

## Morningstar ETF Analyst Report Structure

The foremost goal of the Morningstar ETF Analyst Report is to provide investors with a "user's manual" for the fund. Investors have as many questions about how particular ETFs are structured as they do about what the primary drivers of a fund's performance are. Much of the report is geared towards distilling key factual information about the fund and the securities that compose it. Other portions are opinion-oriented in nature, especially our Fundamental View and Alternatives section.

Given the scope of ETFs and ETNs across distinct asset classes the deliverables of the report vary with the type of ETF that we are reviewing. We divide the funds into asset classes--broad equity, sector-equity, fixed-income, commodities, currencies and alternative investment types. Our commentary is tailored to reflect the unique features and drivers that are held in common by funds in these categories.

In terms of equity and sector-equity funds, Morningstar is uniquely qualified to leverage off of the work of the Morningstar Equity Research Group to enhance our ETF Research. Working with our Equity Analyst staff, Morningstar ETF Research aggregates individual bottom-up stock valuations and industry research into our commentary and valuation and risk data points.

Even though commentary adjusts for the fund's asset class, the report structure is uniform throughout our coverage universe.

Our reports are broken down into five major sections:

- ▶ Suitability
- ▶ Fundamental View
- ▶ Portfolio Construction
- ▶ Fees
- ▶ Alternatives

### Suitability

Our general assumption is that an investor already has an investment thesis in mind when they look at one of our reports. The purpose of this section is to confirm that this is the appropriate fund for the investor's given thesis. Our approach is to say, "If you think X, then this ETF is a suitable investment." It may seem simple--and with most ETFs it often is--but there are plenty of nuances and unique structures that can trip investors up. We provide qualitative evaluation of what the primary drivers of the fund's performance will be and indicate any unique aspects that investors should be aware of.

In this section, we also supply whether or not a fund is a "core" or "satellite" holding. A core holding is a fund that an investor would typically use in a passive asset allocation strategy. A satellite holding is a fund that is more tactical in nature and generally requires a solid investment thesis and more active management. We will also comment on what some of the tactical uses for a fund maybe, if they are not already obvious.

The last piece of the Suitability section is our assessment of the fund's risk and volatility. We recognize that investors possess different risk-tolerance levels and our purpose here is to ensure that they know what they are getting into before they buy a fund.

## **Fundamental View**

This section of the report provides our analyst's opinion on the key drivers of the fund's performance, where we think these macro-economic drivers are headed and our view on what is priced into the fund.

For equity based funds the ETF analyst works closely with the corresponding team of equity analysts to gather his or her information and form a thesis. We break down the constituents of the fund in terms of economic moat, size and industry business model (where applicable) to provide a fundamental evaluation of the aggregate holdings. This provides an opinion that combines top-down trend analysis with a bottoms-up valuation analysis for the investor.

For non-equity asset classes much of our macro-economic analysis remains the same, but we are more limited in what we can do in terms of fundamental valuation. In most cases, we try to provide relative benchmarks of key data points over the past 5 to 10 years. For example for a medium-term Treasury bond ETF we detail the average yield on a 10-year Treasury over the past 5 years as well as the minimum and maximum yields.

## **Portfolio Construction**

One of the most important data points for an ETF investor is how the underlying holdings are constructed. Most ETFs follow passive indexes, but even these indexes can be constructed in a variety of ways that will impact the investment result. In this section we provide a comprehensive explanation in plain English as to what the index is designed to track, how often it rebalances and other pertinent data points.

For quantitative-active ETFs we go into detail about how the factor models work and how the fund is trying to generate alpha.

ETFs cover a variety of asset classes and index styles. Some, for instance, track single commodities others track fundamentally weighted indexes. Our approach is flexible in its design to deal with the varied types of portfolio construction methods. As a result, our commentary will vary as the situation dictates, but the overall goal is to make sure that the investor understands what they are buying.

## **Fees**

This is a very straightforward presentation of the expense ratio along with an analyst's assessment of how this measures up relative to other options.

## **Alternatives**

Our approach assumes that investors have an investment thesis in mind when looking at one of our reports. Our Alternatives section provides ideas that can help ensure that the investor has looked at all of his or her options. Sometimes there are cheaper alternatives. In terms of sector funds, there can be ETFs that follow broader or narrower slices of that sector. This portion of the report may even suggest a mutual fund or individual stock alternative when appropriate.

## **Morningstar ETF Price to Fair Value Methodology**

### **ETF Valuation Rating**

Not to be confused with the Morningstar Rating for ETFs (the star rating), which is based on an ETF's trailing, risk-adjusted relative returns, the ETF Valuation Rating is a forward-looking, holdings-based assessment of a stock ETF's investment merit. There are three distinct analyst ratings--"undervalued," "fairly valued," and "neutral." We reserve the "undervalued" rating for an ETF that is trading at a significant discount to our estimate of its intrinsic worth, which is based on Morningstar's fair value estimates for the ETF's underlying holdings. The size of the discount we'd demand before deeming an ETF "undervalued" varies with the risk of the ETF; we typically demand at least an 8% discount to our fair value estimate before placing an "undervalued" rating on a lower-risk ETF, at least 15% for a moderate-risk ETF, and 20%-plus for an above-average risk ETF. By contrast, we apply the "overvalued" rating to any ETF that's trading at a meaningful premium to our fair value estimate. The size of the premium also depends on the ETF's risk. Lower-risk ETFs receive the "overvalued" rating when they're trading at least 7% above our fair value estimate, moderate-risk ETFs when they're at a 14% or greater premium, and above-average risk ETFs at a 22% premium. We rate "fairly valued" any ETFs that trade in between those boundaries. Generally speaking, we expect an "undervalued" ETF's annualized returns to exceed its hurdle rate by at least three percentage points.

### **ETF Market Price**

This is an ETF's closing share price, as of the trading day indicated. This price is determined by market supply and demand. The market price is updated nightly. (For more-frequent updates of an ETF's price, see the "Quote & News" tab of the ETF Report.)

### **ETF Fair Value Estimate**

The ETF fair value estimate is the aggregate, asset-weighted fair value of the stocks in an ETF portfolio that are under coverage by Morningstar equity analysts, divided by the ETF's shares outstanding. (We also derive it by dividing the ETF's market price by its price/fair-value ratio.) Depending on the coverage rate, the fair value estimate may not include all of the stocks in the portfolio. As such, when calculating the fair value estimate, we assume that all stocks not under coverage are trading at fair value.

### **Consider Buying at**

This is the market price at which we would recommend investing in the ETF. The gap between the "consider buying at" price and the fair value estimate is what we commonly refer to as a "margin of safety." The margin of safety affords protection should our fair value estimate end up being off the mark. The "consider buying at" price will vary depending on the ETF's risk. Generally speaking, the riskier the ETF, the lower the "consider buying at" price relative to the fair value estimate, as we require a larger margin of safety in such instances. The opposite is true of lower-risk ETFs, where we're willing to accept a smaller margin of safety given that we typically have greater confidence in the precision of our fair value estimate.

### **Consider Selling at**

The counterpart to the "consider buying at" price, this is the market price at which we would recommend selling the ETF. The "consider selling at" price will vary depending on the risk of the ETF. Generally speaking, the riskier the ETF, the higher the "consider selling at" price, and vice versa.

## ETF Expected Return

An ETF's expected return is a function of its price, our fair value estimate, and the weighted-average cost of equity (COE) of its portfolio holdings. The expected return measures the pre-tax, pre-fee annualized return an investor would stand to realize if the ETF's price converged to our time-adjusted fair value estimate over a three-year time horizon. We can express the expected return as:

$$\text{Expected Return} = [ (\text{Fair Value} * (1 + \text{COE})^3) / \text{Price} ]^{1/3} - 1$$

Given that it accounts for the intrinsic risk of the ETF concerned (i.e., its cost of equity), the expected return is a risk-adjusted measure.

## ETF Hurdle Rate

An ETF's hurdle rate is the sum of its portfolio's weighted-average cost of equity (COE), its annual expense ratio and, in certain cases, an incremental risk premium. We derive the weighted-average COE using the costs of equity that Morningstar equity analysts assign to the portfolio holdings they cover. The COE expresses a firm's intrinsic risk as a percentage (e.g., 10%). It represents the minimum return an investor would accept in exchange for purchasing the stock. (For portfolio holdings that our analysts don't cover, we assign a 10.5% COE, a figure that approximates the COE of the average stock in our coverage universe.) A fund's annual expense ratio is the percentage fee that an ETF levies. For purposes of the hurdle rate calculation, we use each fund's prospectus net expense ratio. Finally, we add an incremental risk premium to account for the higher risk that certain ETFs pose. This figure will vary depending on the risk of the ETF concerned.

## ETF Expected Excess Return

This is the difference between an ETF's expected return and its hurdle rate. The expected excess return is a risk-adjusted measure that's net of the ETF's annual expense ratio. It can be thought of as the "alpha" that an ETF is expected to deliver given its current price, our fair value estimate, and the portfolio's risk profile (as measured by its weighted-average cost of equity).

## Morningstar Coverage

This is the percentage of portfolio assets that our analysts cover. For purposes of determining whether our analysts cover a holding, we refer to a stock's economic moat rating. If a stock has a moat rating, we consider it "covered," even if it lacks a fair value estimate (as is often the case with stocks that our analysts have placed "under review"). We also include cash and cash equivalents in our calculation of a fund's coverage rate.

## Stock Quality

This refers to the competitive standing of an ETF portfolio's holdings. Morningstar's economic moat ratings indicate whether a firm possesses a competitive advantage of some kind and, if so, how durable it's likely to prove. For instance, a "wide moat" firm is thought to possess highly defensible competitive advantages, such as a lustrous brand, hard-to-replicate scale, or barriers to entry that keep rivals at bay. The upshot is that higher-quality--i.e., "wide moat"--firms tend to churn out greater economic value for shareholders over the long haul. Thus, the higher the quality that an ETF portfolio's holdings are thought to be, the more valuable that portfolio as a whole. "Narrow moat" firms are those that possess a competitive advantage, albeit one that confers relatively modest economic benefits or is likely to prove fleeting in nature. Finally, "no moat" firms lack competitive advantages of any significance.

## **Fair Value Uncertainty**

Fair Value Uncertainty is meant to give investors an idea of how tightly we feel we can bound our fair value estimate for any given company. To generate Morningstar Fair Value Uncertainty, analysts consider the following factors:

- ▶ Sales predictability
- ▶ Operating leverage
- ▶ Financial leverage
- ▶ A firm's exposure to contingent events

Based on these factors, analysts classify the stock into one of several uncertainty levels: Low, Medium, High, Very High, or Extreme. The greater the level of uncertainty, the greater the discount to fair value required before a stock can earn 5 stars, and the greater the premium to fair value before a stock earns a 1-star rating.