Load %

The back-end sales charge or deferred load is imposed when an investor redeems shares of a managed investment. The percentage of the load charged generally declines the longer the managed investment's shares are held by the investor. This charge, coupled with 12b-1 fees, commonly serves as an alternative to a traditional front-end load.

#### Dividend Yield %

The dividends per share of the company over the trailing one-year period as a percentage of the current stock price.

#### Downside Capture Ratio %

Downside Capture Ratio measures a managed investment's performance in down markets. A down market is defined as those periods (months or quarters) in which market return is less than 0. In essence, it tells you what percentage of the down market was captured by the managed investment. For example, if the ratio is 110%, the managed investment captured 110% of the down market and therefore underperformed the market on the downside.

#### ESG Risk Score %

Sustainability's ESG Risk Ratings are designed to help investors identify and understand financially material ESG risks at the security and portfolio level. The ESG Risk

Ratings are based on a two-dimensional materiality framework that measures a company's exposure to industry-specific material risks and how well a company is managing those risks. ESG Risk Ratings are categorized across five risk levels: negligible, low, medium, high and severe. Ratings scale is from 0-100, with 100 being the most severe.

#### Expense Ratio %

The expense ratio is the annual fee that all funds charge their shareholders. It expresses the percentage of assets deducted each fiscal year for fund expenses, including 12b-1 fees, management fees, administrative fees, operating costs, and all other asset-based costs incurred by the fund. Portfolio transaction fees, or brokerage costs, as well as front-end or deferred sales charges are not included in the expense ratio. The expense ratio, which is deducted from the fund's average net assets, is accrued on a daily basis. The gross expense ratio, in contrast to the net expense ratio, does not reflect any fee waivers in effect during the time period.

#### Fee Level

Morningstar Fee Level puts the expenses of the managed investment in context by showing the range of fees charged by its peers. An overall Fee Level for the managed investment is shown, along with breakpoints for five quintiles of Fee Levels for the managed investment's peer group. Morningstar defines Fee Level peer groups by combining some categories with similar expected expenses, such as large value, large blend, and large growth, then segmenting the category group by distribution class of front-load, deferred-load, level-load, no-load, or institutional to provide more-relevant fee comparisons.

#### Fee Quintile Breakdown

The fee quintile breakdown section sums the percentage of share classes associated with a Parent Company that has a Morningstar Fee Level—Distribution of Low, Below Average, Average, Above Average, and High.

#### Financial Health

One of the three quantitative grades that Morningstar assigns to each stock as a quick way to get a handle on its fundamentals. To get a good grade in this area, a company should have low financial leverage (assets/equity), high cash-flow coverage (total cash flow/long-term debt), and a high cash position (cash/assets) relative to its sector.

#### Free Cash Flow Yield

Equal to operating cash flow minus capital spending. Free cash flow represents the cash a company has left over after investing in the growth of its business. Young, aggressive companies often have negative free cash flow, because they're investing heavily in their futures. As companies mature, though, they should start generating free cash flow.

#### Front-end Load %

The initial sales charge or front-end load is a deduction made from each investment in the fund and is generally

based on the amount of the investment.

#### Growth

The Morningstar Growth Grade is based on the trend in revenue per share using data from the past five years. For the purpose of calculating revenue per share we use the past five years' revenue figures and corresponding yearend fully diluted shares outstanding; if year-end fully diluted shares outstanding is not available, we calculate this figure by dividing the company's reported net income applicable to common shareholders by the reported fully diluted earnings per share. A company must have a minimum of four consecutive years of positive and non-zero revenue, including the latest fiscal year, to qualify for a grade.

In calculating the revenue per share growth rate, we calculate the slope of the regression line of historical revenue per share. We then divide the slope of the regression line by the arithmetic average of historical revenue per share figures. The result of the regression is a normalized historical increase or decrease in the rate of growth for sales per share. We then calculate a z-score by subtracting the universe mean revenue growth from the company's revenue growth and dividing by the standard deviation of the universe's growth rates.

Stocks are sorted based on the z-score of their revenue per share growth rate calculated above, from the most negative z-score to the most positive z-score. Stocks are then ranked based on their z-score from 1 to the total number of qualified stocks. We assign grades based on this ranking.

#### Growth of 10,000

For managed investments, this graph compares the growth of an investment of 10,000 (in the base currency of the managed investment) with that of an index and/or with that of the average for all managed investments in its Morningstar Category. The total returns are not adjusted to reflect sales charges or the effects of taxation but are adjusted to reflect actual ongoing expenses, and they assume reinvestment of dividends and capital gains. If adjusted, effects of sales charges and taxation would reduce the performance quoted. If pre-inception data is included in the analysis, it will be graphed.

The index in the Growth of 10,000 graph is an unmanaged portfolio of specified securities and cannot be invested in directly. The index does not reflect any initial or ongoing expenses. A managed investment's portfolio may differ significantly from the securities in the index. The index is chosen by Morningstar.

#### Historical Earnings %

The historical earnings % is an estimation of the historical earnings growth for a stock. This is calculated by averaging the earnings-growth rate per share of the stock for up to the previous four years. A managed investment's historical earnings % is calculated by taking an asset-weighted average of the historical earnings of all the stocks in the portfolio.

#### Index Return %

Index Return % measures the relevant index's annualized return for a specified time period.

#### Long-Term Earnings Growth %

Long-Term Earnings Growth is the estimation of the long-term earnings growth forecast of a stock. This is collected as a third-party estimate. A managed investment's long-term earnings % is calculated by taking an asset-weighted average of the long-term earnings of all the stocks in the portfolio.

#### Manager Ownership

Manager ownership sums the percentage of assets in managed investments with maximum manager ownership levels of more than \$1 million, \$500,001 to \$1 million, \$100,001 to \$500,000, \$50,001 to \$100,000, \$10,001 to \$50,000, \$1 to \$10,000, and \$0, as well as no data on manager ownership.

#### Manager Tenure

Manager tenure sums the percentage of assets in managed investments with longest-tenured manager stays of 0-3 years, 3-6 years, 6-9 years, 9-12 years, 12-15 years, and more than 15 years.

#### Management Fees %

The management fee includes the management and administrative fees listed in the Management Fees section of a fund's prospectus. Typically, these fees represent the costs shareholders paid for management and administrative services over the fund's prior fiscal year.

#### Maximum Drawdown %

Maximum Drawdown measures the peak-to-trough decline during a specific record period of a managed investment. It is usually quoted as the percentage between the peak and trough.

#### Morningstar Analyst Rating™

The Morningstar Analyst Rating™ is not a credit or risk rating. It is a subjective evaluation performed by Morningstar's manager research group, which consists of various Morningstar, Inc. subsidiaries ("Manager Research Group"). In the United States, that subsidiary is Morningstar Research Services LLC, which is registered with and governed by the U.S. Securities and Exchange Commission. The Manager Research Group evaluates investment products based on five key pillars, which are process, performance, people, parent, and price. The Manager Research Group uses this five-pillar evaluation to determine how they believe investment products are likely to perform relative to a benchmark over the long term on a risk adjusted basis. They consider quantitative and qualitative factors in their research. For actively managed strategies, people and process each receive a 45% weighting in their analysis, while parent receives a 10% weighting. For passive strategies, process receives an 80% weighting, while people and parent each receive a 10% weighting. For both active and passive strategies, performance has no explicit weight as it is incorporated into the analysis of people and process; price at the share-class level (where applicable) is directly subtracted

from an expected gross alpha estimate derived from the analysis of the other pillars. The impact of the weighted pillar scores for people, process and parent on the final Morningstar Analyst Rating is further modified by a measure of the dispersion of historical alphas among relevant peers. For certain peer groups where standard benchmarking is not applicable, primarily peer groups of investment products using alternative investment strategies, the modification by alpha dispersion is not used.

Separately managed accounts are rated using the methodology for actively managed funds. A proxy fee is deducted from all separately managed accounts in a given Morningstar Category. The proxy fee is based on a survey of separately managed account model-delivery fees.

The Morningstar Analyst Rating scale is Gold, Silver, Bronze, Neutral, and Negative. For active investment products, a Morningstar Analyst Rating of Gold, Silver, or Bronze reflects the Manager Research Group's expectation that an active investment product will be able to deliver positive alpha net of fees relative to the standard benchmark index assigned to the Morningstar category. The level of the rating relates to the level of expected positive net alpha relative to Morningstar category peers for active investment products. For passive investment products, a Morningstar Analyst Rating of Gold, Silver, or Bronze reflects the Manager Research Group's expectation that an investment product will be able to deliver a higher alpha net of fees than the lesser of the relevant Morningstar category median or 0. The level of the rating relates to the level of expected net alpha relative to Morningstar category peers for passive investment products. For certain peer groups where standard benchmarking is not applicable, primarily peer groups of investment products using alternative investment strategies, a Morningstar Analyst Rating of Gold, Silver, or Bronze reflects the Manager Research Group's expectation that an investment product will deliver a weighted pillar score above a predetermined threshold within its peer group. Morningstar Analyst Ratings ultimately reflect the Manager Research Group's overall assessment, are overseen by an Analyst Rating Committee, and are continuously monitored and reevaluated at least every 14 months.

For more detailed information about Morningstar's Analyst Rating, including its methodology, please go to <http://global.morningstar.com/equitydisclosures>.

The Morningstar Analyst Rating (i) should not be used as the sole basis in evaluating an investment product, (ii) involves unknown risks and uncertainties which may cause the Manager Research Group's expectations not to occur or to differ significantly from what they expected, and (iii) should not be considered an offer or solicitation to buy or sell the investment product.

#### **Morningstar Analyst Rating Breakdown**

For share classes associated with this parent company and have a Morningstar Analyst Rating, this is the

Morningstar Analyst Rating breakdown, based on Asset %. To give investors a sense of the number of share classes analyzed, we're also providing the total number of share classes rated.

#### **Morningstar Category**

Morningstar Category is assigned by placing managed investments into peer groups based on their underlying holdings. The underlying securities in each portfolio are the primary factor in our analysis as the investment objective and investment strategy stated in a managed investment's prospectus may not be sufficiently detailed for our proprietary classification methodology. Managed investments are placed in a category based on their portfolio statistics and compositions over the past three years. Analysis of performance and other indicative facts are also considered. If the managed investment is new and has no portfolio history, Morningstar estimates where it will fall before giving it a permanent category assignment. Categories may be changed based on recent changes to the portfolio.

#### **Morningstar Economic Moat**

An economic moat is a structural feature that Morningstar believes positions a firm to sustain excess profits over a long period of time, with excess profits defined as returns on invested capital above our estimate of a firm's cost of capital. The economic moat rating is not an indicator of the investment performance of the investment highlighted in this report. Narrow moat companies are those Morningstar believes are more likely than not to achieve normalized excess returns for at least the next 10 years. Wide-moat companies are those in which Morningstar believes excess returns will remain for 10 years, with excess returns more likely than not to remain for at least 20 years. Firms without a moat, including those that have a substantial threat of value destruction related risks related to ESG, industry disruption, financial health, or other idiosyncratic issues, are more susceptible to competition. Morningstar has identified five sources of economic moats: intangible assets, switching costs, network effect, cost advantage, and efficient scale.

#### **Morningstar Equity Style Box™**

The Morningstar Style Box™ reveals a managed investment's investment strategy as of the date noted on this report. For equity managed investments, the vertical axis shows the market capitalization of the long stocks owned, and the horizontal axis shows the investment style (value, blend, or growth.) A darkened cell in the style box indicates the weighted average style of the portfolio.

#### **Morningstar ESG Commitment Level**

The Morningstar ESG Commitment Level is the summary expression of our analysts' opinion of the strength of the ESG investment program at the strategy and asset-manager level.

The date shown next to the Morningstar ESG Commitment Level for Strategies and the Morningstar ESG Commitment Level for Asset Managers is the date on

which the Morningstar Manager Research analyst assigned or reaffirmed the current assessment for the managed investment based on the analyst's latest review and research report for the managed investment. The Morningstar ESG Commitment Level for Strategies is reevaluated at least every 14 months while the Morningstar ESG Commitment Level for Asset Managers is reevaluated at least every 18 months.

The Morningstar ESG Commitment Level is not a credit or risk rating. It is a subjective evaluation performed by Morningstar's manager research group, which consists of various Morningstar, Inc. subsidiaries ("Manager Research Group"). In the United States, that subsidiary is Morningstar Research Services LLC, which is registered with and governed by the U.S. Securities and Exchange Commission.

The Morningstar ESG Commitment Level scale is Leader, Advanced, Basic, and Low. The level of rating for the Morningstar ESG Commitment Level for Strategies is based on our analysts' evaluation of a strategy's ESG process, resources, and asset manager. The level of rating for the Morningstar ESG Commitment Level for Asset Managers is based on our analysts' evaluation of a firm's ESG philosophy and process, resources, and active ownership.

For more detailed information about Morningstar ESG Commitment Level, including its methodology, please go to <http://global.morningstar.com/equitydisclosures>.

The Morningstar ESG Commitment Level (i) should not be used as the sole basis in evaluating an investment product, (ii) involves unknown risks and uncertainties which may cause the Manager Research Group's expectations not to occur or to differ significantly from what they expected, and (iii) should not be considered an offer or solicitation to buy or sell the investment product.

#### **Morningstar Fixed Income Style Box™**

The Morningstar Style Box reveals a managed investment's investment style as of the date noted on this report.

For portfolios holding fixed-income investments, a Fixed Income Style Box is calculated. The vertical axis shows the credit quality based on credit ratings and the horizontal axis shows interest-rate sensitivity as measured by effective duration. There are three credit categories- "High", "Medium", and "Low; and there are three interest rate sensitivity categories- "Limited", "Moderate", and "Extensive" resulting in nine possible combinations. As in the Equity Style Box the combination of credit and interest rate sensitivity for a portfolio is represented by a darkened cell in the matrix.

Morningstar uses credit rating information from credit rating agencies (CRA's) that have been designated Nationally Recognized Statistical Rating Organizations (NRSRO's) by the Securities and Exchange Commission (SEC) in the United States. For a list of all NRSROs, please visit <https://www.sec.gov/ocr/ocr-learn-nrsros.html>.

Additionally, Morningstar will use credit ratings from CRA's which have been recognized by foreign regulatory institutions that are deemed the equivalent of the NRSRO designation.

To determine the rating applicable to a holding and the subsequent holding weighted value of a portfolio two methods may be employed. First is a common methodology approach where if a case exists such that two rating organizations/ agencies have rated a holding, the lower rating of the two should be applied; if three or more CRA's have rated a holding the median rating should be applied, and in cases where there are more than two ratings and a median rating cannot be determined the lower of the two middle ratings should be applied. Alternatively, if there is more than one rating available an average can be calculated from all and applied.

Please Note: Morningstar, Inc. is not an NRSRO nor does it issue a credit rating on the managed investment. Credit ratings for any security held in a portfolio may change over time.

Morningstar uses the credit rating information to calculate a weighted-average credit quality value for the portfolio. This value is based only upon those holdings which are considered to be classified as "fixed income", such as government, corporate, or securitized issues. Other types of holdings such as equities and many, though not all, types of derivatives are excluded. The weighted-average credit quality value is represented by a rating symbol which corresponds to the long-term rating symbol schemas employed by most CRA's. Note that this value is not explicitly published but instead serves as an input in the Style Box calculation. This symbol is then used to map to a Style Box credit quality category of "low," "medium," or "high". Managed investments with a "low" credit quality category are those whose weighted-average credit quality is determined to be equivalent to the commonly used High Yield classification, meaning a rating below "BBB", portfolios assigned to the "high" credit category have either a "AAA" or "AA+" average credit quality value, while "medium" are those with an average rating of "AA" inclusive to "BBB-". It is expected and intended that the majority of portfolios will be assigned a credit category of "medium".

For assignment to an interest-rate sensitivity category Morningstar uses the average effective duration of the portfolio. From this value there are three distinct methodologies employed to determine assignment to category. Portfolios which are assigned to Morningstar municipal-bond categories employ static breakpoints between categories. These breakpoints are "Limited" equal to 4.5 years or less, "Moderate" equal to 4.5 years to less than 7 years, and "Extensive" equal to more than 7 years. For portfolios assigned to Morningstar categories other than U.S. Taxable, including all domiciled outside the United States, static duration breakpoints are also used. The values differ from the municipal category values; "Limited" equals less than or equal to 3.5 years,

"Moderate" equals greater than 3.5 years but less than or equal to 6 years, and "Extensive" is assigned to portfolios with effective durations of more than 6 years.

Note: Interest-rate sensitivity for non-U.S. domiciled portfolios (excluding those in Morningstar convertible categories) may be assigned using average modified duration when average effective duration is not available.

For portfolios Morningstar classifies as U.S Taxable Fixed-Income, interest-rate sensitivity category assignment is based on the effective duration of the Morningstar Core Bond Index (MCBI). The classification assignment is dynamically determined relative to the benchmark index value. A "Limited" category will be assigned to portfolios whose average effective duration is between 25% to 75% of MCBI average effective duration, where the average effective duration is between 75% to 125% of the MCBI the portfolio will be classified as "Moderate", and those portfolios with an average effective duration value 125% or greater of the average effective duration of the MCBI will be classified as "Extensive".

#### Morningstar Global Category

Morningstar Global Categories are peer groups for managed portfolios domiciled anywhere in the world. The Global Category is assigned by placing managed investments into peer groups based on the characteristics of their underlying holdings. The underlying securities in each portfolio are the primary factor in our analysis as the investment objective and investment strategy stated in a managed investment's prospectus may not be sufficiently detailed for our proprietary classification methodology. Managed investments are placed in a category based on their portfolio statistics and compositions over the past three years. If the managed investment is new and has no portfolio history, Morningstar estimates where it will fall before giving it a permanent global category assignment. Global categories may be changed based on recent changes to the portfolio. Not all managed investments are available to purchase within your country. Returns- based analysis may not be valid in some circumstances due to the impact of currencies.

#### Morningstar Historical Sustainability Score

The Historical Sustainability Score is an exponential weighted moving average of the Portfolio Sustainability Scores over the past 12 months. The process rescales the current Portfolio Sustainability Score to reflect the consistency of the scores. The Historical Sustainability Score ranges between 0 to 100, with a higher score indicating that a managed investment has, on average, more of its assets invested in companies with high ESG Risk on a consistent historical basis.

#### Morningstar Investor Return

Morningstar Investor Return (also known as "dollar-weighted return") measures how the average investor fared in a fund over a period of time. Investor Return incorporates the impact of cash inflows and outflows from purchases and sales and the growth in fund assets. In contrast to total returns, Investor Returns account for all cash flows into and out of the fund to measure how

the average investor performed over time. Investor Return is calculated in a similar manner as internal rate of return. Investor Return measures the compound growth rate in the value of all dollars invested in the fund over the evaluation period. Investor Return is the growth rate that will link the beginning total net assets plus all intermediate cash flows to the ending total net assets.

#### Morningstar Ownership Zone

The Morningstar Ownership Zone provides a graphic representation of the size and investment style of long stocks in managed investment's portfolio. The Ownership Zone is derived by plotting each stock in the portfolio within the Morningstar Style Box™. The Ownership Zone is the shaded area that represents 75% of the assets in the portfolio and indicates the level of concentration in the holdings. The "centroid" in the middle of the Ownership Zone represents the weighted average of all the holdings. The Ownership Zone helps investors differentiate between portfolios that may otherwise look similar. Investors can also use the Ownership Zone to construct diversified portfolios and model how multiple managed investments complement one another in a portfolio.

#### Morningstar Pillar Ratings

Morningstar Pillar Ratings are subjective evaluations of managed investments performed by manager research analysts of Morningstar. Morningstar evaluates managed investments based on five key pillars, which are people, process, parent, performance and price. Morningstar's analysts assign the people, process and parent pillars a rating of Low, Below Average, Average, Above Average, or High. Price and performance then used to help determine the managed investment's Morningstar Analyst Rating.

The Morningstar Pillar Rating should not be used as the sole basis in evaluating a managed investment. Morningstar Pillar Ratings involve unknown risks and uncertainties which may cause Morningstar's expectations not to occur or outcomes to differ significantly from what we expected.

#### Morningstar Portfolio Sustainability Score

The Morningstar Portfolio Sustainability Score is an asset-weighted average of company-level ESG Risk scores. The Portfolio Sustainability Score ranges between 0 to 100, with a higher score indicating that a managed investment has, on average, more of its assets invested in companies with high ESG Risk.

#### Morningstar Quantitative Rating™

Morningstar's quantitative ratings consist of: (i) Morningstar Quantitative Rating (overall score), (ii) Quantitative Parent pillar, (iii) Quantitative People pillar, and (iv) Quantitative Process pillar (collectively the "Quantitative Ratings").

The Quantitative Ratings are calculated monthly and derived from the analyst-driven ratings of a managed investment's peers as determined by statistical algorithms. Morningstar, Inc. calculates Quantitative

Ratings for managed investment's when an analyst rating does not exist as part of its qualitative coverage.

**Morningstar Quantitative Rating:** Intended to be comparable to the Morningstar Analyst Ratings for managed investments, which is the summary expression of Morningstar's forward-looking analysis of a managed investment. The Morningstar Analyst Rating is based on the analyst's conviction in the managed investment's ability to outperform its peer group and/or relevant benchmark on a risk-adjusted basis over a full market cycle of at least 5 years. Ratings are assigned on a five-tier scale with three positive ratings of Gold, Silver, and Bronze, a Neutral rating, and a Negative rating. Morningstar calculates the Morningstar Quantitative Rating using a statistical model derived from the Morningstar Analyst Rating our analysts assign to managed investments. Please go to <http://global.morningstar.com/equitydisclosures> for information about the Morningstar Analyst Ratings Morningstar's analysts assign to managed investments.

**Quantitative Parent pillar:** Intended to be comparable to Morningstar's Parent pillar scores, which provides Morningstar's analyst opinion on the stewardship quality of a firm. Morningstar calculates the Quantitative Parent pillar using an algorithm designed to predict the Parent Pillar score our analysts would assign to the managed investment. The quantitative pillar rating is expressed in both a rating and a numerical value as High (5), Above Average (4), Average (3), Below Average (2), and Low (1).

**Quantitative People Pillar:** Intended to be comparable to Morningstar's People pillar scores, which provides Morningstar's analyst opinion on the managed investment's manager's talent, tenure, and resources. Morningstar calculates the Quantitative People pillar using an algorithm designed to predict the People pillar score our analysts would assign to the managed investment. The quantitative pillar rating is expressed in both a rating and a numerical value as High (5), Above Average (4), Average (3), Below Average (2), and Low (1).

**Quantitative Process Pillar:** Intended to be comparable to Morningstar's Process pillar scores, which provides Morningstar's analyst opinion on the managed investment's strategy and whether the management has a competitive advantage enabling it to execute the process and consistently over time. Morningstar calculates the Quantitative Process pillar using an algorithm designed to predict the Process pillar score our analysts would assign to the managed investment. The quantitative pillar rating is expressed in both a rating and numerical value as High (5), Above Average (4), Average (3), Below Average (2), and Low (1).

Morningstar Quantitative Ratings **have not been made available** to the issuer of the security prior to publication.

**Risk Warning:** The Quantitative Ratings are not statements of fact. Morningstar does not guarantee the completeness or accuracy of the assumptions or models used in determining the Quantitative Ratings. In addition, there

is the risk that the return target will not be met due to such things as unforeseen changes in changes in management, technology, economic development, interest rate development, operating and/or material costs, competitive pressure, supervisory law, exchange rate, and tax rate. For investments in foreign markets there are further risks, generally based on exchange rate changes or changes in political and social conditions. A change in the fundamental factors underlying the Quantitative Ratings can mean that the recommendation is subsequently no longer accurate. For more information about Morningstar's quantitative methodology, please visit <http://global.morningstar.com/equitydisclosures>.

#### Morningstar Quantitative Rating Breakdown

For share classes associated with this parent company and have a Morningstar Quantitative Rating, this is the Morningstar Quantitative Rating breakdown, based on Asset %. To give investors a sense of the number of share classes analyzed, we're also providing the total number of share classes rated.

#### Morningstar Rank

Morningstar Rank is the total return percentile rank within each Morningstar Category. The highest (or most favorable) percentile rank is zero and the lowest (or least favorable) percentile rank is 100. Historical percentile ranks are based on a snapshot of a managed investment at the time of calculation.

#### Morningstar Rating™

The Morningstar Rating™ for funds, or "star rating", is calculated for managed products (including mutual funds, variable annuity and variable life subaccounts, exchange traded funds, closed-end funds, and separate accounts) with at least a three-year history. Exchange-traded funds and open-ended mutual funds are considered a single population for comparative purposes. It is calculated based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a managed product's monthly excess performance, placing more emphasis on downward variations and rewarding consistent performance. The Morningstar Rating does not include any adjustment for sales loads. The top 10% of products in each product category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The Overall Morningstar Rating for a managed product is derived from a weighted average of the performance figures associated with its three-, five-, and 10-year (if applicable) Morningstar Rating metrics. The weights are: 100% three-year rating for 36-59 months of total returns, 60% five-year rating/ 40% three-year rating for 60-119 months of total returns, and 50% 10-year rating/30% five-year rating/20% three-year rating for 120 or more months of total returns. While the 10-year overall star rating formula seems to give the most weight to the 10-year period, the most recent three-year period actually has the greatest impact because it is included in all three rating periods.

#### Morningstar Rating Breakdown

The Morningstar rating breakdown section sums the percentage of assets in a Parent Company's funds (share classes) that receive, 5-, 4-, 3-, 2-, 1-star, or Not Rated Morningstar Ratings.

#### Morningstar Rating for Stocks

The Morningstar Rating for Stocks is a forward-looking, analyst-driven measure of a stock's current price relative to the analyst's estimate of what the shares are worth. Stock star ratings indicate whether a stock, in the equity analyst's educated opinion, is cheap, expensive, or fairly priced. To rate a stock, an analyst estimates what he thinks it is worth (its "fair value"), using a detailed, long-term cash flow forecast for the company. A stock's star rating depends on whether its current market price is above or below the fair value estimate. Those stocks trading at large discounts to their fair values receive the highest ratings (4 or 5 stars). Stocks trading at large premiums to their fair values receive lower ratings (1 or 2 stars). A 3-star rating means the current stock price is fairly close to the analyst's fair value estimate.

#### Morningstar Return

The Morningstar Return rates a managed investment's performance relative to other managed products in its Morningstar Category. It is an assessment of a product's excess return over a risk-free rate (the return of the 90-day Treasury Bill) in comparison with the products in its Morningstar category. In each Morningstar category, the top 10% of products earn a High Morningstar Return (High), the next 22.5% Above Average (+Avg), the middle 35% Average (Avg), the next 22.5% Below Average (-Ave), and the bottom 10% Low (Low). Morningstar Return is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

#### Morningstar Risk

Morningstar Risk evaluates a managed investment's downside volatility relative to that of other products in its Morningstar Category. It is an assessment of the variations in monthly returns, with an emphasis on downside variations, in comparison with the products in its Morningstar category. In each Morningstar category, the 10% of products with the lowest measured risk are described as Low Risk (Low), the next 22.5% Below Average (-Avg), the middle 35% Average (Avg), the next 22.5% Above Average (+Avg), and the top 10% High (High). Morningstar Risk is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

#### Morningstar Style Trail

The Morningstar Style Trail give you a historical view of the movement of a managed investment's portfolio over time in terms of equity style based on historical periods. This helps to clearly define the management of a portfolio over time and determine the consistency of that

management.






### Morningstar Sustainability Rating™

The Morningstar Sustainability Rating™ is intended to measure how well the issuing companies of the securities within a managed investment's portfolio holdings are managing their financially material environmental, social and governance, or ESG, risks relative to the managed investment's Morningstar Global Category peers.

The Morningstar Sustainability Rating calculation is a five-step process. First, each managed investment with at least 67% of assets covered by a company-level ESG Risk Score from Sustainalytics receives a Morningstar Portfolio Sustainability Score. The Morningstar Portfolio Sustainability Score is an asset-weighted average of company-level ESG Risk Scores. The Portfolio Sustainability Score ranges between 0 to 100, with a higher score indicating that a managed investment has, on average, more of its assets invested in companies with high ESG Risk.

Second, the Historical Sustainability Score is an exponential weighted moving average of the Portfolio Sustainability Scores over the past 12 months. The process rescales the current Portfolio Sustainability Score to reflect the consistency of the scores. The Historical Sustainability Score ranges between 0 to 100, with a higher score indicating that a managed investment has, on average, more of its assets invested in companies with high ESG Risk, on a consistent historical basis.

Third, the Sustainability Rating is then assigned to all scored managed investments within Morningstar Global Categories in which at least thirty (30) managed investments receive a Historical Sustainability Score and is determined by each managed investment's Morningstar Sustainability Rating Score rank within the following distribution:

	High	Highest 10%
	Above Average	Next 22.5%
	Average	Next 35%
	Below Average	Next 22.5%
	Low	Lowest 10%

Fourth, we apply a 1% rating buffer from the previous month to increase rating stability. This means a managed investment must move 1% beyond the rating breakpoint to change ratings.

Fifth, we adjust downward positive Sustainability Ratings to managed investments with a with high ESG Risk scores. The logic is as follows:

- If Portfolio Sustainability score is above 40, then the managed investment receives a Low Sustainability Rating.
- If Portfolio Sustainability score is above 35 and preliminary rating is Average or better, then the managed investment is downgraded to Below Average.
- If Portfolio Sustainability score is above 30 and preliminary rating is Above Average, then the

managed investment is downgraded to Average.

- If Portfolio Sustainability score is below 30, then no adjustment is made.

The Morningstar Sustainability Rating is depicted by globe icons where High equals 5 globes and Low equals 1 globe. Since a Sustainability Rating is assigned to all managed investments that meet the above criteria, the rating it is not limited to managed investments with explicit sustainable or responsible investment mandates.

Morningstar updates its Sustainability Ratings monthly. The Portfolio Sustainability Score is calculated when Morningstar receives a new portfolio. Then, the Historical Sustainability Score and the Sustainability Rating is calculated one month and six business days after the reported as-of date of the most recent portfolio. As part of the evaluation process, Morningstar uses Sustainalytics' ESG scores from the same month as the portfolio as-of date.

Please go to <http://corporate1.morningstar.com/SustainableInvesting/> for more detailed information about the Morningstar Sustainability Rating methodology and calculation frequency.

### NAV

A managed investment's net asset value (NAV) represents its per-share price. NAV is calculated by dividing a managed investment's total net assets by its number of shares outstanding.

### Percentile Rank in Category

Percentile Rank is a standardized way of ranking items within a peer group, in this case, managed investments within the same Morningstar Category. The observation with the largest numerical value is ranked zero the observation with the smallest numerical value is ranked 100. The remaining observations are placed equal distance from one another on the rating scale. Note that lower percentile ranks are generally more favorable for returns (high returns), while higher percentile ranks are generally more favorable for risk measures (low risk).

### Peer Group

The Peer Group, or rating group, is a group of similar managed investments that are compared against each other for the purpose of assigning Morningstar ratings. For managed investments, the rating group is the Morningstar Category.

### Percentile Rank in Global Category

Percentile Rank is a standardized way of ranking items within a peer group. The observation with the largest numerical value is ranked zero the observation with the smallest numerical value is ranked 100. The remaining observations are placed equal distance from one another on the rating scale. Note that lower percentile ranks are generally more favorable.

### Performance Quartile

Performance Quartile reflects a managed investment's Morningstar Rank.

### Potential Capital Gains Exposure

Potential Capital Gains Exposure is an estimate of the percent of a fund's assets that represent gains. It measures how much the fund's assets have appreciated, and it can be an indicator of possible future capital gains distributions. A positive potential capital gains exposure value means that the fund's holdings have generally increased in value while a negative value means that the fund has reported losses on its book.

### Price/Book Ratio

The Price/Book Ratio (or P/B Ratio) for a managed investment is the weighted average of the P/B Ratio of the stocks in its portfolio. Book value is the total assets of a company, less total liabilities. The P/B ratio of a company is calculated by dividing the market price of its outstanding stock by the company's book value, and then adjusting for the number of shares outstanding. Stocks with negative book values are excluded from this calculation. It shows approximately how much an investor is paying for a company's assets based on historical valuations.

### Price/Cash Flow Ratio

The Price/Cash Flow Ratio (or P/C Ratio) for a managed investment is the weighted average of the P/C Ratio of the stocks in its portfolio. The P/C Ratio of a stock represents the amount an investor is willing to pay for a dollar generated from a company's operations. It shows the ability of a company to generate cash and acts as a gauge of liquidity and solvency.

### Price/Earnings Ratio

The Price/Earnings Ratio (or P/E Ratio) for a managed investment is the weighted average of the P/E Ratios of the stocks in its portfolio. The P/E Ratio of a stock is calculated by dividing the current price of the stock by its trailing 12 months' earnings per share. It can act as a gauge of a managed investment's investment strategy in the current market climate, and whether it has a value or growth orientation. Companies in those industries enjoying a surge of popularity tend to have high P/E Ratios, reflecting a growth orientation. More staid industries tend to have low P/E Ratios, reflecting a value orientation.

### Price/Sales Ratio

The Price/Sales Ratio (or P/S Ratio) for a managed investment is the weighted average of the price/sales ratios of the stocks in its portfolio. Price/ sales represents the amount an investor is willing to pay for a dollar of revenue generated from a particular company's operations.

### Profitability

The profitability grade is based on return on shareholders' equity (ROE) using data from the past five years. Companies with less than four years of consecutive ROE figures, including the ROE figure for the latest fiscal year, are excluded from the calculations. For the remaining universe of stocks, the profitability grade is based on the following three components:

1. The historical growth rate of ROE

2. The average level of historical ROE
3. The level of ROE in the latest fiscal year

### R-Squared

R-squared is the percentage of a security or portfolio's return movements that are explained by movements in its benchmark index, showing the degree of correlation between the security or portfolio and the benchmark. This figure is helpful in assessing how likely it is that beta and alpha are statistically significant. A value of 1 indicates perfect correlation between the security or portfolio and its benchmark. The lower the R-squared value, the lower the correlation.

### Representative Cost

Representative cost incorporates re-occurring costs charged by a fund to facilitate comparison of funds that calculate fees in different ways. For most markets, the representative cost is calculated using the net expense ratio excluding transaction costs. In the U.S., the representative cost does not include acquired expenses from other funds it may invest in, one-off costs, costs charged by third parties such as financial professionals or platforms, or one-off costs charged on entry or exit.

### Risk vs Return Scatterplot

The risk vs return scatterplot graph plots the return and risk (measured by standard deviation) for a selection of securities and a benchmark index for the trailing period identified in the report.

The returns noted for a security reflect any sales charges that were applied in the illustration over the time period selected, but do not reflect impacts of taxation. If impacts of taxation were reflected, the returns would be lower than those indicated in the report.

The return plotted in the graph is mean geometric return. Standard deviation is a statistical measure of the volatility of the security's or portfolio's returns in relation to the mean return. The larger the standard deviation, the greater the volatility of return in relation to the mean return.

### ROIC

This figure is the percentage a company earns on its invested capital in a given year (Year 1, 2, etc.).

The calculation is net operating profit after tax divided by average invested capital. The resulting figure is then multiplied by 100. Invested capital equals the sum of total stockholders' equity, long-term debt and capital lease obligation, and short-term debt and capital lease obligation. ROIC shows how much profit a company generates on its capital base. The better the company, the more profit it generates as a percentage of its invested capital. The company's net income is found in the income statement. The components of the company's invested capital are found in the balance sheet.

### Sales Growth %

Sales Growth is the estimation of the growth of sales for a stock. This is calculated by averaging the sales-growth

rate per share of the stock for up to the previous four years. A managed investment's sales growth % is calculated by taking a share weighted average of the collective sales for all stocks in its portfolio.

### Role in Portfolio

Role in portfolio assists with portfolio allocation, managed investments can be designated "core", "supporting", or "specialty". Core funds should typically be the bulk of an investor's portfolio, while supporting players contribute to a portfolio but are secondary to the core. Specialty offerings tend to be speculative and should typically only be a small portion of an investor's portfolio.

### Sector Weightings %

Super Sectors represent Morningstar's broadest classification of equity sectors by assigning the 11 equity sectors into three classifications. The Cyclical Super Sector includes industries significantly impacted by economic shifts, and the stocks included in these sectors generally have betas greater than 1. The Defensive Super Sector generally includes industries that are relatively immune to economic cycles, and the stocks in these industries generally have betas less than 1. The Sensitive Super Sector includes industries that ebb and flow with the overall economy, but not severely so. Stocks in the Sensitive Super Sector generally have betas that are close to 1.

Fixed-income Super Sectors represent Morningstar's broadest classification of fixed-income sectors. Securities held in domestic taxable-bond portfolios are mapped into one of 14 fixed-income sectors, which in turn, roll up to five super sectors. The Government Super Sector includes all conventional debt issued by governments, bonds issued by a Central Bank or Treasury, and bonds issued by local governments, cantons, regions, and provinces. The Municipal Super Sector includes taxable and tax-exempt debt obligations issued under the auspices of states, cities, counties, provinces, and other non-federal government entities. The Corporate Super Sector includes bank loans, convertible bonds, conventional debt securities issued by corporations, and preferred stock. The Securitized Super Sector includes all types of mortgage-based securities, covered bonds, and asset-backed securities. The Cash & Equivalents Super Sector includes cash in the bank, certificates of deposit, currency, and money market holdings. Cash can also be any fixed-income securities that mature in certain short time frames, commercial paper, and repurchase agreements. The Derivatives Super Sector includes the common types of fixed-income derivative contracts: futures and forwards, options, and swaps. This sector may be displayed as "Other" in certain reports.

### Sharpe Ratio

Sharpe Ratio uses standard deviation and excess return (a measure of a security or portfolio's return in excess of the U.S. Treasury three-month Treasury Bill) to determine the reward per unit of risk.

### Standard Deviation

Standard deviation is a statistical measure of the volatility of the security or portfolio's returns. The larger the standard deviation, the greater the volatility of return.

### Standardized Returns

Standardized Return applies the methodology described in the Standardized Returns page of this report. Standardized Return is calculated through the most recent calendar-quarter end for one-year, five-year, 10-year, and/or since-inception periods, and it demonstrates the impact of sales charges (if applicable) and ongoing fund expenses. Standardized Return reflects the return an investor may have experienced if the security was purchased at the beginning of the period and sold at the end, incurring transaction charges.

### Tax Cost Ratio

The Morningstar Tax Cost Ratio measures how much a managed investment's annualized return is reduced by the taxes investors pay on distributions. Mutual funds regularly distribute stock dividends, bond dividends and capital gains to their shareholders. Investors then must pay taxes on those distributions during the year they were received.

Like an expense ratio, the tax cost ratio is a measure of how one factor can negatively impact performance. Also like an expense ratio, it is usually concentrated in the range of 0-5%. 0% indicates that the managed investment had no taxable distributions and 5% indicates that the managed investment was less tax efficient.

### Tenure Return %

Tenure Return % is the annualized return of a managed investment since the manager started running the strategy. This is useful to compare with the Index Return %, which measures the relevant index's annualized return in the same time period.

### Total Firm Assets and Fund Flows

Morningstar estimates fund-level flow data and aggregates it at the firm level. The Flows graph shows quarterly net flows and the firm's asset growth rate. This information illustrates the movement of money into and out of the firm's funds over time, which can be particularly illustrative in times of market volatility.

### Trailing Returns

Trailing Return applies the methodology described in the Standardized Returns page of this report. Standardized Return is calculated through the most recent calendar-quarter end for one-year, five-year, 10-year, and/or since inception periods, and it demonstrates the impact of sales charges (if applicable) and ongoing fund expenses. Standardized Return reflects the return an investor may have experienced if the managed investment was purchased at the beginning of the period and sold at the end, incurring transaction charges.

Load-Adjusted Monthly Return is calculated applying the same methodology as Standardized Return, except that it represents return through month-end. As with Standardized Return, it reflects the impact of sales

charges and ongoing fund expenses, but not taxation. If adjusted for the effects of taxation, the performance quoted would be significantly different.

Trailing Return +/- indicates how a managed investment has performed relative to its peers (as measure by its Standard Index and/or Morningstar Category Index) over the time periods shown.

#### Total Return

Total Return, or "Non Load-Adjusted Return", reflects performance without adjusting for sales charges (if applicable) or the effects of taxation, but it is adjusted to reflect all actual ongoing security expenses and assumes reinvestment of dividends and capital gains. It is the return an investor would have experienced if the managed investment was held throughout the period. If adjusted for sales charges and the effects of taxation, the performance quoted would be significantly reduced.

Total Return +/- indicates how a managed investment has performed relative to its peers (as measure by its Standard Index and/or Morningstar Category Index) over the time periods shown.

#### Turnover Ratio %

Turnover Ratio measures the trading activity in a managed investment's portfolio by taking the lesser of purchases or sales (excluding all securities with maturities of less than one year) and dividing by average monthly net assets. In practical terms, the resulting percentage loosely represents the percentage of the managed investment's underlying holdings that have changed over the past year. The inverse of a managed investment's turnover ratio is the average holding period for a security in that managed investment.

#### Upside Capture Ratio %

Upside Capture Ratio measures a managed investment's performance in up markets relative to the market (benchmark) itself. It is calculated by taking the managed investment's upside capture return and dividing it by the benchmark's upside capture return.

#### World Regions %

The world regions is a display of the portfolio's assets invested in the regions shown on the report.

## Investment Risks

#### International/Emerging Market Equities

Investing in international securities involves special additional risks. These risks include, but are not limited to, currency risk, political risk, and risk associated with varying accounting standards. Investing in emerging markets may accentuate these risks.

#### Sector Strategies

Portfolios that invest exclusively in one sector or industry involve additional risks. The lack of industry diversification subjects the investor to increased industry-specific risks.

#### Non-Diversified Strategies

Portfolios that invest a significant percentage of assets in a single issuer involve additional risks, including share price fluctuations, because of the increased concentration of investments.

#### Small Cap Equities

Portfolios that invest in stocks of small companies involve additional risks. Smaller companies typically have a higher risk of failure and are not as well established as larger blue-chip companies. Historically, smaller-company stocks have experienced a greater degree of market volatility than the overall market average.

#### Mid Cap Equities

Portfolios that invest in companies with market capitalization below \$10 billion involve additional risks. The securities of these companies may be more volatile and less liquid than the securities of larger companies.

#### High-Yield Bonds

Portfolios that invest in lower-rated debt securities (commonly referred to as junk bonds) involve additional risks because of the lower credit quality of the securities in the portfolio. The investor should be aware of the possible higher level of volatility, and increased risk of default.

#### Tax-Free Municipal Bonds

The investor should note that the income from tax-free municipal bond funds may be subject to state and local taxation and the Alternative Minimum Tax.

#### Bonds

Bonds are subject to interest rate risk. As the prevailing level of bond interest rates rise, the value of bonds already held in a portfolio declines. Portfolios that hold bonds are subject to declines and increases in value due to general changes in interest rates.

#### HOLDRS

The investor should note that these are narrow industry-focused products that, if the industry is hit by hard times, will lack diversification and possible loss of investment would be likely. These securities can trade at a discount to market price, ownership is of a fractional share interest, the underlying investments may not be representative of the particular industry, the HOLDR might be delisted from the AMEX if the number of underlying companies drops below nine, and the investor may experience trading halts.

#### Hedge Funds

The investor should note that hedge fund investing involves specialized risks that are dependent upon the type of strategies undertaken by the manager. This can include distressed or event-driven strategies, long/short strategies, using arbitrage (exploiting price inefficiencies), international investing, and use of leverage, options and/or derivatives. Although the goal of hedge fund managers may be to reduce volatility and produce positive absolute return under a variety of market conditions, hedge funds may involve a high degree of risk and are suitable only for investors of substantial financial means who could bear

the entire loss of their investment.

#### Bank Loan/Senior Debt

Bank loans and senior loans are impacted by the risks associated with fixed income in general, including interest rate risk and default risk. They are often non-investment grade; therefore, the risk of default is high. These securities are also relatively illiquid. Managed products that invest in bank loans/senior debt are often highly leveraged, producing a high risk of return volatility.

#### Exchange Traded Notes (ETNs)

ETNs are unsecured debt obligations. Any repayment of notes is subject to the issuer's ability to repay its obligations. ETNs do not typically pay interest.

#### Leveraged ETFs

Leveraged investments are designed to meet multiples of the return performance of the index they track and seek to meet their managed investment objectives on a daily basis (or other time period stated within the prospectus objective). The leverage/gearing ratio is the amount of excess return that a leveraged investment is designed to achieve in comparison to its index performance (i.e. 200%, 300%, -200%, or -300% or 2X, 3X, -2X, -3X). Compounding has the ability to affect the performance of the managed investment to be either greater or less than the index performance multiplied by the multiple stated within the managed investments objective over a stated time period.

#### Short Positions

When a short position moves in an unfavorable way, the losses are theoretically unlimited. The broker may demand more collateral and a manager might have to close out a short position at an inopportune time to limit further losses.

#### Long-Short

Due to the strategies used by long-short managed investments, which may include but are not limited to leverage, short selling, short-term trading, and investing in derivatives, these managed investments may have greater risk, volatility, and expenses than those focusing on traditional investment strategies.

#### Liquidity Risk

Closed-end fund, ETF, and HOLDR trading may be halted due to market conditions, impacting an investor's ability to sell a fund.

#### Market Price Risk

The market price of ETFs, HOLDRS, and closed-end funds traded on the secondary market is subject to the forces of supply and demand and thus independent of the NAV. This can result in the market price trading at a premium or discount to the NAV, which will affect an investor's value.

#### Market Risk

The market prices of ETFs and HOLDRS can fluctuate as a result of several factors, such as security-specific factors or general investor sentiment. Therefore, investors should

be aware of the prospect of market fluctuations and the impact it may have on the market price.

### Target-Date Funds

Target-date funds typically invest in other mutual funds and are designed for investors who are planning to retire during the target date year. The fund's target date is the approximate date when investors expect to begin withdrawing their money. A target-date fund's investment objective/strategy typically becomes more conservative over time, primarily by reducing its allocation to equity mutual funds and increasing its allocations in fixed-income mutual funds. An investor's principal value in a target-date fund is not guaranteed at any time, including at the fund's target date.

### High double- and triple-digit returns

High double- and triple-digit returns were the result of extremely favorable market conditions, which may not continue to be the case. High returns for short time periods must not be a major factor when making investment decisions.

## Benchmark Disclosure

### Barclays US Agg Bond TR USD

This index is composed of the BarCap Government/Credit Index, the Mortgage- Backed Securities Index, and the Asset-Backed Securities Index. The returns we publish for the index are total returns, which include the daily reinvestment of dividends. The constituents displayed for this index are from the following proxy: iShares Core US Aggregate Bond.

### MSCI EAFE NR USD

This Europe, Australasia, and Far East index is a market-capitalization-weighted index of 21 non-U.S., industrialized country indexes.

This disclosure applies to all MSCI indices: Certain information included herein is derived by Morningstar in part from MSCI's Index Constituents (the "Index Data"). However, MSCI has not reviewed any information contained herein and does not endorse or express any opinion such information or analysis. MSCI does not make any express or implied warranties, representations or guarantees concerning the Index Data or any information or data derived therefrom, and in no event will MSCI have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) relating to any use of this information.

### Russell 1000 TR USD

Consists of the 1000 largest companies within the Russell 3000 index, which represents approximately 98% of the investable US equity market. Also known as the Market-Oriented Index, because it represents the group of stocks from which most active money managers choose. The constituents displayed for this index are from the

following proxy: iShares Russell 1000.

### S&P500 TR USD

A market capitalization-weighted index composed of the 500 most widely held stocks whose assets and/or revenues are based in the US; it's often used as a proxy for the stock market. TR (Total Return) indexes include daily reinvestment of dividends. The constituents displayed for this index are from the following proxy: iShares Core S&P 500.

### USTREAS T-Bill Auction Ave 3 Mon

Three-month T-bills are government-backed, short-term investments considered to be risk-free and as good as cash because the maturity is only three months. Morningstar collects yields on the T-bill on a weekly basis from the Wall Street Journal.

### Bloomberg Indexes

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