User Guide

Last Updated: June 2021

Welcome To ETF Action!

We're so excited to share with you the breadth and depth of the resources available to you on the ETF Action data and analytics platform. Whether you've just signed up for your free trial or you've been a subscriber for years, there's always something new to learn about our system.

In the pages that follow, we'll provide step-by-step instructions and detailed screenshots outlining how to navigate ETF Action, including how to find, filter, and compare securities; save and export your data; and deploy our various analytical tools. Note: We're about to get deep into the weeds, so if you'd prefer to jump to a specific section, please use the links in the **Table of Contents** for easier navigation.

If you have a question or issue not answered in this User's Guide, please don't hesitate to email us at team@etfaction.com, and someone will get back to you ASAP to walk you through the system.

Thanks for reading, and for being an ETF Action subscriber!

- The ETF Action Team

Before You Start: 7 ETF Action Tips & Tricks

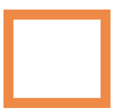
We know you're ready to get started ready using the ETF Action platform. Below are a few quick notes and reminders to help you get the most out of your ETF Action experience:

1. *(Almost) All Data Is Updated Daily.*

All data within the ETF Terminal is updated as of previous day's close. The few exceptions are listed below:

- **Updated During Open Hours:** Security prices, as seen in the **Dashboard**, **ETF Terminal**, and **Model Tracker**, are updated every fifteen seconds throughout the trading day.
- **Updated Weekly:** Fundamental equity data, using FactSet's individual security data and aggregated by ETF Action data for individual securities, is updated once weekly.
- **Updated Monthly:** Fundamental fixed income data, as provided by FactSet, is updated once monthly.

2. *Orange Means Interactive.*



Throughout the ETF Action platform, you'll see orange boxes, filters, menus, links, and other fields. Interact with these to perform various actions: Type in tickers; click navigational buttons; select time or filter ranges; and more.

3. *Filter Data to Your Exact Specifications.*

The Filter is a powerful tool for quickly navigating data on 2,400+ ETFs and 20,000+ stocks. Click the Filter button to specify a data range (e.g., a particular investment theme, a minimum and/or maximum expense ratio, etc.) Click again to close the Filter menu.

4. *Click to Drill Deeper on Charts.*

Every chart in ETF Action contains a wealth of data. Hover or click on charts to drill deeper into specific data points. For example, clicking on a given sector in the Sector Breakdown bar chart (under the "Composition" tab) will further reveal industry exposures within that sector. You can close this sub-chart by clicking the Back button in the upper right corner.

Back to Table of Contents

5. *Most Time Ranges Are Flexible.*

For most line charts, such as historical performance or moving day averages, we provide a number of pre-selected time ranges, spanning 3 months to 10 years. However, you also may specify custom time ranges for your chart: Simply type a start and end date into the orange boxes in the upper right-hand corner of the chart.

You may also select a time frame by clicking and dragging over a select area, right on the chart itself.

6. *Save Your Research for Later.*

Don't lose your hard work! ETF Action allows you to save your work in a variety of ways.

- Save tables as .csv files by clicking the Export button.
- Print and/or export charts in .png, .jpeg, .pdf, and .sdg formats by clicking the button.
- Label and save ETF/stock searches under "My Screens" by clicking the button.
- Create and save new model portfolios by clicking New Model under "Model Tracker."

7. *We're Here to Help.*

Sometimes it's easier to understand all that a service has to offer when there's someone to act as your guide. We're happy to walk you through the ETF Action platform in a free, 30-minute live demo, customized to your specific interests and needs.

Please email Rowland Wilhelm at rowland@etfaction.com or **fill out this contact form** to schedule a demo.

Table of Contents

Back to Table of Contents

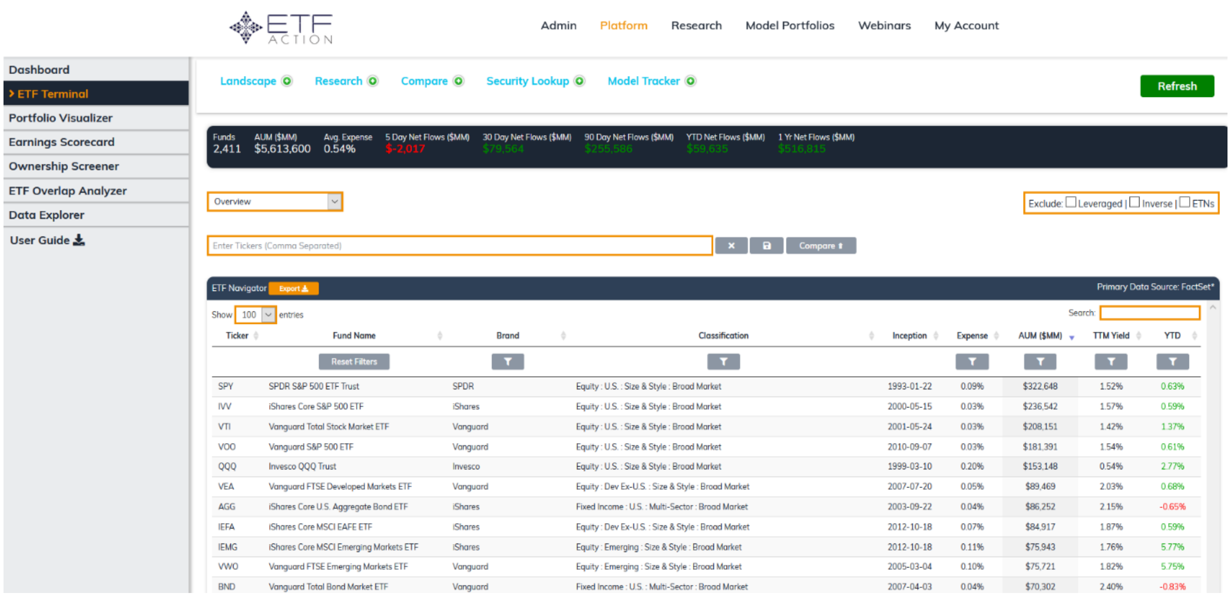
The ETF Action Platform: Overview

ETF Action is a research and data analytics platform enabling you to focus the markets through the lens of ETFs. By leveraging ETFs' signature transparency and best-in-class FactSet data for over 2,400+ ETFs and 20,000+ stocks, our platform allows quick and intuitive research of various market segments, ETFs, and single stocks in the pursuit of building stronger investment portfolios.

The **Platform** section of ETF Action is your home base for searching, comparing, visualizing, modeling, and learning more about ETFs or individual securities.

How To Navigate The ETF Action Platform

There are seven main toolsets available in the ETF Action Platform. Upon login or after selecting "Platform" at the top of your browser screen, the **ETF Terminal** will load by default.



All ETF Action Toolsets can be found on the left-hand sidebar. They include:

1. **Dashboard**
2. **ETF Terminal**
3. **Portfolio Visualizer**
4. **Earnings Scorecard**
5. **Ownership Screener**
6. **ETF Overlap Analyzer**
7. **ETF Data Explorer**

Back to Table of Contents

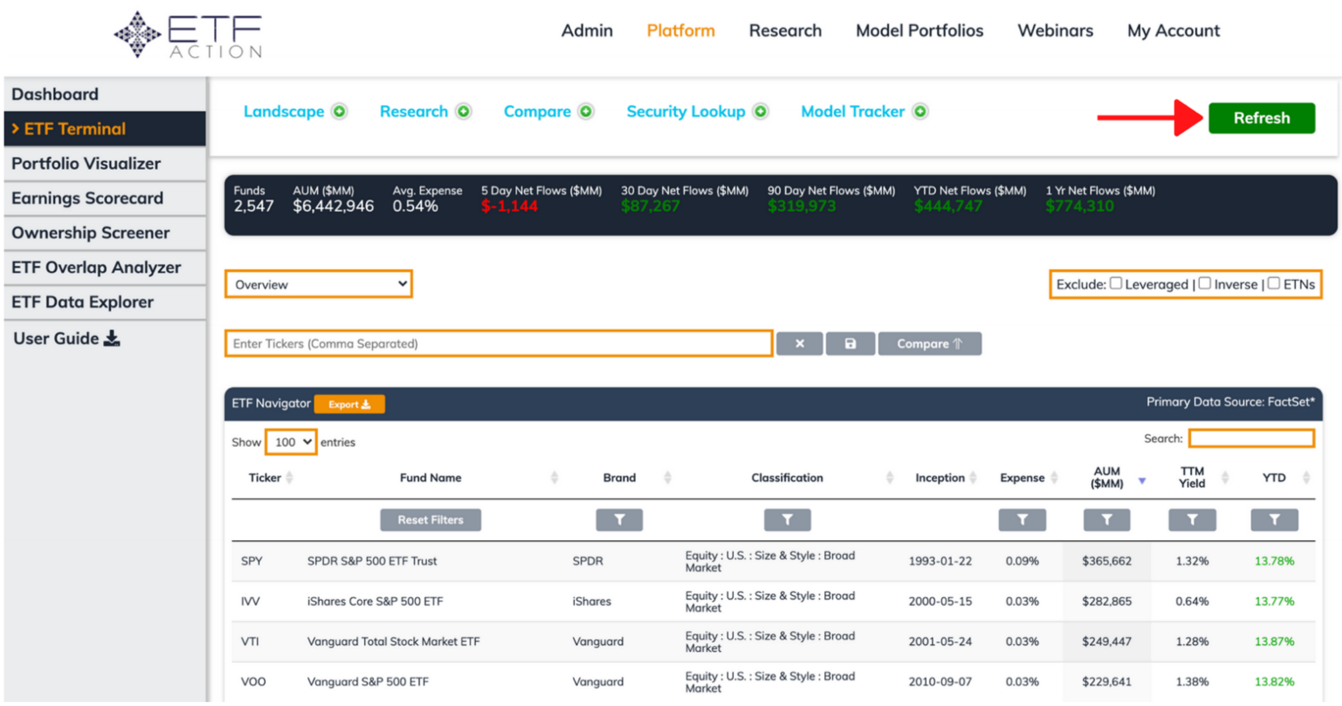
As you navigate between these Toolsets, **your searches will *never* be reset, until you choose to reset them**. Therefore, you can jump back and forth between Toolsets, without losing your work.

Each Toolset consists of several individual *Research Tools*, which will be explained in the following sections.

How To "Hard Reset" The ETF Action Platform

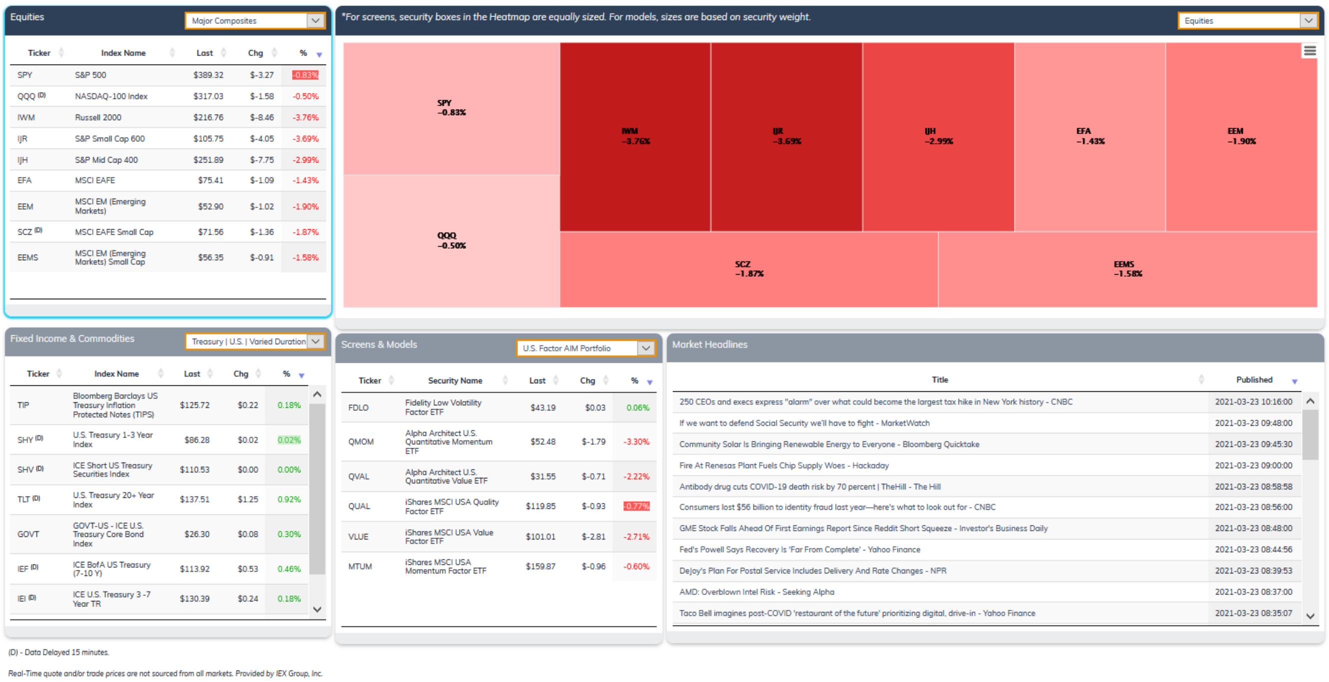
To conduct a new search, load a new set of ETFs into a given Toolset, or create a new model, it is not necessary to manually reset or refresh the **ETF Action** platform each time. However, given that searches persist across Toolsets, sometimes it's just faster and more desirable to clear existing work all at once.

To reset the ETF Action platform completely and start afresh, click the green "Refresh" button at the top of the **ETF Terminal,** found in the **Research Lens:**



Back to Table of Contents

The Dashboard



The **Dashboard** is a visualization tool that offers an at-a-glance overview of real-time changes in ETF market segments that are most relevant to you. It consists of three main modules: **Market Tiles, Heatmap,** and **Market Headlines**.

Market Tiles

The **Market Tiles** depict live prices for the securities within the user's screens and models. Prices are provided by IEX Group. There are three Market Tiles: **Equities, Fixed Income & Commodities**, and **Screens & Models.**

Each entry in the **Market Tile** includes several data points, including:

- *Ticker*: The ticker for the ETF
- *Index Name (Equities, Fixed Income & Commodities Market Tiles)*: The name of the index that the ETF tracks.
- *Security Name (Screens & Models Market Tile):* The full name of the ETF or stock.
- *Last:* Last traded price for the security.
- *Chg:* Change in price from the previous quote.
- *%:* Percentage change in price from previous quote.

Some ETFs have a (D) by their tickers. For these funds, prices are delayed by up to 15 minutes.

Changing Securities Listed In The Market Tiles

Each **Market Tile** comes preloaded with several screens, either built by ETF Action or by the user:

- *Equities:* 23 ETF Action built screens across Core, Size & Style, Factor, Sector & Industry, and Region & Country.

Back to Table of Contents

- *Fixed Income & Commodities:* 4 ETF Action built fixed income screens, including U.S. Government, Broad Market, Municipal, and Corporate; as well as 5 ETF Action built Commodities screens.
- *Screens & Models:* Any screens the user has saved in the ETF Terminal will be accessible under My Screens. Professional Level subscribers will also be able to access their saved models, if any (under "My Models"); and the ETF Action Active Index Model (AIM) Portfolios (under "ETF Action AIM Portfolios").

To change between these screens, select a new screen from that Market Tile's dropdown menu.

Heatmap

The **Heatmap** displays live price changes (by percentage) for securities in the paired **Market Tile** screen or model.

- For screens, the security boxes in the Heatmap are equally sized.
- For models, the security boxes in the Heatmap are based on weight of the security within the portfolio.

Changing Securities Displayed in the Heatmap

To change the securities displayed in the **Heatmap**, first select a **Market Tile** from the Heatmap dropdown menu (e.g., Equities, Fixed Income & Commodities, or Screens & Models). Then select the desired screen from the dropdown menu on the relevant Market Tile. This "pairs" the Market Tile and the Heatmap. The Heatmap will automatically change to reflect the new screen or model.

Market Headlines

Market Headlines is a news feed of the top headlines from various trusted media sources from around the world.

- *Title* indicates the article headline and outlet in which it was first published.
- *Published* indicates the date and time in Pacific Time at which the article was first published.

To read an article, simply click on the relevant headline. A new browser tab will open; you will not be forced to navigate away from ETF Action.

ETF Terminal

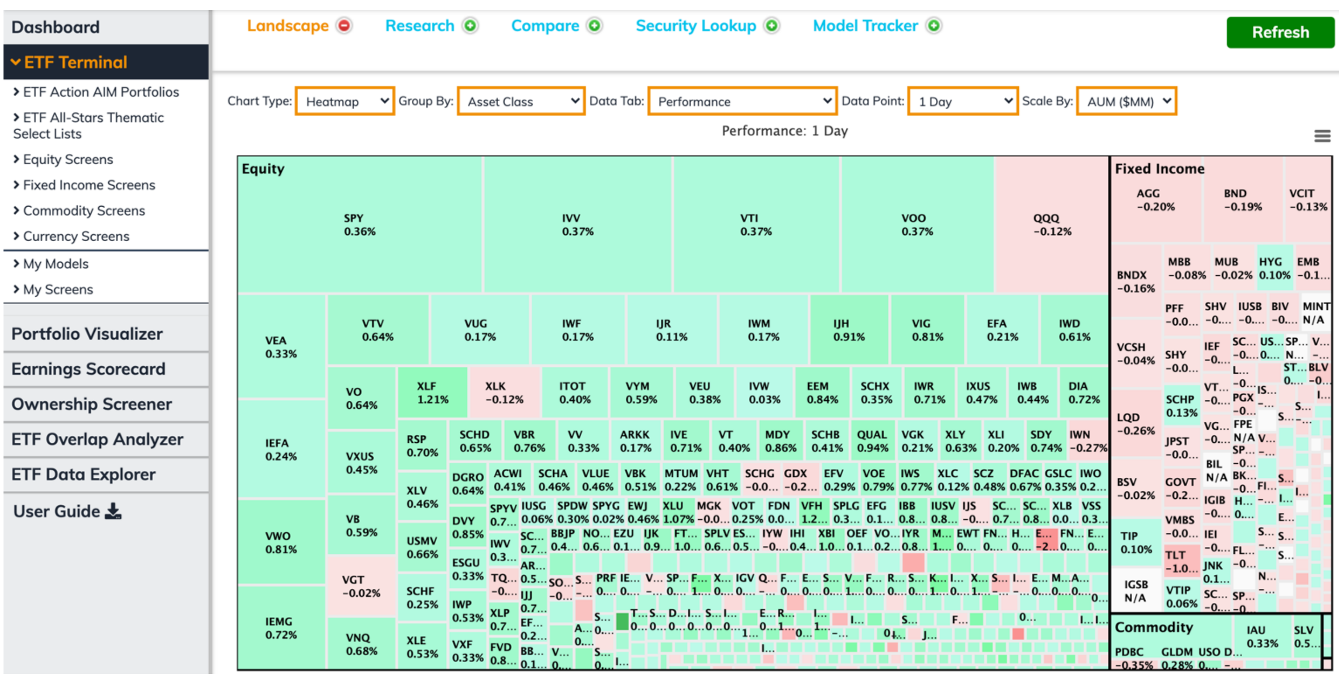
The **ETF Terminal** is your home base for ETF and equity research. This Toolset is where most of the data/analytics tools on the ETF Action platform are housed, and you can expect that the majority of your time on our platform will take place in the ETF Terminal.

There are five main Toolsets, sometimes called "lenses," within the ETF Terminal. These include the:

1. **Landscape Lens:** Visually depicts the data that can be called up in the Research Lens.
2. **Research Lens:** Allows you to search, filter, and compare a set of ETFs from the database of over 2,400+ funds.
3. **Compare Lens:** Allows you to compare the performance, risk statistics, composition, fundamental metrics, and holdings for a list of up to 12 ETFs, as well as generate comparative **Custom Reports**.
4. **Security Lookup:** Allows you to look up the aggregate ETF ownership for a list of up to 20 stocks.
5. **Model Tracker:** Aggregates information about model portfolios, including the **ETF Action AIM Portfolios,** the **ETF All-Stars® Thematic Select Lists**, and the user's **My Models.**

Each of these Toolsets are reviewed in-depth in the following sections.

Landscape Lens



The **Landscape Lens** is a visualization tool enabling you to render almost any data point accessible in the **Research Lens** in a succinct heatmap, allowing you to easily spot data trends across asset classes, sectors, varying time frames, and more.

Back to Table of Contents

Generally, green boxes indicate positive numerical or percentage values, while red boxes indicate negative values. (For certain indicators, such as RSI, green can represent desirable ranges for the data, while red indicates undesirable ranges.)

The Landscape Lens consists of two elements:

1) Several **Interactive Menus** that allow you to group and narrow down ETF-level data,
2) A **Landscape Heatmap** that displays data specified in the Interactive Menus.

By default, the Landscape Heatmap loads the 500 largest ETFs by assets under management. But it can also be loaded with ETFs from the **Research Lens**, or with models and screens imported from the **Model Tracker** (See "How To Load Other Sets Of ETFs Into The Landscape Heatmap" below.)

How To Change The Landscape Heatmap

The **Interactive Menus** allow you to specify various qualities about the **Landscape Heatmap**, including:

- *Chart Type:* Select the type of visualization depicted, from **Heatmap, Histogram,** or **Scatter Plot.**

- *Group By:* Select how securities should grouped within the heatmap. There are fifteen classification subcategories that can be specified, including:
  - ETF Action Classification categories: **Asset Class, Sub-Asset Class, Composite, Market, Region, Country, Segment, Group, Reach, Strategy, Implementation, Discipline**
  - Organization-level categories: **Issuer, Distributor, Listing Exchange**

- *Data Tab:* Select from nine data categories, which correspond to data tabs in the Research Lens (see: "Research Lens"). These categories include:
  - **Performance:** Historical returns of the ETFs
  - **Flows ($MM):** Net inflows/outflows for the ETFs, in millions of dollars
  - **Technical Analysis:** Technical indicators, such as percentages above/below moving averages or RSI
  - **Equity Key Ratios (TTM):** Fundamental accounting metrics, like P/E or ROE
  - **Key Ratio vs. 5Y Avg.:** Key equity ratios, compared to their 5-year averages
  - **Growth Estimates:** Growth estimates for future time periods.
  - **2021E Trends:** How earnings and sales estimates are trending over multiple time frames
  - **Equity Ratings & Targets:** How analysts ratings have changed for the ETFs
  - **Fixed Income Fundamentals:** Key bond metrics, such as yield or duration.

- *Data Point:* Specifies the discrete data point to be visualized across the set of ETFs (e.g., YTD performance, P/E ratios, or yield to maturity).

How To Drill Deeper On The Landscape Heatmap

The **Landscape Heatmap** is interactive; by clicking on various elements of the chart, you can narrow down into different categories.

To drill down by grouping (selected in the *Group By* Interactive Menu), simply click on a heading in the heatmap, e.g., "Equity" or "Broad-Market." The heatmap's field will narrow, displaying only the ETFs that fall within that grouping. To return to the full view of the Landscape Heatmap, click the grey "Back" button in the top right corner.

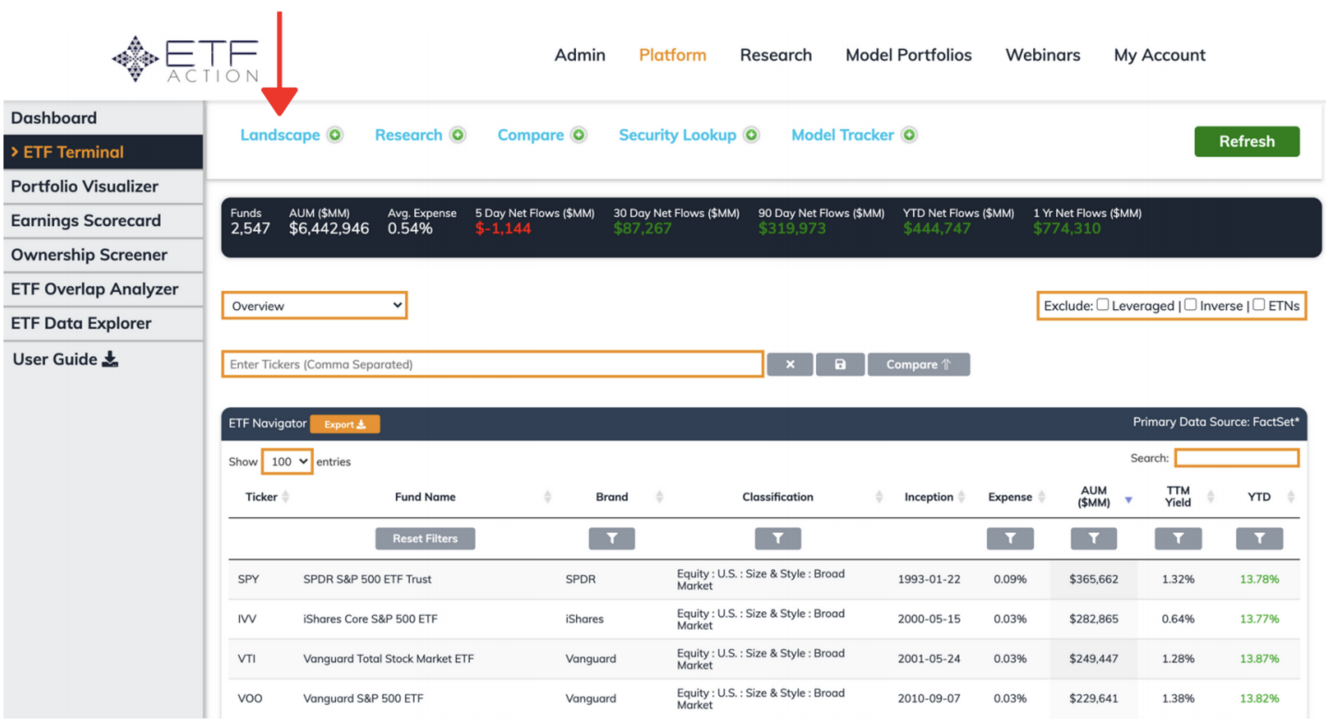
To drill down by individual securities, click a ticker (or anywhere on its box in the **Landscape Heatmap)** to be taken to that ETF's Research Frames in the **Research Lens**. To return to the full view of the Landscape Heatmap, click on the **"Research"** tab at the top of the screen, so that the red circle with a minus sign turns into a green plus sign . (For more information on ETF Research Frames, see "ETF Research Frames".)

How To Load Other Sets Of ETFs Into The Landscape Heatmap

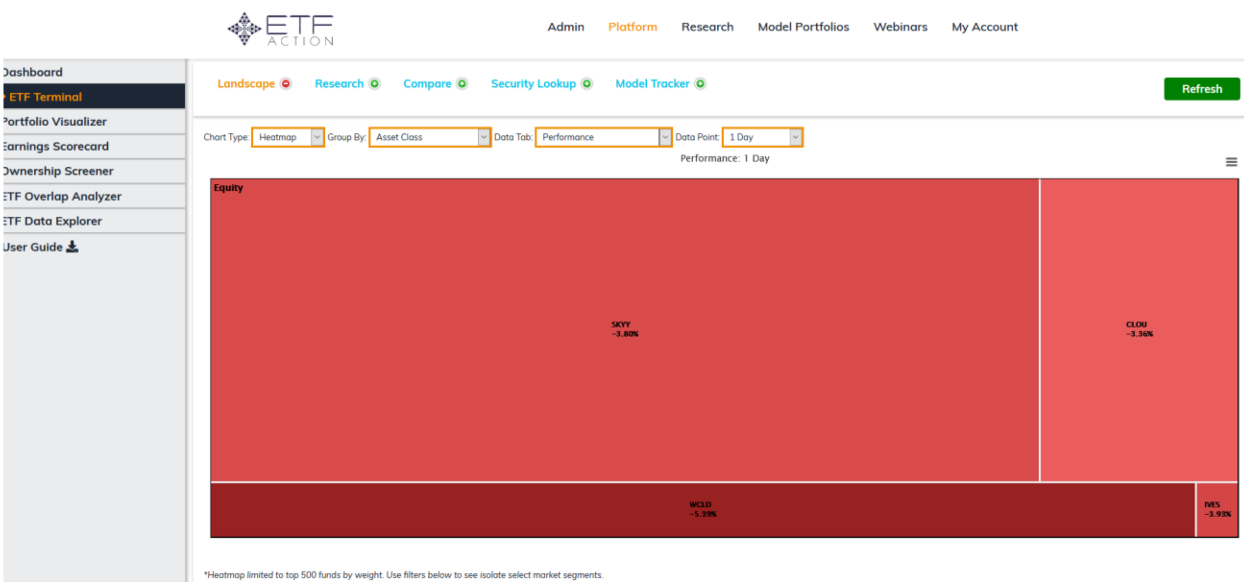
By default, the **Landscape Heatmap** loads the top 500 largest ETFs by assets under management. But custom sets of ETFs can be loaded into the Landscape Heatmap from the **Research Lens** and the **Model Tracker.**

Loading ETFs Into The Landscape Lens From The Research Lens

To load a list of ETFs from the **Research Lens**, simply type the desired tickers into the **ETF Navigational Bar**, then click "Landscape" from the top of the screen:



Back to Table of Contents



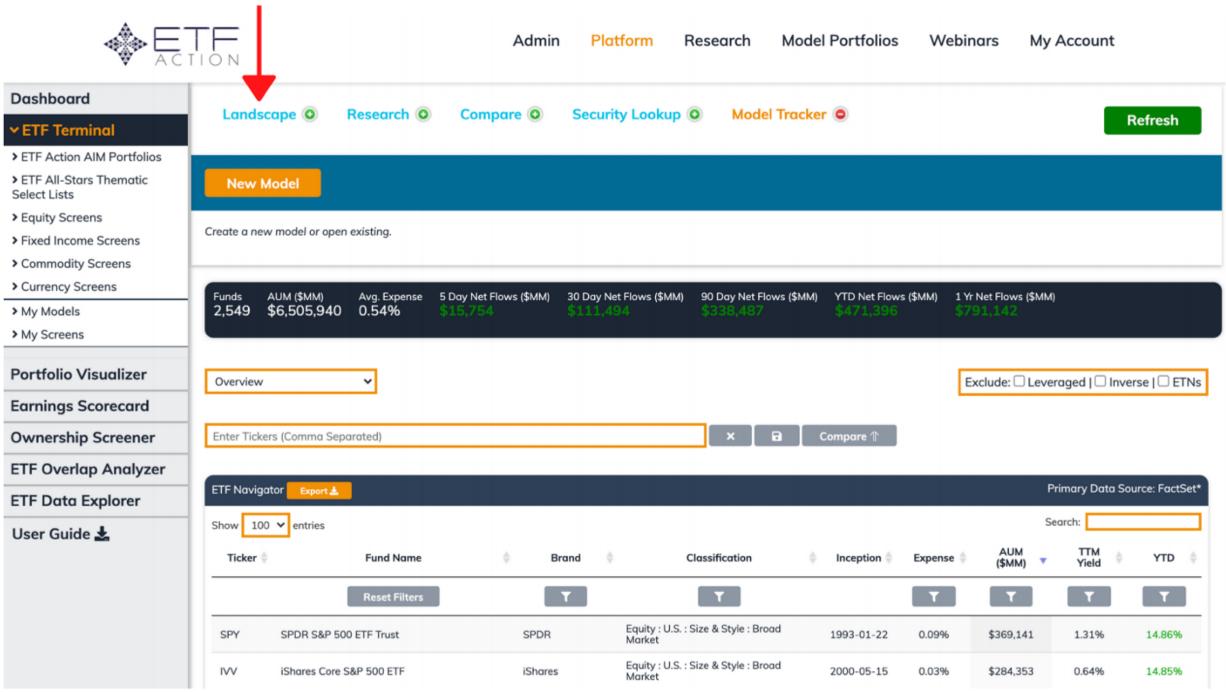
To return to the Research Lens, click "Research" at the top of the screen.

To specify a new set of ETFs to visualize in the heatmap, change the tickers in the **ETF Navigational Bar** of the **Research Lens**.

How To Load ETFs Into The Landscape Lens From the Model Tracker

To load a list of ETFs from the **Model Tracker**, simply load the desired model portfolio or saved screen into the Model Tracker from the left sidebar (see: "Model Tracker"). Then click "Landscape" from the top of the screen.

Back to Table of Contents



Portfolios that can be viewed as a Landscape Heatmap may include:

- The **ETF Action AIM Portfolios**[P]
- The **ETF All-Stars® Thematic Select Lists**[P]
- Prebuilt **Equity, Fixed Income, Commodity** and **Currency** Screens

Back to Table of Contents

- Saved custom model portfolios, under "My Models"ᴾ
- Saved screens from the Research Lens, under "My Screens"

ᴾ*: Indicates a selection that is only available to Professional subscribers.*

To close the Landscape Heatmap and return to the Model Tracker, click "Model Tracker" at the top of the screen.

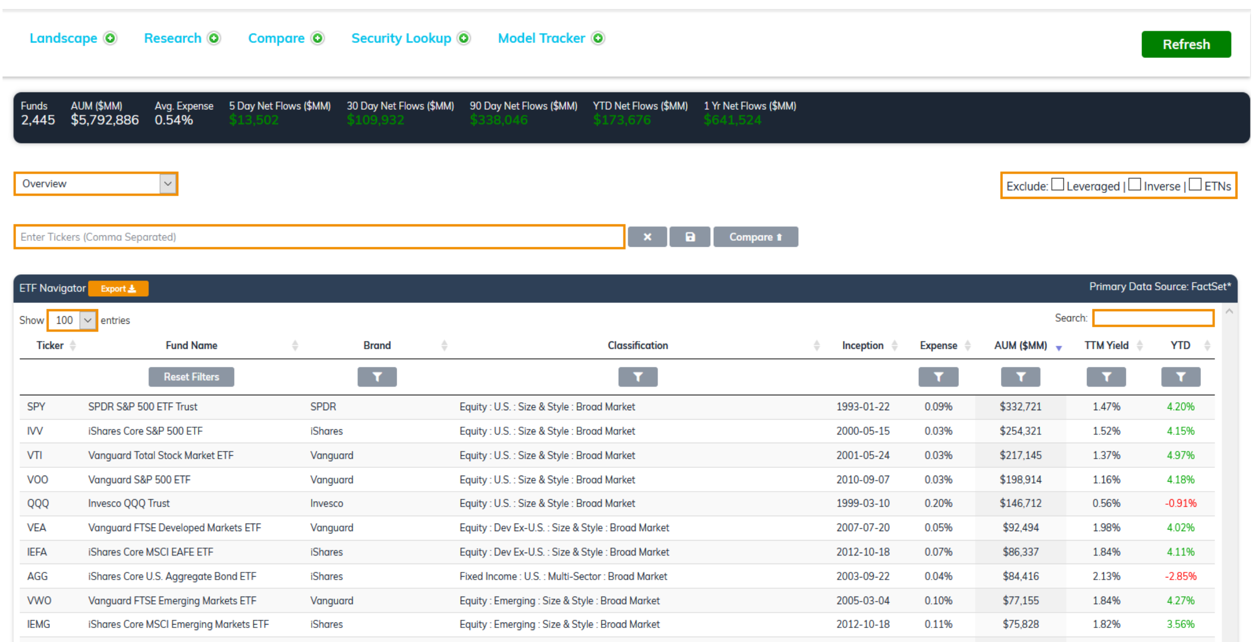
To specify a new model or screen to visualize in the Landscape Heatmap, change the model or screen in the Model Tracker.

How To Export The Landscape Heatmap

The Landscape Heatmap graphic, as well as the data underpinning it, can be exported to a variety of file formats by clicking the three parallel lines in the top right corner of the chart.

The Landscape Heatmap can be viewed in full screen, printed, or exported to a .png, .jpeg, .pdf, or .svg file; while the data underpinning the Landscape Heatmap can be exported to a .csv or .xls file.

Research Lens



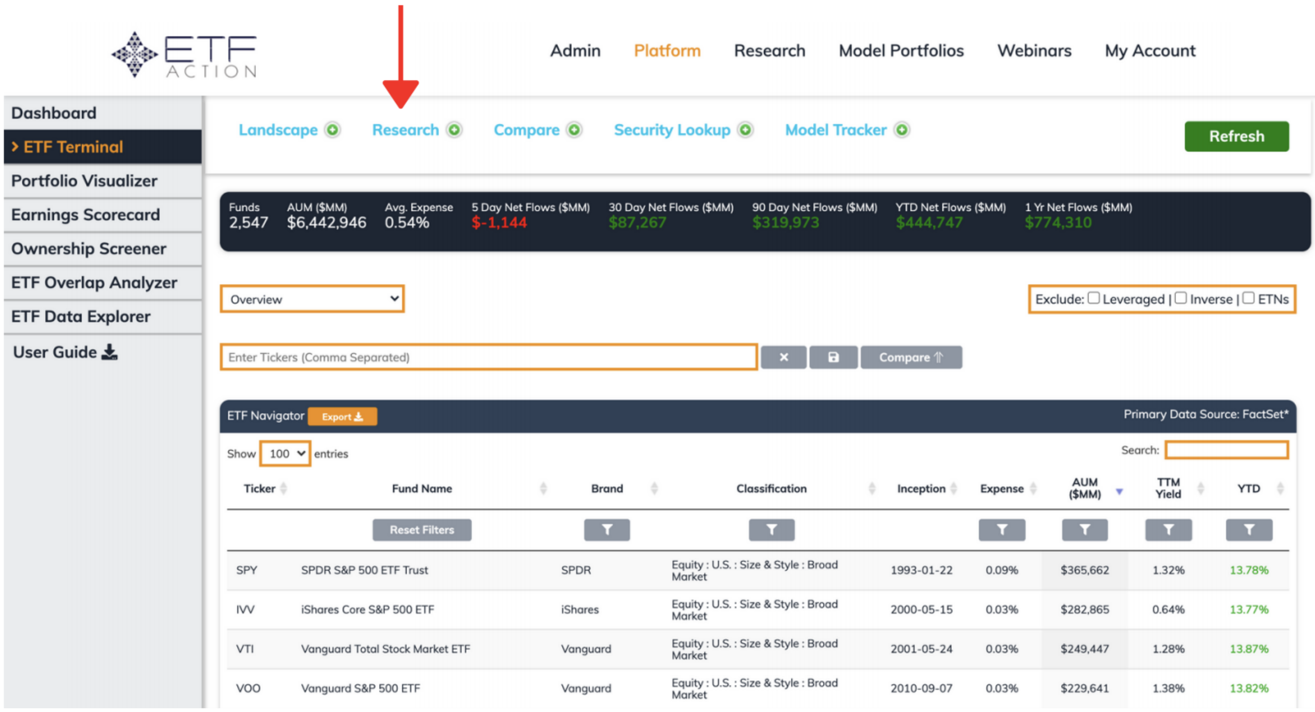
The **Research Lens** is a powerful, all-in-one ETF screener, comparative tool, research database, and visualization generator. It is split into two main modules:

- The **ETF Navigator**, which allows you to access and analyze thousands of data points in our database of over 2,400 ETFs;
- The **ETF Research Frames,** which allow you to drill deep into data and statistics for individual ETFs.

Each are discussed in more detail in the sections that follow.

Back to Table of Contents

By default, the **Research Lens** is set to the **ETF Navigator.** By clicking on the green "plus" sign next to the "Research" menu tab at the top of the platform, you can call up the **ETF Search Box**, allowing you to access the **Research Frames** for individual ETFs.

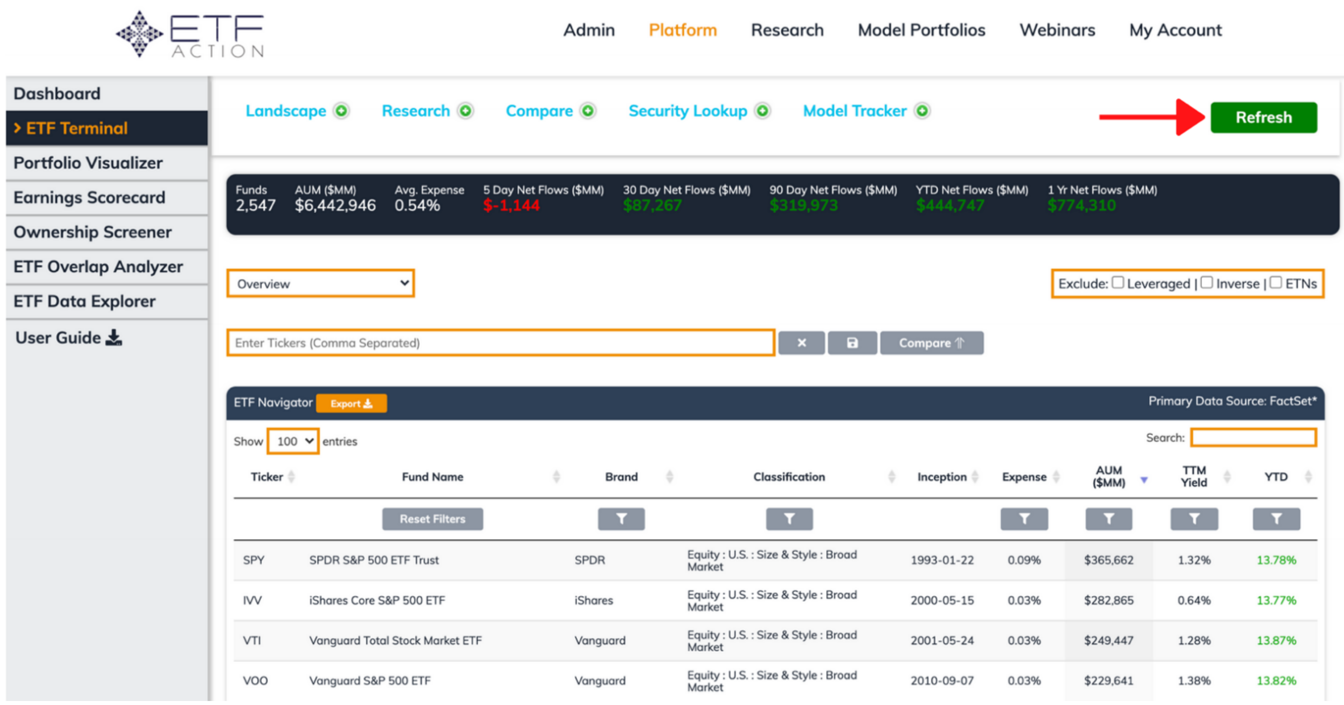


You can also click on an individual ETF's entry in the **ETF Navigator Table** to call up the **Research Frames** for that ETF.

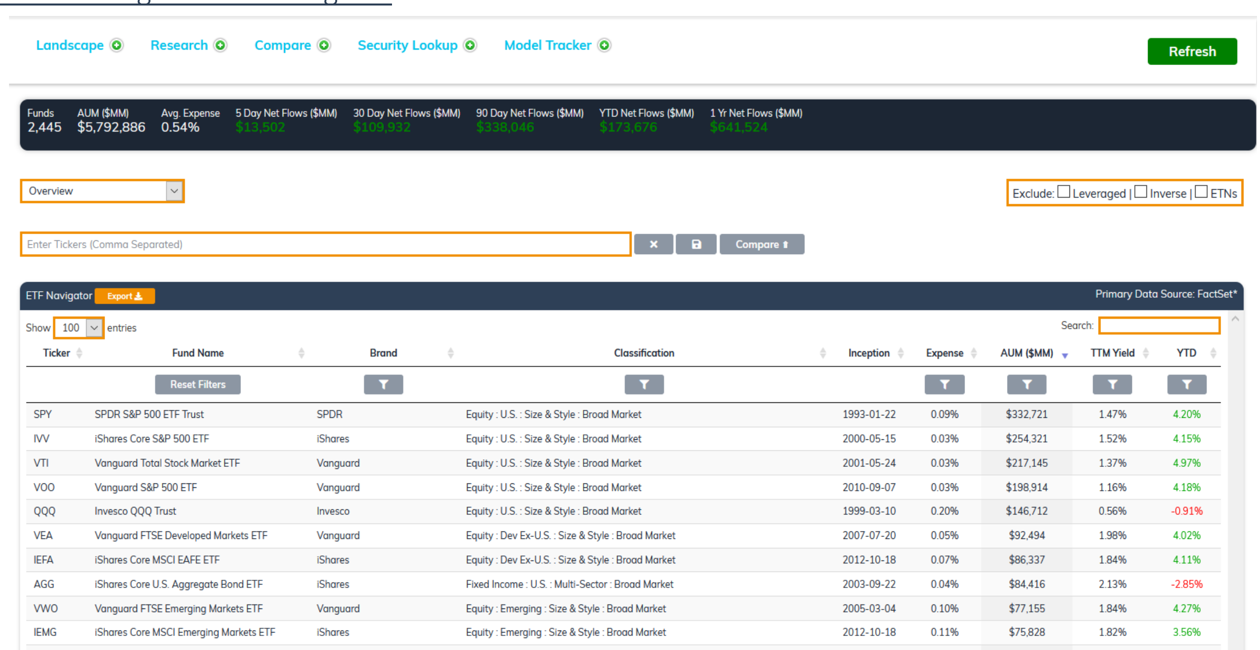
NOTE: How To "Hard Reset" The ETF Action Platform

To conduct a new search, load a new set of ETFs into a given Toolset, or create a new model, it is not necessary to manually reset or refresh the **ETF Action** platform each time. However, given that searches and queries persist across Toolsets, sometimes it is faster and more desirable to clear existing work all at once.

To reset the ETF Action platform completely and start afresh, click the green "Refresh" button at the top of the **ETF Terminal,** found in the **Research Lens:**



Understanding The ETF Navigator



The **ETF Navigator** is a screening tool that allows you to quickly find, filter, and compare fund-level data on ETFs from among the 2,400+ funds in our database, including exposures, performance, technical indicators, growth estimates, and key equity ratios. It consists of two main modules:

Back to Table of Contents

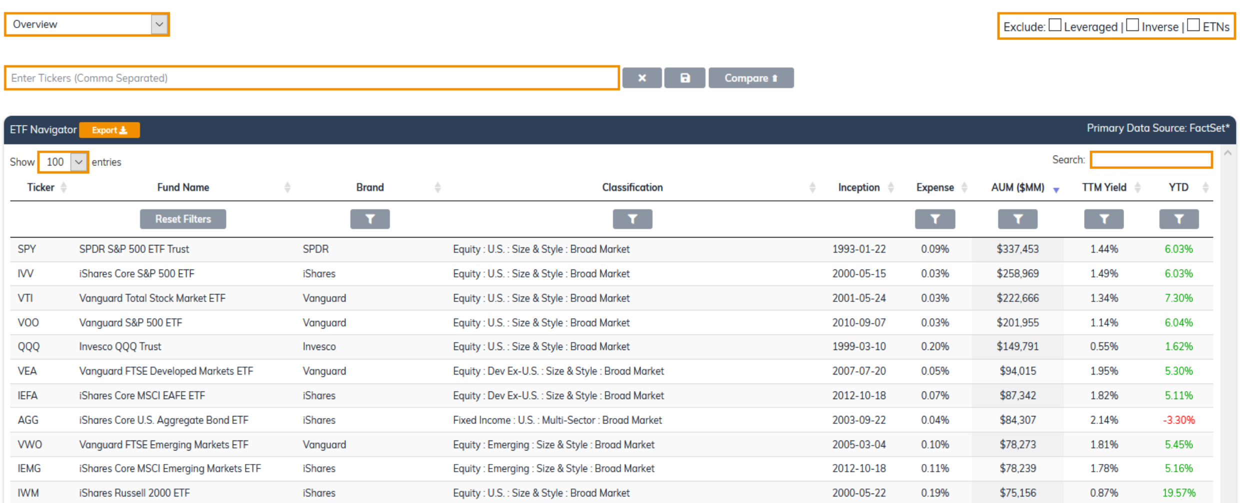
- An **ETF Navigator Summary Statistics Bar,** which summarizes key flows information for the selected set of ETFs
- An **ETF Navigator Table,** which lists specified data for the selected set of ETFs

The ETF Navigator Summary Statistics Bar

Summary information about the selected set of ETFs, including net flows across several time periods, appears at the top of the ETF Navigator in the **ETF Navigator Summary Statistics Bar.** This bar dynamically updates, based on your search results in the **ETF Navigator Table.** The listed data points include:

- *Funds:* Total number of funds in the selected set
- *AUM ($MM):* Total assets under management of the ETFs in the selected set
- *Avg. Expense:* The simple average expense ratio of all the ETFs in the selected set
- ***5 Day Net Flows ($MM):*** The net flows for all the ETFs in the selected set over the past five market trading days.
- ***30 Day Net Flows ($MM):*** The net flows for all the ETFs in the selected set over the past 30 market trading days.
- ***90 Day Net Flows ($MM):*** The net flows for all the ETFs in the selected set over the past 90 market trading days.
- ***YTD Net Flows ($MM):*** The net flows for all the ETFs in the selected set year-to-date.
- ***1 Yr Net Flows ($MM):*** The net flows for all the ETFs in the selected set over the past 12 months of market trading days.

The ETF Navigator Table



Ticker	Fund Name	Brand	Classification	Inception	Expense	AUM ($MM)	TTM Yield	YTD
SPY	SPDR S&P 500 ETF Trust	SPDR	Equity : U.S. : Size & Style : Broad Market	1993-01-22	0.09%	$337,453	1.44%	6.03%
IVV	iShares Core S&P 500 ETF	iShares	Equity : U.S. : Size & Style : Broad Market	2000-05-15	0.03%	$258,969	1.49%	6.03%
VTI	Vanguard Total Stock Market ETF	Vanguard	Equity : U.S. : Size & Style : Broad Market	2001-05-24	0.03%	$222,666	1.34%	7.30%
VOO	Vanguard S&P 500 ETF	Vanguard	Equity : U.S. : Size & Style : Broad Market	2010-09-07	0.03%	$201,955	1.14%	6.04%
QQQ	Invesco QQQ Trust	Invesco	Equity : U.S. : Size & Style : Broad Market	1999-03-10	0.20%	$149,791	0.55%	1.62%
VEA	Vanguard FTSE Developed Markets ETF	Vanguard	Equity : Dev Ex-U.S. : Size & Style : Broad Market	2007-07-20	0.05%	$94,015	1.95%	5.30%
IEFA	iShares Core MSCI EAFE ETF	iShares	Equity : Dev Ex-U.S. : Size & Style : Broad Market	2012-10-18	0.07%	$87,342	1.82%	5.11%
AGG	iShares Core U.S. Aggregate Bond ETF	iShares	Fixed Income : U.S. : Multi-Sector : Broad Market	2003-09-22	0.04%	$84,307	2.14%	-3.30%
VWO	Vanguard FTSE Emerging Markets ETF	Vanguard	Equity : Emerging : Size & Style : Broad Market	2005-03-04	0.10%	$78,273	1.81%	5.45%
IEMG	iShares Core MSCI Emerging Markets ETF	iShares	Equity : Emerging : Size & Style : Broad Market	2012-10-18	0.11%	$78,239	1.78%	5.16%
IWM	iShares Russell 2000 ETF	iShares	Equity : U.S. : Size & Style : Broad Market	2000-05-22	0.19%	$75,156	0.87%	19.57%

The **ETF Navigator Table** provides hundreds of metrics for all U.S.-listed ETFs and ETNs within the ETF Action Classification system. There are 19 categories, accessible from the dropdown menu right under the **ETF Navigator Summary Statistics Bar.** These categories include:

- *Overview:* Lists tickers, fund names, brand, ETF Action Classification, inception date, expense ratio, total assets under management, trailing-twelve-month yield, and YTD performance for all the ETFs in the selected set.
- *ETF Action Classification:* Lists the twelve-part groupings for each ETF in the ETF Action Classification System, from highest level ("Asset Class" and "Sub-Asset Class") to more granular ("Implementation" and "Discipline")
- *Organization:* Details about the service providers for each of the ETFs in the selected set, including issuer, advisor, sub-advisor (if any), distributor, index provider (if any), and listing exchange.
- *Index & Structure:* Details about each ETF's index or active methodology, including index name, index selection criteria, index weighting scheme, type of exchange-traded product, legal structure, leverage factor, currency hedge (if any), tax reporting form, and frequency of dividends.
- *Performance:* Provides performance data for each ETF in the selected set, on time frames ranging from one day to 10 years.
- *FactSet Ratings:* Provides FactSet ratings for each ETF in the selected set, including benchmark, R-squared data, and beta data; efficiency, tradability, and fit scores; segment comparisons; and closure risk.
- *Flows:* Provides net flows information for each ETF in the selected set, on time frames ranging from one day to 5 years.
- *Trading & Liquidity:* Provides data on trading costs and liquidity for each ETF in the selected set, including median premiums/discounts, spreads, average and median trading volumes, and overlap with U.S. market hours.
- *Technical Analysis:* Provides data on technical indicators for each ETF in the selected set, including % away from 52-week high/low; % above/below the 50-day and 200-day moving averages, and 14-day RSI.
- *Equity Composition:* Breaks down the equity exposures for each ETF in the selected set, including the number of holdings, the weighted average market capitalization of the ETF, the % of the portfolio allocated to the ten largest holdings; regional exposures; and market capitalization (size) exposures.
- *Equity GICS Sector:* Breaks down the sector exposure for each ETF in the selected set across the 12 GICS sectors.
- *Equity Key Ratios:* Provides data on twelve equity key ratios, including yield; gross and net margins; ROE and ROA; P/E, P/S, P/BK, and P/CF ratios; interest coverage; long-term D/E; and payout ratio.
- *Key Ratios vs. 5Y Avg:* The above twelve equity key ratios, as compared to their five-year averages; expressed as a percentage.
- *Growth Estimates:* Growth estimates for fundamentals for each stock, including earnings per share, sales per share, cash flow per share, and book value per share; over both the current fiscal year and next year.
- *2021E Trends:* Average analyst estimates for earnings and sales, over the next month, three months, six months, and twelve months.
- *Equity Ratings & Targets:* Deeper detail on analyst ratings for the stocks inside ETFs, including coverage percentage; number of analysts; percentage of analysts rating each ETF buy/overweight, hold, or

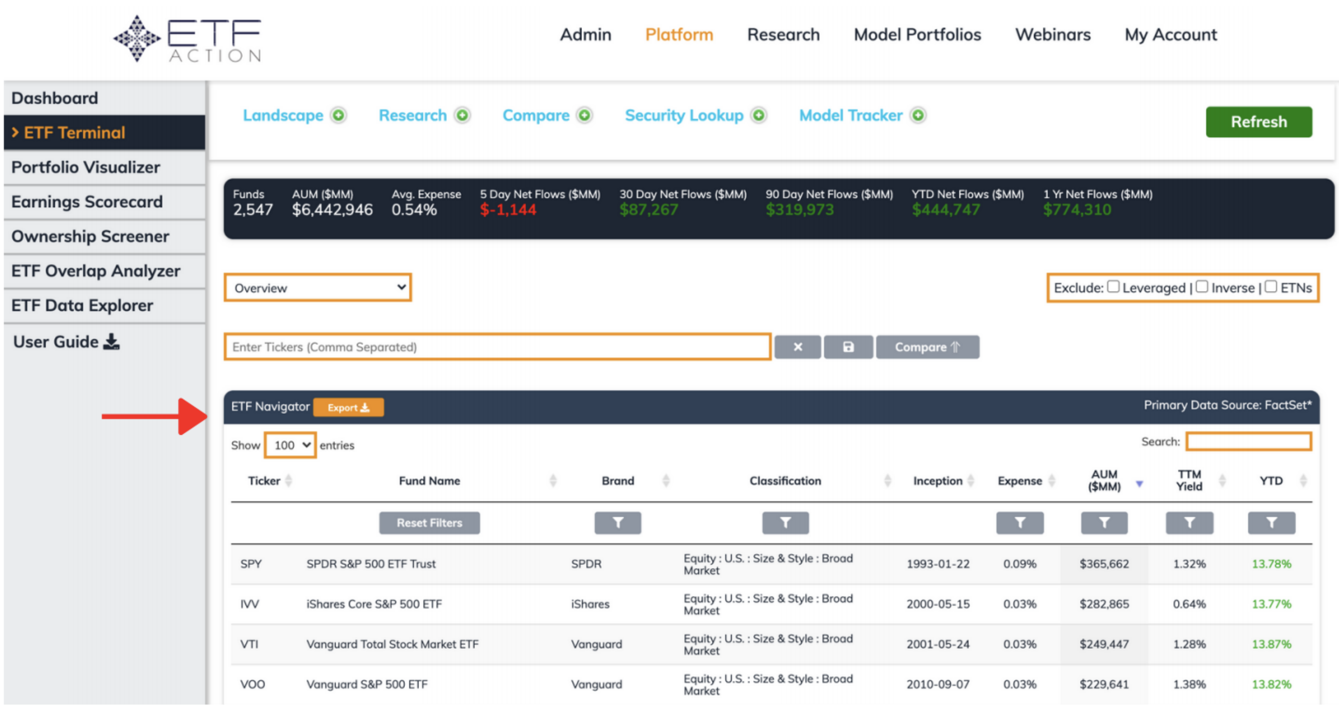
Back to Table of Contents

sell/underweight; implied price return; and change in rating over one month, three months, six months, and twelve months.

- *Fixed Income Issue Type:* Details about the holdings within fixed income ETFs, including the percentage of the fund in sovereign debt, corporates, municipal debt, asset backed securities, mortgage backed securities, and bank loans.
- *Fixed Income Fundamentals:* Data about fund-level fundamentals of fixed income ETFs, including yield to maturity, yield to worst, average coupon rate, option adjusted spread (in basis points), effective duration, and average life of constituents.

Changing How The ETF Navigator Table Displays Entries

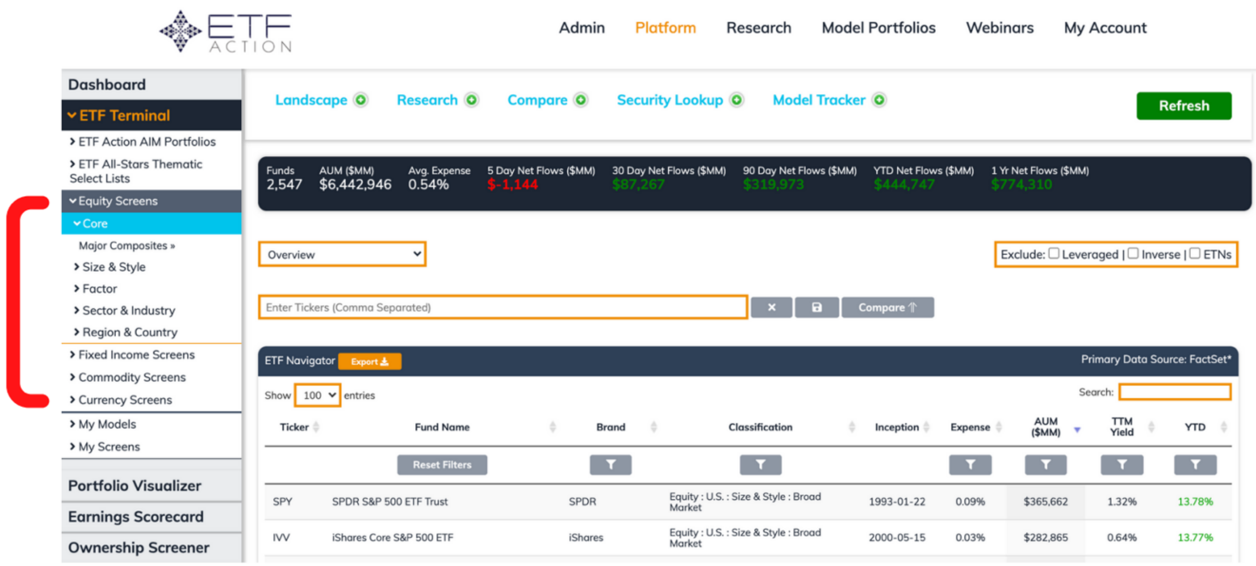
By default, the ETF Navigator Table displays the top 100 largest ETFs (by asset management) in the ETF Action database, which consists of 2,400+ funds. To change the number of entries displayed, use the *Show Entries* dropdown menu, and select 10, 25, 50, 100, or All.



To organize the **ETF Navigator Table** results in ascending or descending order, click the small up and down arrows at next to the heading of each column.

How To Use The Pre-Built ETF Action Screens

ETF Action comes loaded with several pre-built equity, fixed income, commodity, and currency ETF screens. To select one of these pre-built screens, use the navigational menus on the grey left-hand sidebar:

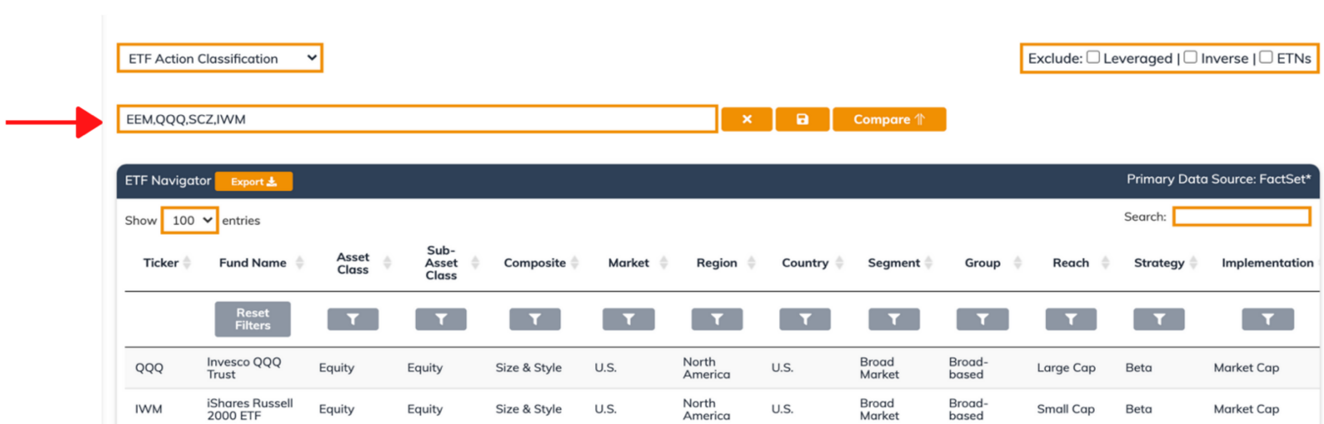


How To Look Up ETFs In The ETF Navigator

There are several ways to screen the database for a desired set of ETFs, including:

- Typing in individual tickers
- Using the filters
- Using the search buttons

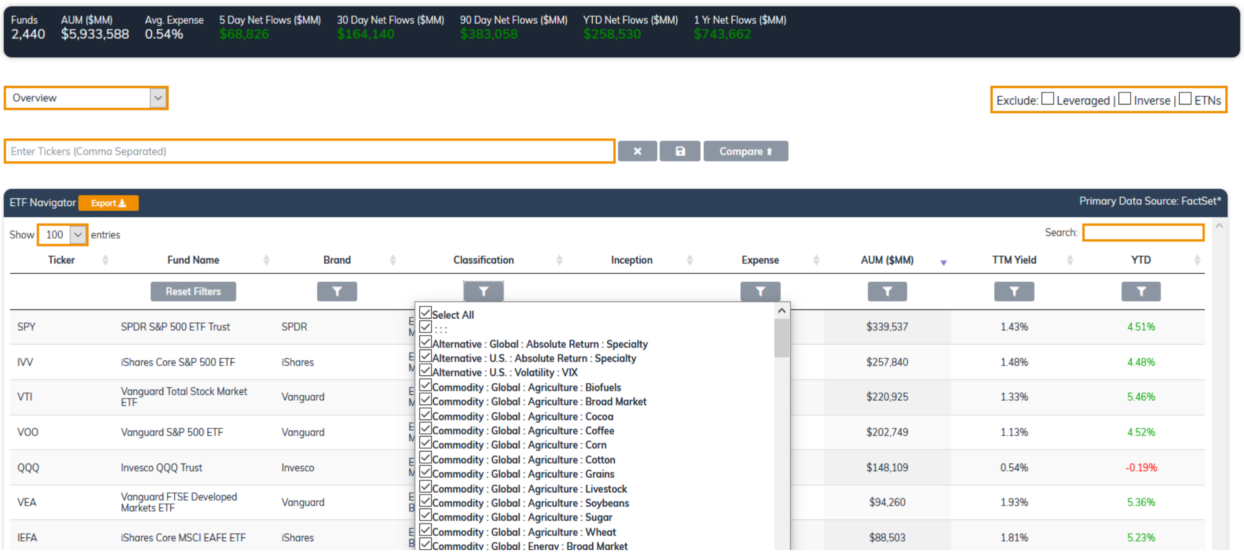
How To Search For ETFs By Ticker



Back to Table of Contents

To search a list of known ETFs, enter their tickers into the **ETF Navigational Bar** (the orange navigational field pictured above). As you type the ticker, the funds will automatically populate the **ETF Navigator Table** below. Be sure to separate each entry with a comma.

How To Search For ETFs Using Filters



The powerful ETF Action filters can be used to narrow down entries, as well. Filters can be set by clicking the grey **Filter Button**  , located above each column in the **ETF Navigator Table.**

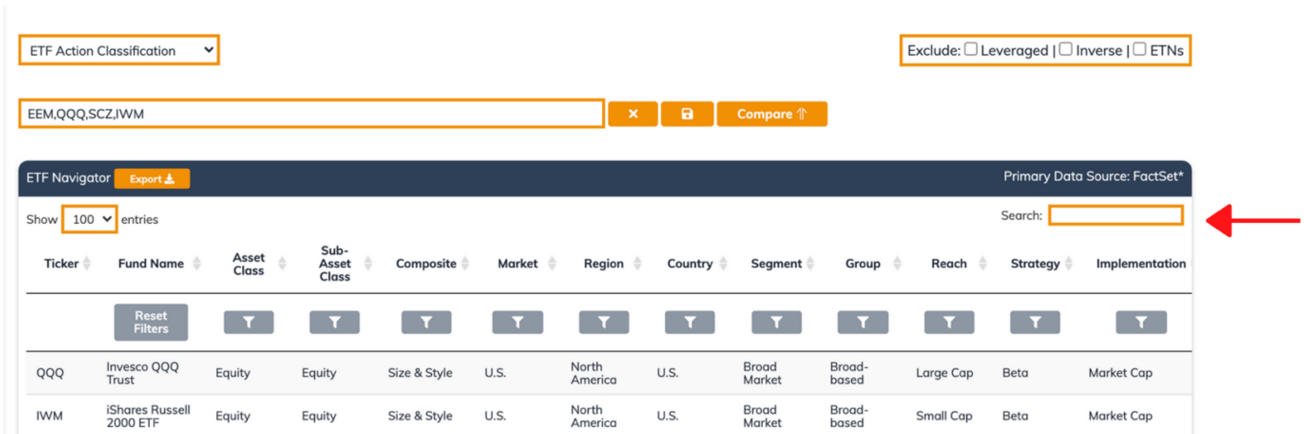
This will open a **Filter Menu,** where you can then select checkboxes to specify classification categories or set a specific numerical range for the data, as appropriate. Click the Filter button again to close and apply the specified settings.

Results will automatically populate in the **ETF Navigator Table** as Filters are applied. To reset filters, click the **Reset Filters** button at the top of the table under the "Fund Name" heading.

The **Filters** can be used in tandem with the **ETF Navigational Bar** and the **Search Bar;** using one or many filters automatically narrows down the results produced by a search in the ETF Navigator Bar and/or Filters.

Back to Table of Contents

How To Search For ETFs Using The Search Bar

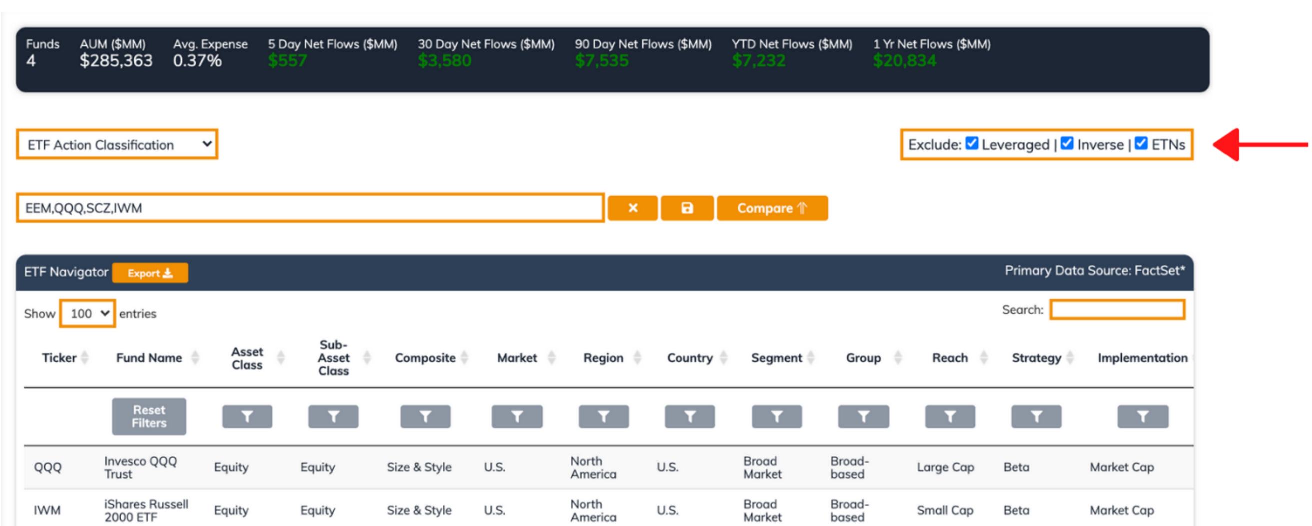


To search for a specific keyword, such as an investment theme or brand name, type a keyword into the **Search Bar** (as indicated above), then click Enter. Search results will automatically populate in the **ETF Summary Table** in the ETF Classification module.

The **Search Bar** can be used in tandem with the **ETF Navigational Bar** and the **Filters;** typing a keyword into the Search Bar automatically narrows down the results produced by the Navigational Bar and/or Filters.

How To Exclude Leveraged ETPs, Inverse ETPs, and ETNs

To exclude leveraged and inverse exchange-traded products (ETPs) or exchange-traded notes (ETNs) from the list of potential results, use the check boxes in the upper right corner of the **ETF Navigator Table:**

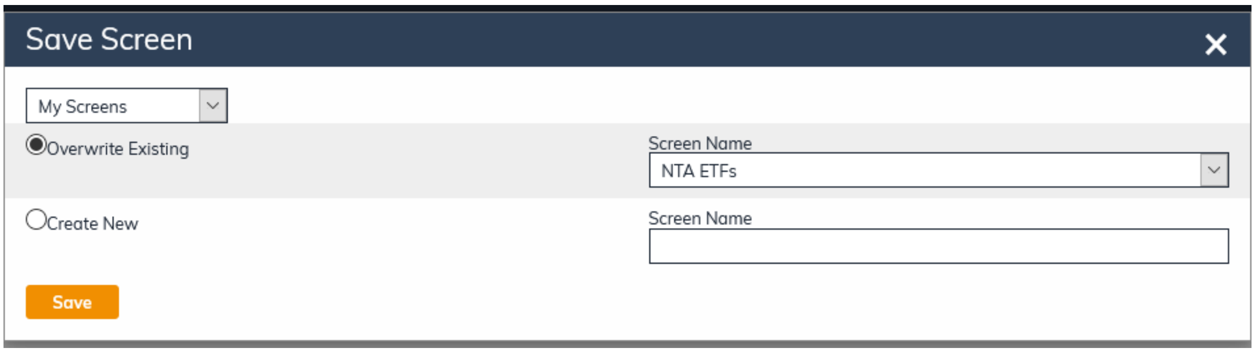


Back to Table of Contents

How To Save Screens For Later

The **ETF Navigator** provides several ways for you to save your search results or "screens" for later access and analysis.

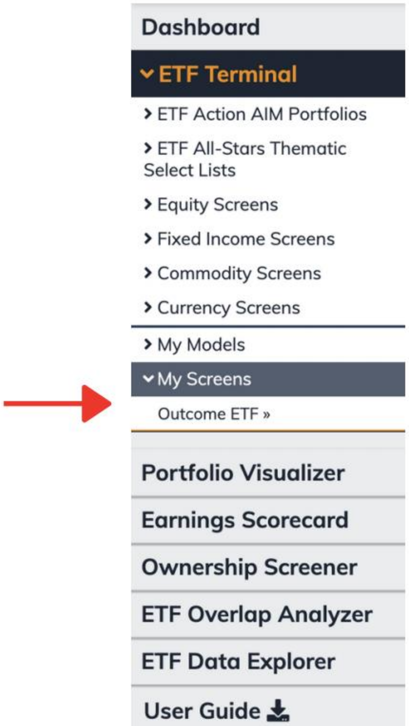
To save a list of individual tickers entered into the **ETF Navigational Bar**, click the orange floppy disk button. 
A pop-up menu will launch, allowing you to either create a new Saved Screen, or overwrite an existing one:



To save, click the orange "Save" button in the lower left corner. **Note: Presently, the Save Screen functionality does not work with a list of ETFs produced by using the Filters or the Search Bar. To save these searches, one must first manually enter the tickers into the ETF Navigational Bar.**

To call up a Saved Screen, use the navigational menus on the grey left hand sidebar to select "My Screens," then the desired Saved Screen:

Back to Table of Contents



How To Export The Data In The ETF Navigator Table

Once a set of ETFs has been set in the **ETF Navigator Table,** the data accessible in the **ETF Navigator Table** can be exported, category by category, to a .csv file by clicking on the orange **Export** button next to the Table Title: "ETF Navigator".

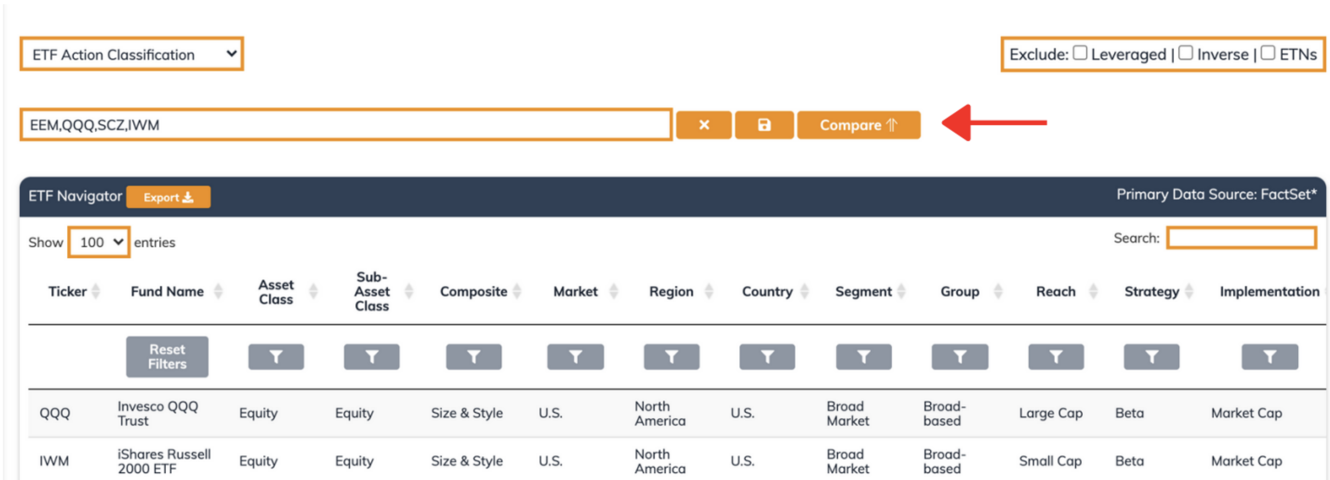
After clicking this button, a download window will pop up, indicating your data is ready to open or save.

How To Load Screens Into The Compare Lens

Additional data analysis and comparison can be performed on a set of results from the **ETF Navigator** by loading it into the **Compare Lens,** including comparisons of performance and flows, risk stats, composition, fundamentals, and holdings. Users can also build **Custom Reports** of **ETF Navigator** results, as well.

To load ETF Navigator results into the Compare Lens, click the orange "Compare" button next to the **ETF Navigational Bar.**

Back to Table of Contents



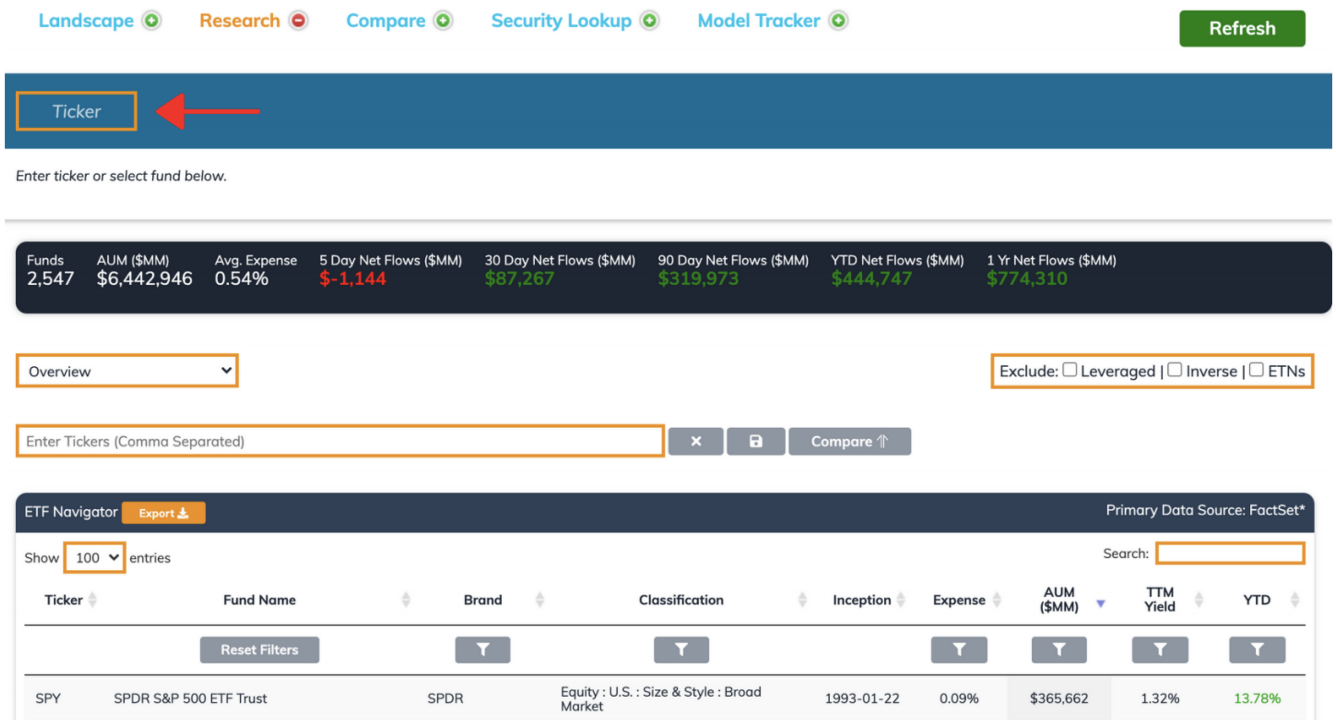
Note: Clicking the green plus sign next to the "Compare" at the top of the ETF Action screen will not automatically load a set of ETF results into the Compare Lens. Only clicking the orange "Compare" button will load the results into the Compare Lens.

ETF Research Frames

The **ETF Research Frames** are interactive visualizations for individual ETFs. (To see visualizations for a group of ETFs, see "Compare Lens.")

There are two ways to access an individual ETF's Research Frames.

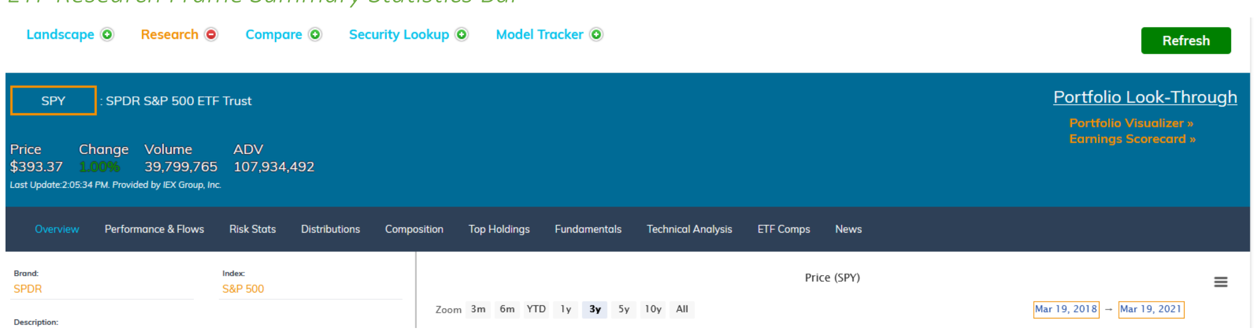
1) You can on its entry in the **ETF Navigator Table.**
2) You can click on the "Research" Menu at the top of the screen, then enter the ETF's ticker in the orange ticker box:



There are ten **ETF Research Frames**, each discussed in more detail in its own section below. The selected **ETF Research Frame** will have its text highlighted in light blue; to change between Research Frames, click on the various Research Frame sub-headings.

To change the selected ETF, type a different ticker into the **Ticker Entry Box** at the top of the **ETF Research Frame Summary Statistics Bar.**

The ETF Research Frame Summary Statistics Bar



As with other Toolsets, at the top of the Research Frames is an ever-present **Summary Statistics Bar** that displays relevant information about the selected ETF, including:

- *Ticker:* Displayed in the **Ticker Entry Box.** Can be changed.
- *Full Fund Name:* Displayed next to the **Ticker Entry Box.**

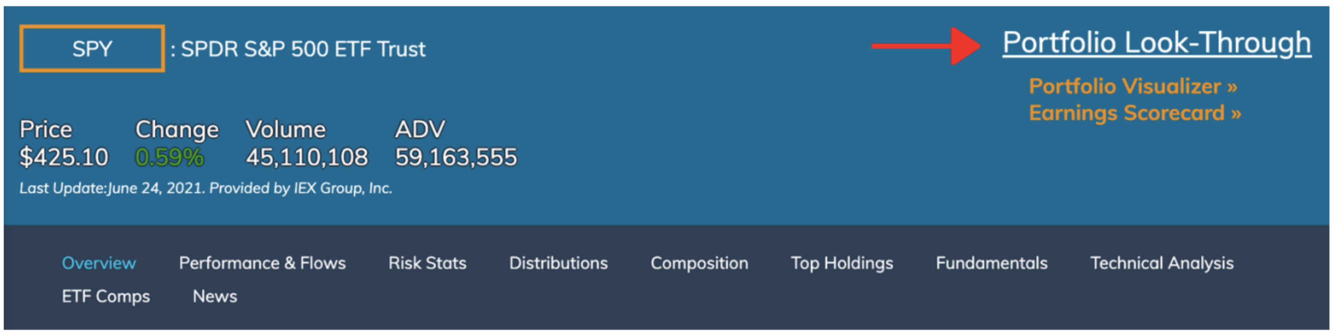
Back to Table of Contents

- *Price:* The most recent price (if accessed after hours, then the ETF's closing price)
- *Change:* Daily price change (in %)
- *Volume:* That day's traded volume (in shares traded)
- *ADV:* 3-day average trading volume (in shares traded)

Trading information in the **ETF Research Frame Summary Statistics Bar,** which is provided by IEX Group, is updated throughout the trading day on a 15-minute delay.

Loading A Selected ETF Into Other Toolsets

From the **ETF Research Frame Summary Statistics Bar,** an ETF's data can be loaded into other Toolsets, including the **Portfolio Visualizer** and the **Earnings Scorecard.**

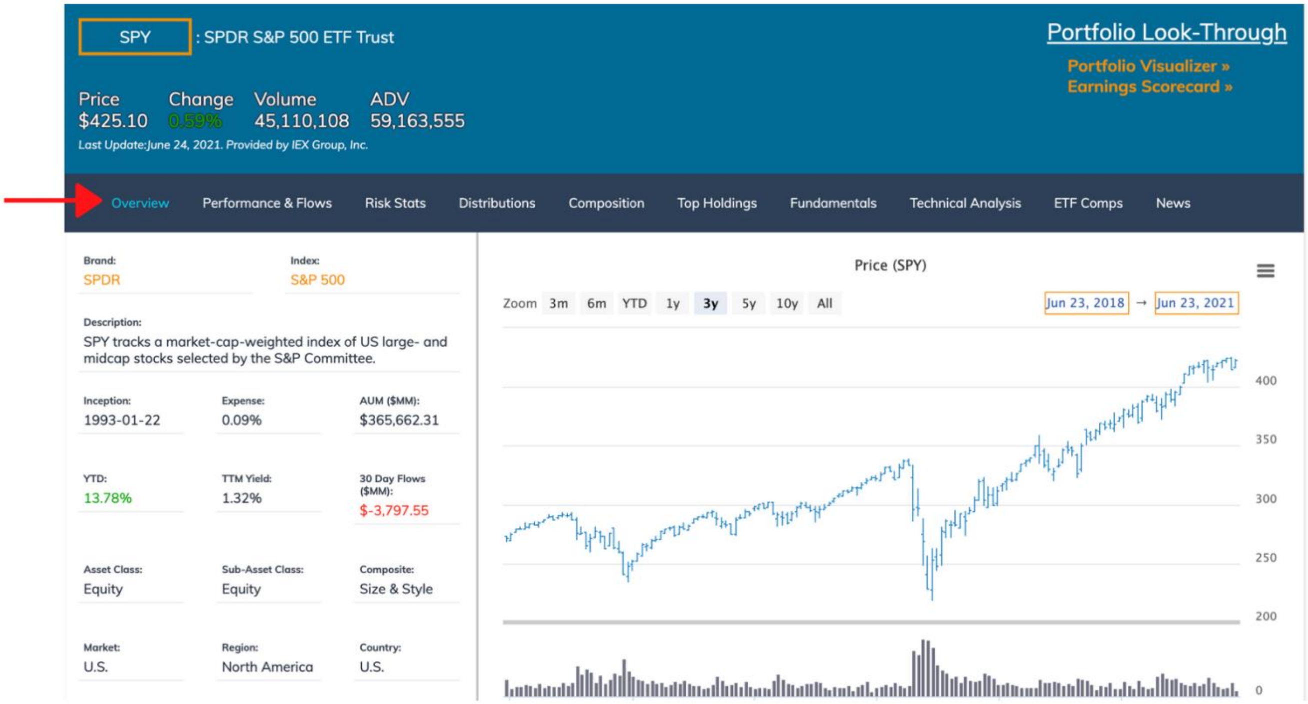


To load an ETF into the **Portfolio Visualizer,** click the orange "Portfolio Visualizer" button under the Menu heading, "Portfolio Look-Through" in the righthand corner of the **ETF Research Frame Summary Statistics Bar.**

To load an ETF into the **Earnings Scorecard,** click the orange "Earnings Scorecard" button under the Menu heading, "Portfolio Look-Through" in the righthand corner of the **ETF Research Frame Summary Statistics Bar.**

Back to Table of Contents

ETF Research Frames: Overview Frame



The **Overview Frame** provides a wealth of at-a-glance information about the selected ETF, including:

- *Brand:* The brand name behind the selected ETF (as opposed to the Issuer of the ETF)
- *Index:* The name of the index the selected ETF tracks, if any
- *Description:* A brief description, provided by FactSet, of the selected ETF's investment objective.
- *Inception:* Date on which the ETF was launched.
- *Expense:* Net expense ratio of the ETF, expressed as a percentage of assets under management (AUM). For commodity pools, the breakeven rate is reported.
- *AUM ($MM):* Total assets under management invested in the fund, in millions of dollars
- *YTD:* The ETF's year-to-date performance
- *TTM Yield:* The ETF's trailing twelve-month yield
- *30 Day Flows ($MM):*
- *Asset Class:* Primary asset class of the securities within the ETF. If more than one is held, the fund is classified as "Multi-Asset."
- *Sub-Asset Class:* Specific strategies, if any, that the fund uses that could result in lower correlations to the returns of the primary asset class (such as leverage/inverse, non-transparent, long/short, fund-of-funds, etc.)
- *Composite:* Broadest classification group for each asset class
- *Market:* Which of four geographical markets the ETF falls into, including **U.S., Developed Ex-U.S., Emerging,** and **Frontier.** ETFs that include multiple primary geographical markets are classified as **Global** or **Global Ex-U.S.**

Back to Table of Contents

- *Region:* Region of focus for the ETF's securities, if stated in the ETF's investment objective. If none stated, then this entry is the same as "Market."
- *Country:* Country of focus, if any, for the ETF's securities. (If none are listed, this will be the same as "Market")
- *Segment:* The Size and Style, Sector, or Thematic exposure of the ETF, as noted in the ETF Action Classification System
- *Group:* Additional refinements of the ETF's classification in the ETF Action Classification System, including industry or Thematic Sub-Category exposure.
- *Reach:* The selected ETF's market capitalization exposure: **Extended Market, Large Cap, Mid Cap, Small Cap, Micro Cap,** and **Total Market.**
- *Strategy:* The selected ETF's ETF Action Classification* Strategy, including sub-categories for **Beta, ESG, Factor, Specialty, Tactical** and **Custom** strategies.
- *Implementation:* The weighting methodology of the ETF's portfolio, including market cap weighting, tiered, alt weighting, and more.
- *Discipline:* Whether the ETF is actively or passively managed

The **Overview Frame** also provides a dynamic, exportable chart of the ETF's historical price and volume. Price is depicted as line graph, while volume is displayed as a bar chart underneath.

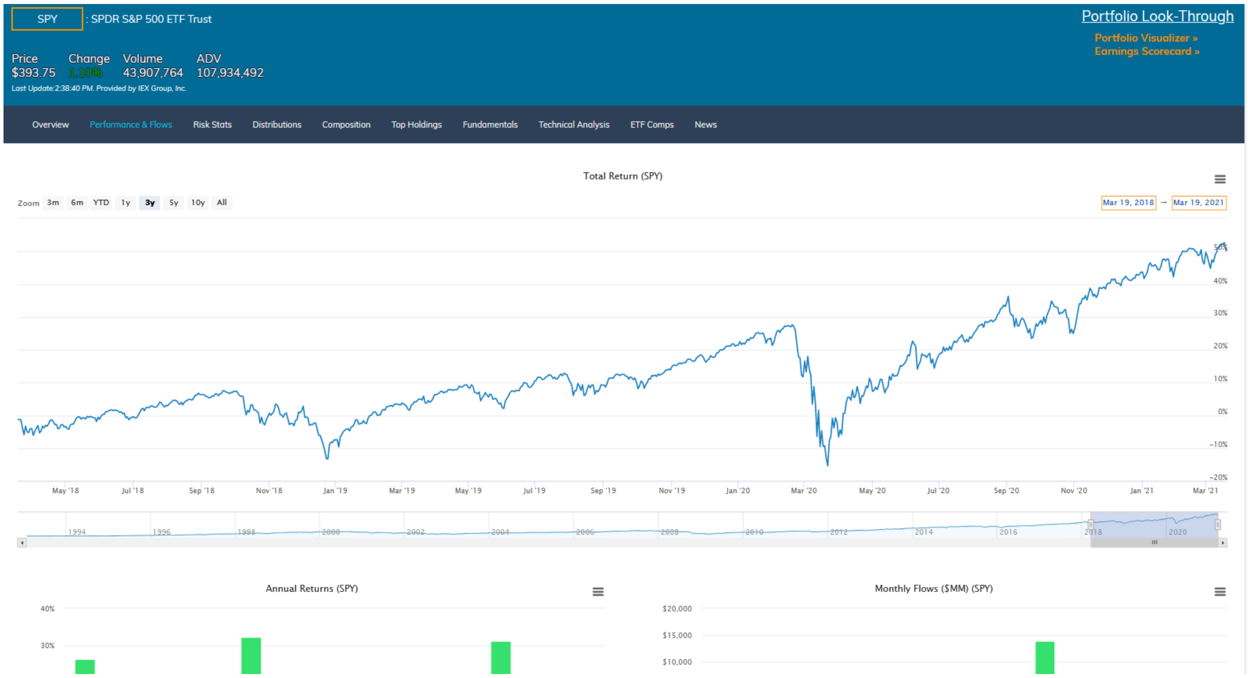
By default, the time frame of the Price Chart is three years (3y), with each data point equal to one week's average price. To change this, select one of the pre-set time frames in the top left corner (3m, 6m, YTD, 1 yr, 3y, 5y, 10y, All); or input a custom time range in the orange boxes in the top right corner. Longer time frames change each data point to monthly, while shorter time frames change each data point to daily.

You can also zoom in on a custom time range by clicking and dragging across the body of the chart. To reset the timeframe, click the grey *Reset Zoom* box on the top right of the chart.

The Price Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

The data underpinning the Price Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

ETF Research Frames: Performance & Flows



The **Performance & Flows Frame** provides dynamic, exportable charts of the ETF's total return and monthly flows. There are three main visualizations:

- **Total Return** for the ETF
- **Annual Returns** for the ETF, dating back 10 years and year-to-date
- **Monthly Flows** for the ETF, including the past 12 calendar months and month-to-date

By default, the time frame for the Total Return chart is three years (3y). To change this, select one of the pre-set time frames in the top left corner (3m, 6m, YTD, 1 yr, 3y, 5y, 10y, All); or input a custom time range in the orange boxes in the top right corner. You can also zoom by clicking and dragging across the body of the chart. To reset the timeframe, click the grey *Reset Zoom* box on the top right of the chart.

By default, the time frame for the Annual Returns chart is since inception or 10 years, whichever is shorter; as well as year-to-date data. This time range is not adjustable as the **Total Return** chart is; to see annual returns farther back than ten years, or in different frequencies (such as quarterly or daily), refer to the **ETF Data Explorer** (see: "**ETF Data Explorer**")

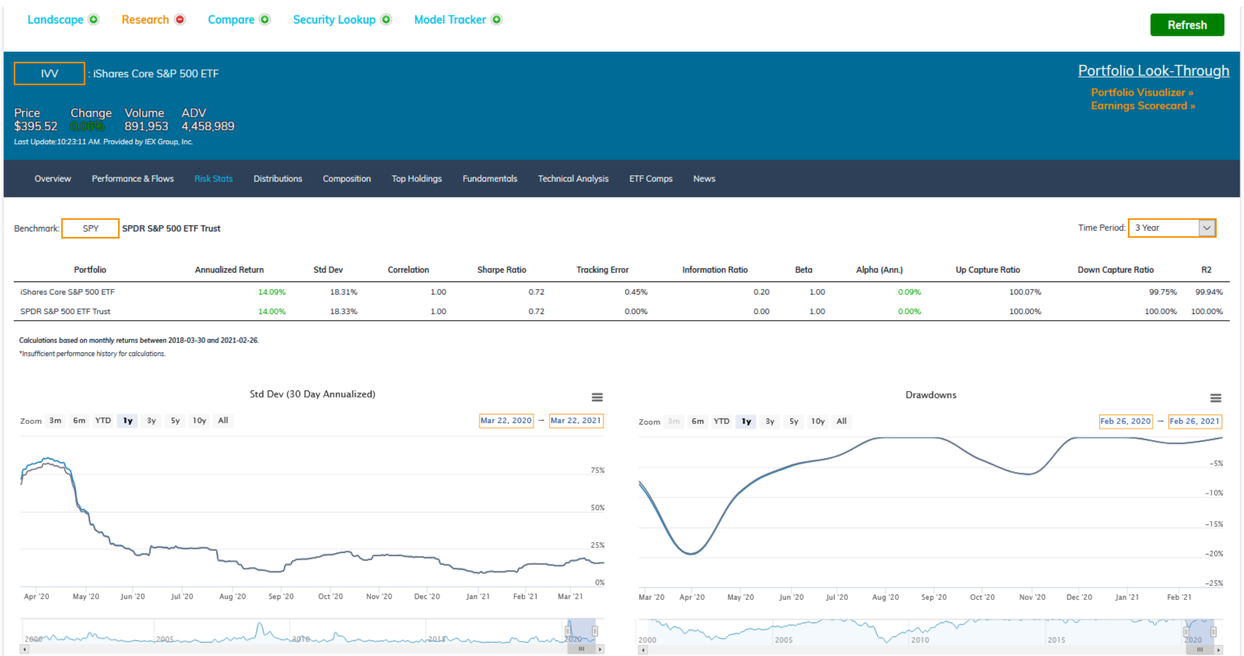
By default, the time frame for the Monthly Flows chart is since inception or the past 12 calendar months, whichever is shorter; as well as month-to-date data. This time range is not adjustable as the **Total Return** chart is; to see monthly flows dating farther back than 12 months, or in different frequencies (such as quarterly or daily), refer to the **ETF Data Explorer** (see: "**ETF Data Explorer**")

All data is current as of the previous day's close.

The Total Return, Annual Returns, and Monthly Flows Charts can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

The data underpinning the Total Return, Annual Returns, and Monthly Flows Charts can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

ETF Research Frames: Risk Stats



The **Risk Stats Frame** provides risk and correlation statistics for ETFs with a track record of at least one year. (If the track record is less than one year, then the **Risk Stats Frame** won't load.)

These risk metrics, which are calculated based on monthly returns and compared to a customizable benchmark ETF, are collated in the **ETF Risk Stats Table**, as well as visualized in the **Volatility** and **Drawdowns Line Charts** (see "**Volatility And Drawdowns Line Charts**" below).

Understanding the ETF Risk Stats Table

The **ETF Risk Stats Table** includes several fields of data, including:

- *Portfolio:* The name of the ETF (or the name of the designated benchmark ETF)
- *Annualized Return:* The annualized return of the fund over the specified time period
- *Std Dev:* Volatility of those returns, over the specified time period
- *Correlation:* Correlation of the ETF's returns to those of the designated benchmark ETF, over the specified time period
- *Sharpe Ratio:* The ETF's Sharpe ratio over the specified time period
- *Tracking error:* The ETF's tracking error relative to its designated benchmark ETF, over the specified time period

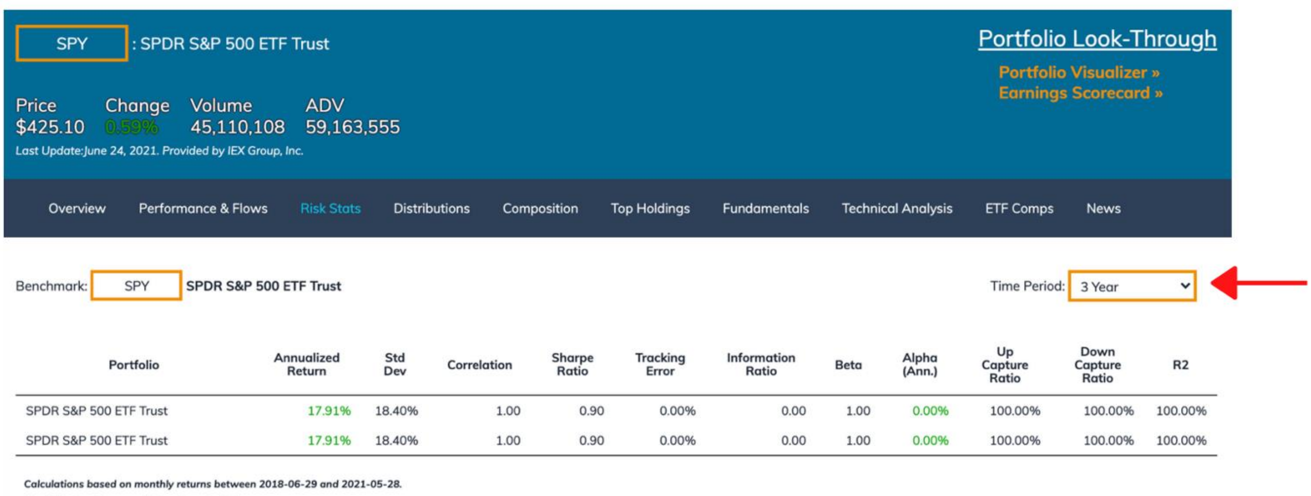
Back to Table of Contents

- *<u>Information Ratio:</u>* The ETF's information ratio, relative to its designated benchmark ETF, over the specified time period
- *<u>Beta:</u>* The ETF's measured beta, over the specified time period
- *<u>Alpha (Ann.</u>*): The ETF's measured annualized alpha, relative to its designated benchmark ETF, over the specified time period
- *<u>Up Capture Ratio:</u>* The ETF's measured up capture ratio, relative to its designated benchmark ETF, over the specified time period
- *<u>Down Capture Ratio:</u>* The ETF's measured down capture ratio, relative to its designated benchmark ETF, over the specified time period
- *<u>R2:</u>* The ETF's R^2, relative to its designated benchmark ETF, over the specified time period

If there is not enough data for one or more of these metrics to be calculated over the selected time period, the metrics will be blank, and the fund marked with an asterisk (*).

Customizing The ETF Risk Stats Table

By default, risk statistics in the table are calculated over a three-year time period. To change this, select a different time frame from the *Time Period* drop down menu in the upper right corner. Available time frames include 1 Year, 3 Years, 5 Years, 10 Years, and Since Inception:



Portfolio	Annualized Return	Std Dev	Correlation	Sharpe Ratio	Tracking Error	Information Ratio	Beta	Alpha (Ann.)	Up Capture Ratio	Down Capture Ratio	R2
SPDR S&P 500 ETF Trust	17.91%	18.40%	1.00	0.90	0.00%	0.00	1.00	0.00%	100.00%	100.00%	100.00%
SPDR S&P 500 ETF Trust	17.91%	18.40%	1.00	0.90	0.00%	0.00	1.00	0.00%	100.00%	100.00%	100.00%

Calculations based on monthly returns between 2018-06-29 and 2021-05-28.
*Insufficient performance history for calculations

Back to Table of Contents

By default, a benchmark fund is assigned based on the ETF's categorization in the ETF Action Classification System. This can be changed by typing a new ticker in the **Ticker Entry Box** at the top of the **Risk Stats Table:**

Portfolio	Annualized Return	Std Dev	Correlation	Sharpe Ratio	Tracking Error	Information Ratio	Beta	Alpha (Ann.)	Up Capture Ratio	Down Capture Ratio	R2
SPDR S&P 500 ETF Trust	17.91%	18.40%	1.00	0.90	0.00%	0.00	1.00	0.00%	100.00%	100.00%	100.00%
SPDR S&P 500 ETF Trust	17.91%	18.40%	1.00	0.90	0.00%	0.00	1.00	0.00%	100.00%	100.00%	100.00%

Volatility And Drawdowns Line Charts

The **Risk Stats Frame** also includes two visualizations: a **Volatility Line Chart** and a **Drawdowns Chart.**

- The **Volatility Line Chart**, titled **Std Dev (30 Day Annualized)**, plots volatility in the ETF's returns over a dynamic time period.
- The **Drawdowns Chart** specifies drawdowns in the ETF over a dynamic time period.

By default, the time frame for both charts is set to one year. This can be changed in three ways:

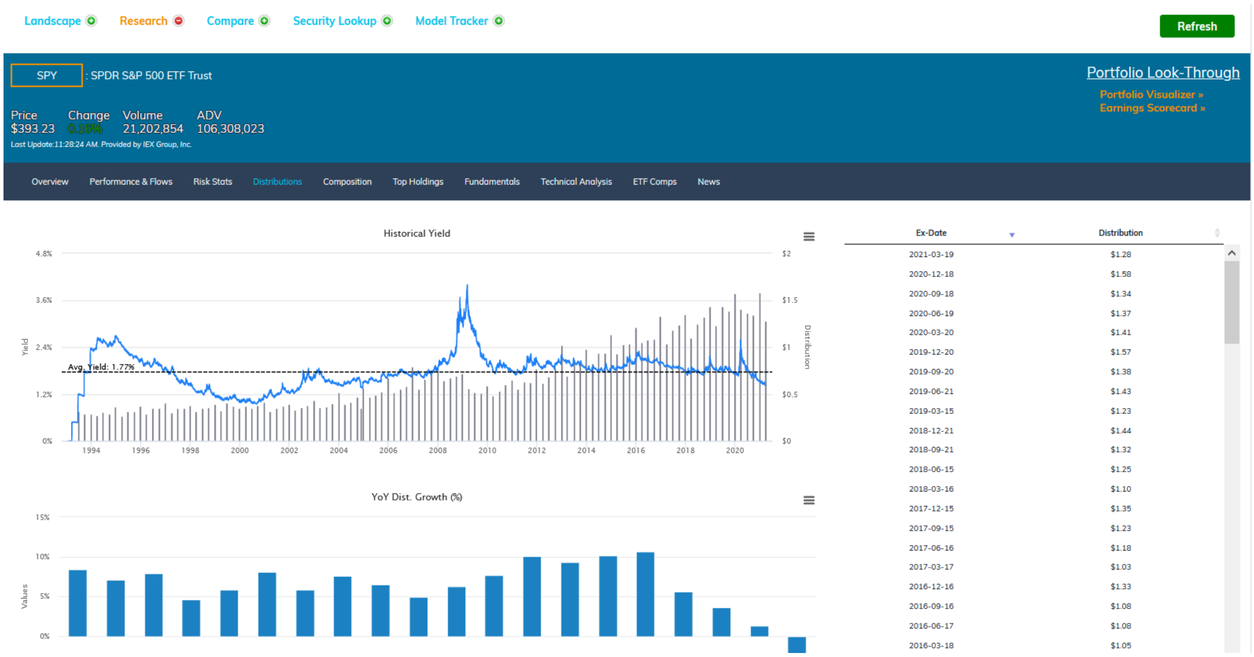
- Selecting a different pre-set time period in the left hand corner (3m, 6m, YTD, 3y, 5y, 10y or All)
- Clicking and dragging on the line chart to zoom in on a specific time period
- Inputting a custom time range in the orange boxes on the righthand corner of the chart.

The **Volatility** and **Drawdown Line Charts** can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

The data underpinning the **Volatility** and **Drawdown Line Charts** can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

Back to Table of Contents

ETF Research Frames: Distributions



The **Distributions Research Frame** provides a closer look at the ETF's historical yield and distribution growth. There are three elements to the Distributions Frame:

1) *Historical Yield:* Overlays the ETF's distribution history on top of a chart of its historical yield. Average yield over the past five years is overlaid as a dotted line.

   By default, data is provided since the ETF's inception. To select a shorter time frame, click and drag across the body of the chart. To reset the timeframe, click the grey *Reset Zoom* box on the top right of the chart.

   The Historical Yield Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

   The data underpinning the Historical Yield Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

2) *YoY Dist. Growth (%):* Displays quarterly distribution growth, as compared to the same period last year, over the past five years' worth of distributions. Values are expressed as percentages.

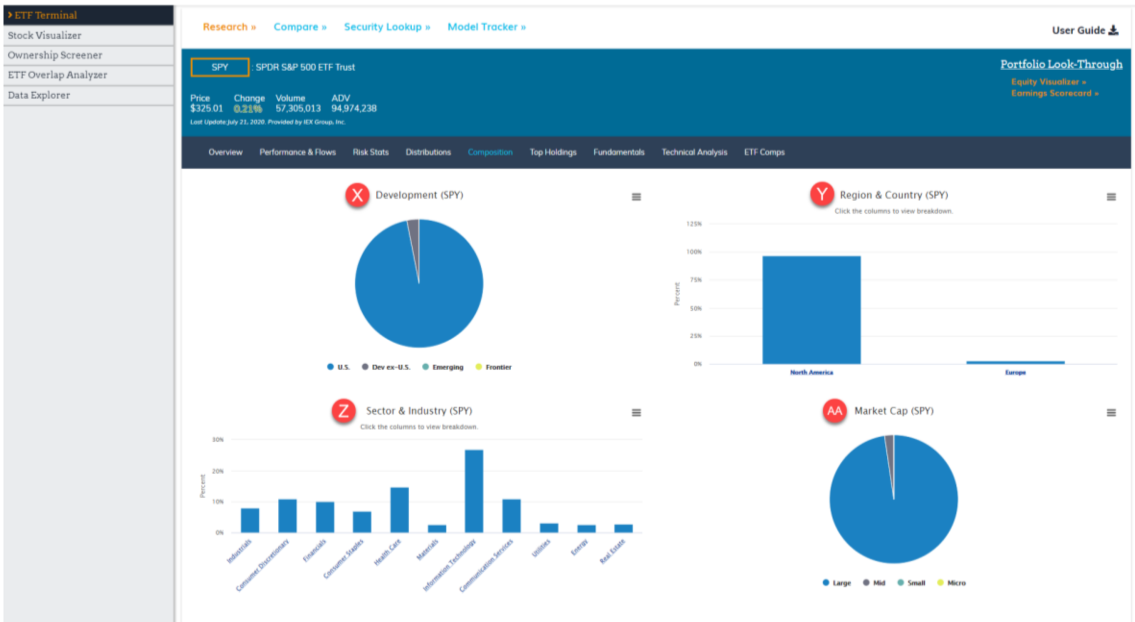
   The YoY Dist. Growth Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

   The data underpinning the YoY Dist. Growth Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

Back to Table of Contents

3) *Distributions Table:* Displays the stock's distribution history since IPO, including ex-date of the distribution and distribution amount. The table is sortable by column, but not yet exportable.

ETF Research Frames: Composition

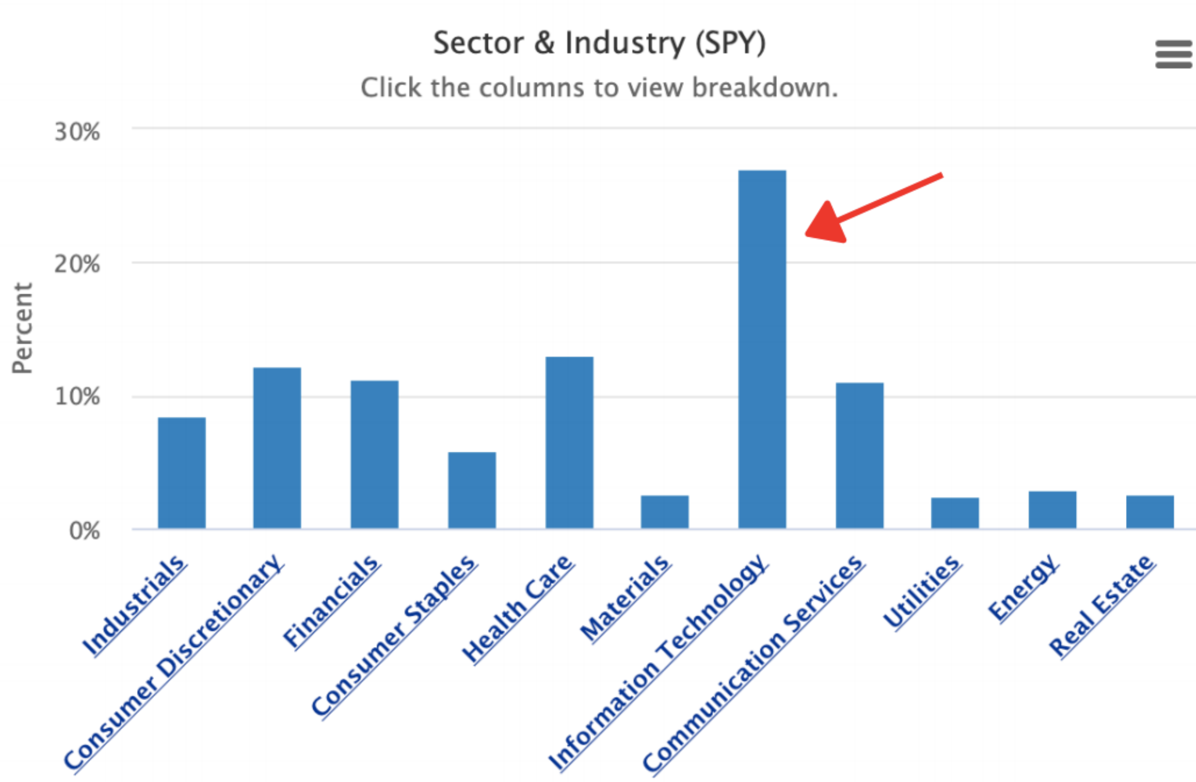


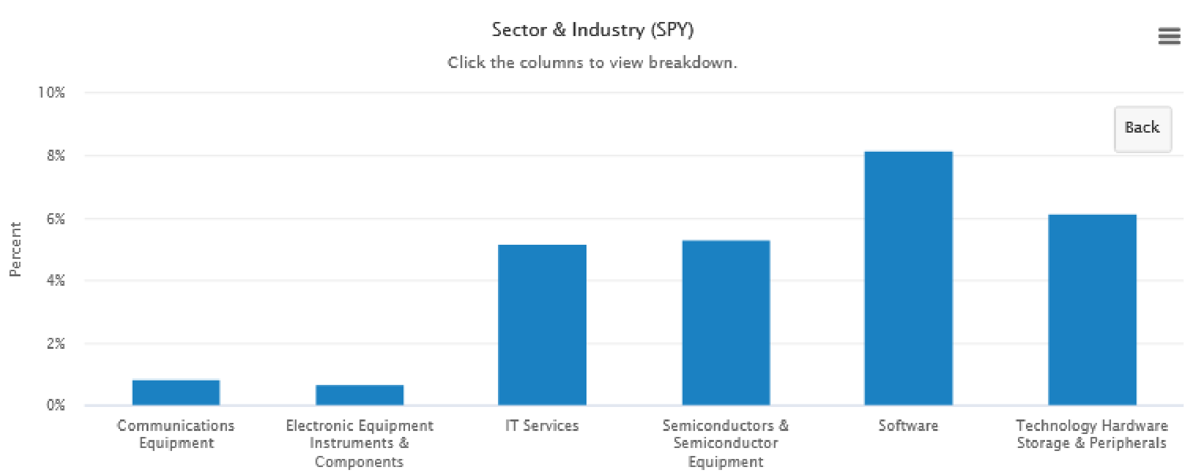
The **Composition Research Frame** visualizes the composition of the equities within the ETF's portfolio in four **Breakdown Charts**:

- *Development (X):* Illustrates the equities in the ETF according to their economic development exposure.
- *Region & Country (Y):* Illustrates the equities in the ETF according to their regional and/or single country exposure. Defaults to Region, but can be changed to Single Country (see below).
- *Sector & Industry (Z):* Illustrates the equities in the ETF according to their GICS Sector and/or Industry exposure. Defaults to Sector, but can be changed to Industry (see below)
- *Market Cap (AA):* Illustrates equities in the ETF according to their average market capitalization. "Large cap" is defined as greater than $10 B; "mid cap" is less than $10 B but greater than $2 B; and "small cap" is less than $2 billion.

Clicking on the Region & Country and Sector & Industry Charts allows for further breakdown by subgroupings. To see equities within a Region grouped by their Single Country exposure; or within a Sector grouped by their Industry exposure, click on the desired Region/Sector to expand. Click the grey "Back" in the righthand corner of the chart to reset the chart.

Back to Table of Contents





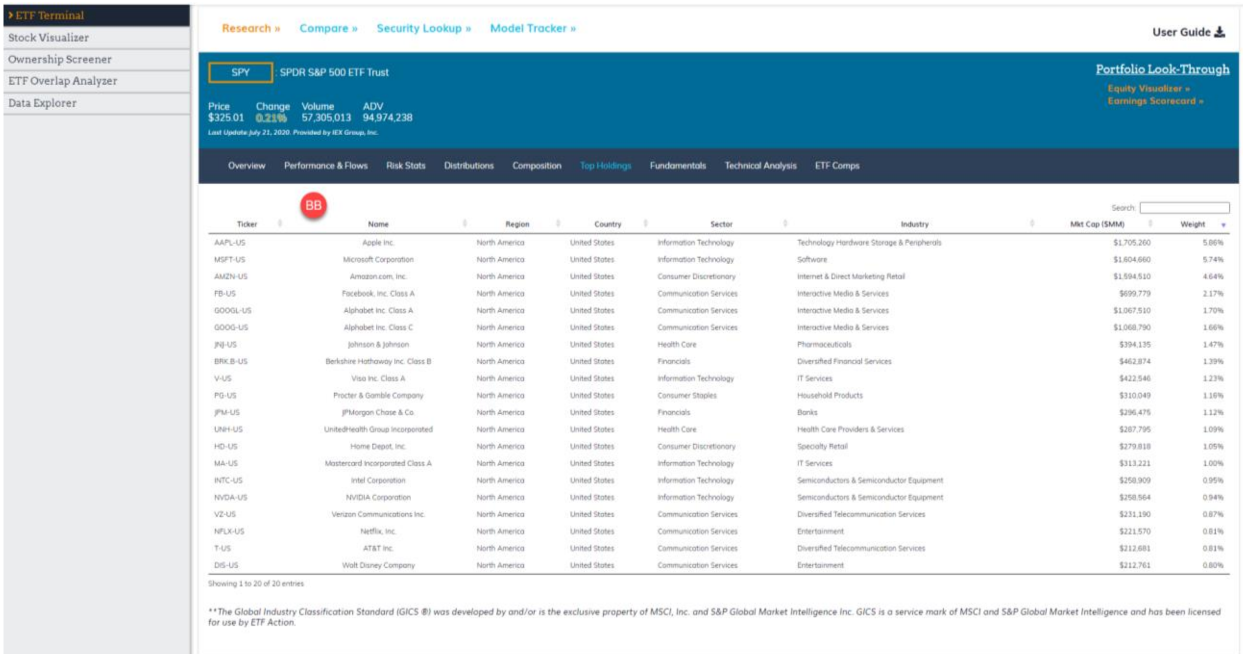
How To Export Composition Breakdown Charts

The **Breakdown Charts,** as well as the data underpinning them, can be exported to a variety of file formats by clicking the three parallel lines in the top right corner of each chart.

Back to Table of Contents

Each chart can be viewed in full screen, printed, or exported to a .png, .jpeg, .pdf, or .svg file; while the data underpinning the bar chart can be exported to a .csv or .xls file.

ETF Research Frames: Top Holdings



The **Top Holdings Research Frame** shows data on the top 20 holdings in the ETF by portfolio weight. These holdings are sortable/searchable, just as in the **Portfolio Visualizer** tool.

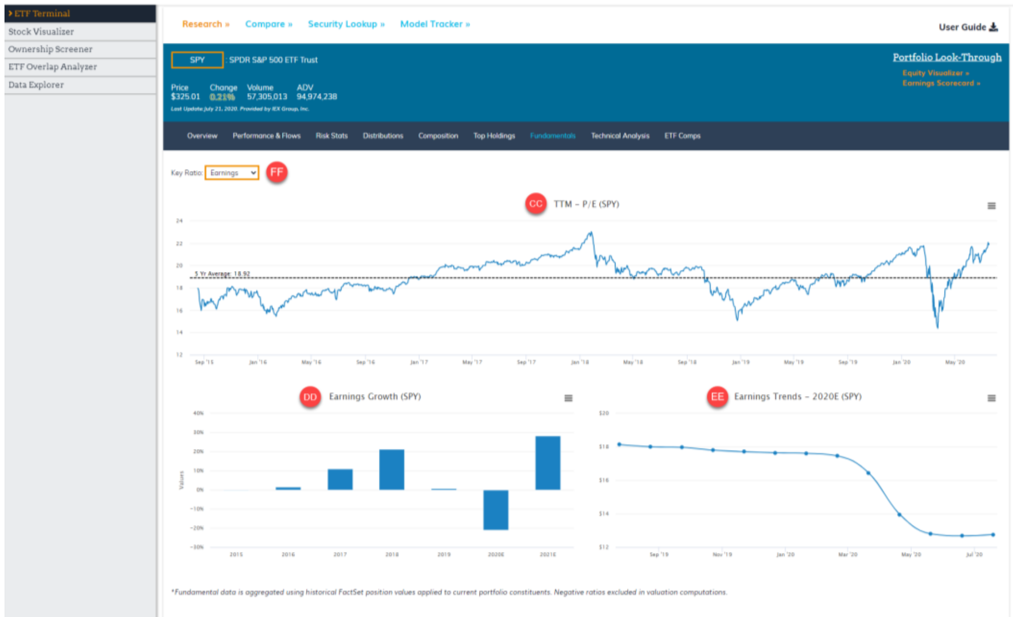
The **Top Holdings Table (BB)** lists several data points about each ETF constituent holding, including:

- *Ticker:* The ticker of the equity, including listing exchange code
- *Name:* Full name of the equity
- *Region:* Geographic region in which the equity trades
- *Country:* Country in which the equity is listed
- *Sector:* The equity's GICS Sector designation
- *Industry:* The equity's GICS Industry designation
- *Mkt. Cap ($MM):* The equity's market cap, in millions of dollars
- *Weight:* Percentage of the ETF's portfolio that the equity comprises
- *Last:* Last price traded. If after markets close, the closing price. All non-U.S.-listed securities are in U.S. dollars and as of the previous day's close
- *% Change:* Change in prices from the previous day's price.

The **Top Holdings Table** is not yet exportable or savable, but the same data is accessible in the **Portfolio Visualizer** (See: "[Portfolio Visualizer]").

Back to Table of Contents

ETF Research Frames: Fundamentals



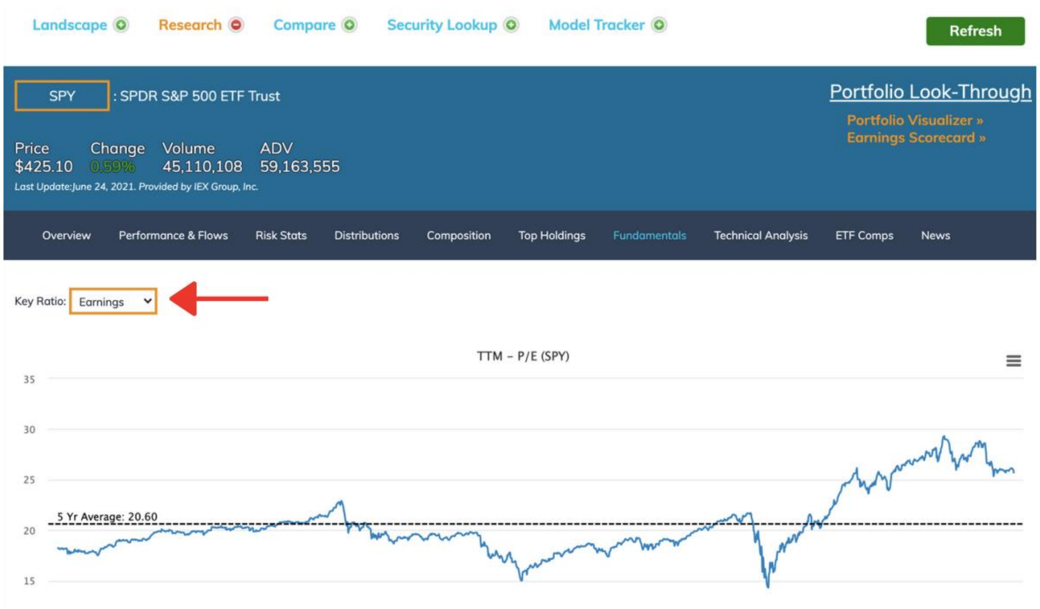
The **Fundamentals** Research frame provides dynamic, exportable charts of several key equity fundamentals on the fund level, including **Earnings, Sales, Cash Flow, Book Value** and **Dividends**.

Two important notes about the data underpinning the Fundamentals Research Frame:

1) Historical fundamental data is based on the ETF's current portfolio holdings, not point-in-time portfolio holdings.
2) Negative ratios are excluded from the valuation computations.

Back to Table of Contents

To switch between key fundamentals, select a new fundamental metric from the *Key Ratios* drop down menu at the top of the Research Frame:



Each Key Ratio selection provides three charts based on the selected fundamental:

1) *Trailing Twelve Month (TTM) (CC):* Historical data for the relevant key ratio, with the 5-year average indicated as a dotted line on the chart. Ratios provided include: P/E, P/S, P/CF, P/B, or Dividend Yield.

   By default, data is provided for the past five years. To select a shorter time frame, click and drag across the body of the chart. To reset the timeframe, click the grey *Reset Zoom* box on the top right of the chart.

   The TTM Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

   The data underpinning the TTM Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

2) *(Fundamental) Per Share (DD):* Five years of growth rates for the selected fundamental, including forward-looking estimates for the years to come.

   The (Fundamental) Per Share Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

Back to Table of Contents

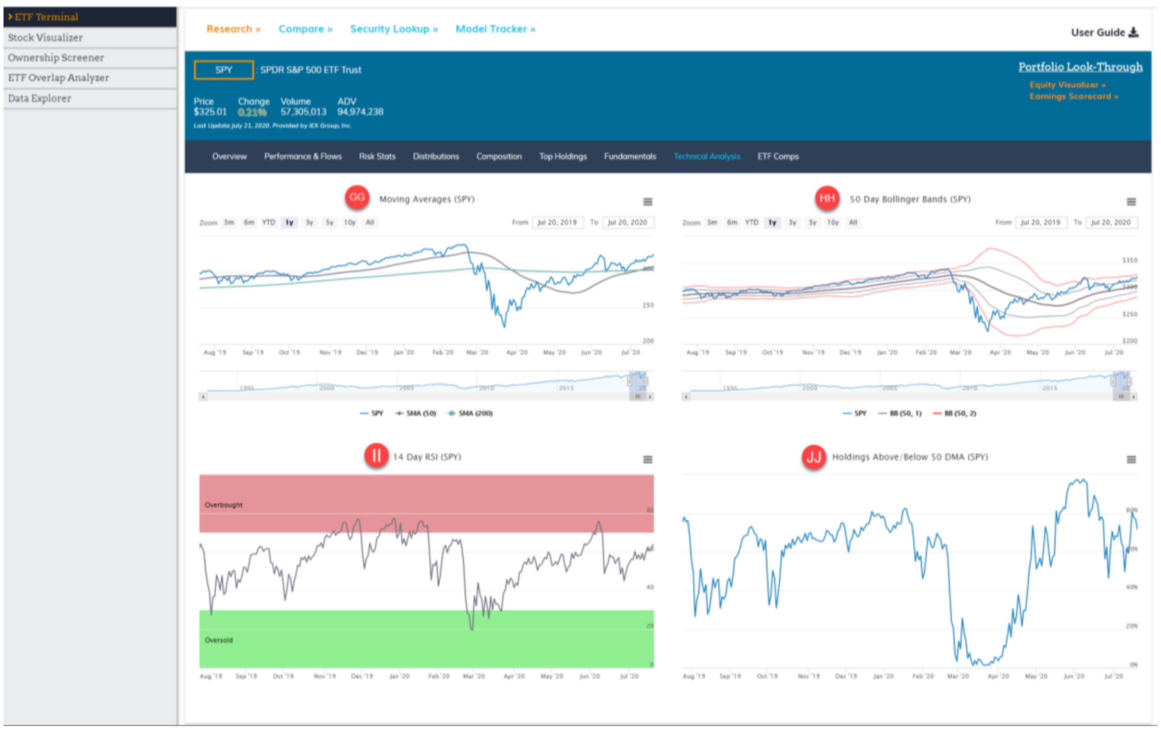
The data underpinning the (Fundamental) Per Share Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

3) *(Fundamental) Trends 2021E (EE):* Monthly analyst estimates for the selected fundamental over the past twelve months.

   The (Fundamental) Trends 2021E Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

   The data underpinning the (Fundamental) Trends 2021E Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

ETF Research Frames: Technical Analysis



The **Technicals** frame provides dynamic, exportable historical charts of commonly used technical indicators, including moving averages, Bollinger bands, and RSI:

1) *Moving Averages (GG):* Charts historical price action for the ETF over the selected time frame, with the 50-day and 200-day moving average overlaid as grey and green solid lines, respectively.

   By default, the time frame is over one year (1y). To change this, select one of the pre-set time frames in the top left corner (3m, 6m, YTD, 1 yr, 3y, 5y, 10y, All) or input a custom time range in the orange boxes in the top right corner. You can also zoom by clicking and dragging across the body of the chart. To reset the

Back to Table of Contents

timeframe, click the grey *Reset Zoom* box on the top right of the chart.

The Moving Averages Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

The data underpinning the Moving Averages Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

2) *50 Day Bollinger Bands (HH):* Overlays 50-day Bollinger bands over the price action of the ETF. "B1" represents one standard deviation, while "B2" represents two standard deviations.

   By default, the time frame is over one year (1y). To change this, select one of the pre-set time frames in the top left corner (3m, 6m, YTD, 1 yr, 3y, 5y, 10y, All) or input a custom time range in the orange boxes in the top right corner. You can also zoom by clicking and dragging across the body of the chart. To reset the timeframe, click the grey *Reset Zoom* box on the top right of the chart.

   The Bollinger Bands Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

   The data underpinning the Bollinger Bands Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

3) *14 Day RSI (II):* Displays the historical 14-day RSI for the ETF, indicating timeframes when the ETF's RSI indicated it may have been overbought (in red) or oversold (in green).

   By default, the time frame is one year. To change this, select one of the pre-set time frames in the top left corner (3m, 6m, YTD, 1 yr, 3y, 5y, 10y, All) or input a custom time range in the orange boxes in the top right corner. You can also zoom by clicking and dragging across the body of the chart. To reset the timeframe, click the grey *Reset Zoom* box on the top right of the chart.

   The 14 Day RSI Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

   The data underpinning the 14 Day RSI Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

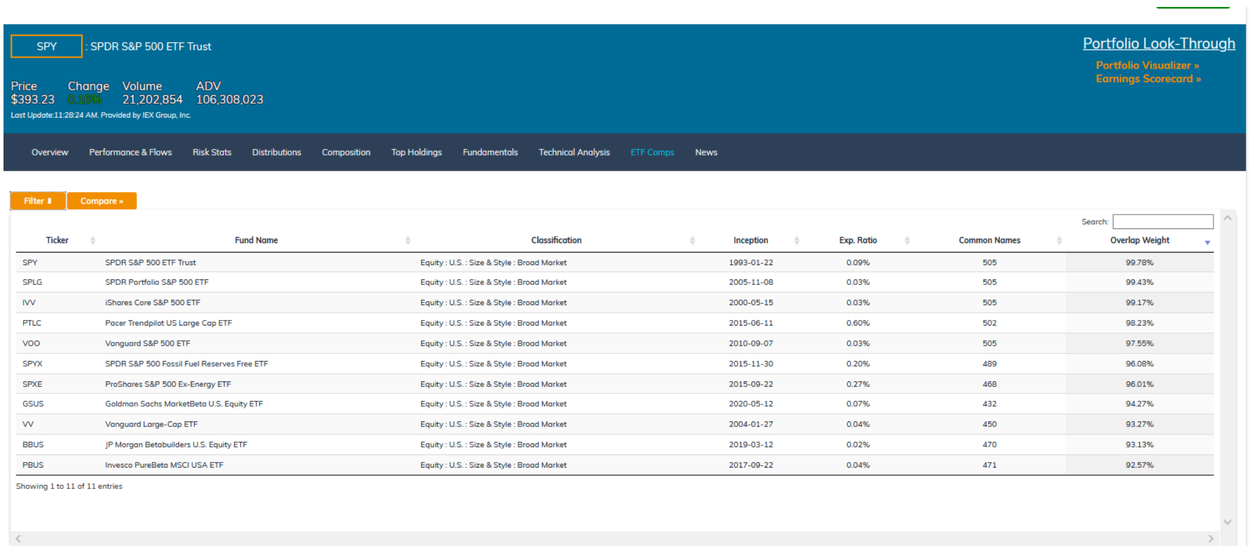
4) *Holdings Above 50 DMA (JJ):* Displays the percentage of the ETF's aggregated holdings (weighted accordingly) that are trading above their 50-day simple moving averages.

   By default, the time frame is one year. To change this, select one of the pre-set time frames in the top left corner (3m, 6m, YTD, 1 yr, 3y, 5y, 10y, All) or input a custom time range in the orange boxes in the top right corner. You can also zoom by clicking and dragging across the body of the chart. To reset the timeframe, click the grey *Reset Zoom* box on the top right of the chart.

The Holdings Above 50 DMA Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

The data underpinning the Holdings Above 50 DMA Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

ETF Research Frames: ETF Comps



Ticker	Fund Name	Classification	Inception	Exp. Ratio	Common Names	Overlap Weight
SPY	SPDR S&P 500 ETF Trust	Equity : U.S. : Size & Style : Broad Market	1993-01-22	0.09%	505	99.78%
SPLG	SPDR Portfolio S&P 500 ETF	Equity : U.S. : Size & Style : Broad Market	2005-11-08	0.03%	505	99.43%
IVV	iShares Core S&P 500 ETF	Equity : U.S. : Size & Style : Broad Market	2000-05-15	0.03%	505	99.17%
PTLC	Pacer Trendpilot US Large Cap ETF	Equity : U.S. : Size & Style : Broad Market	2015-06-11	0.60%	502	98.23%
VOO	Vanguard S&P 500 ETF	Equity : U.S. : Size & Style : Broad Market	2010-09-07	0.03%	505	97.55%
SPYX	SPDR S&P 500 Fossil Fuel Reserves Free ETF	Equity : U.S. : Size & Style : Broad Market	2015-11-30	0.20%	489	96.08%
SPXE	ProShares S&P 500 Ex-Energy ETF	Equity : U.S. : Size & Style : Broad Market	2015-09-22	0.27%	468	96.01%
GSUS	Goldman Sachs MarketBeta U.S. Equity ETF	Equity : U.S. : Size & Style : Broad Market	2020-05-12	0.07%	432	94.27%
VV	Vanguard Large-Cap ETF	Equity : U.S. : Size & Style : Broad Market	2004-01-27	0.04%	450	93.27%
BBUS	JP Morgan Betabuilders U.S. Equity ETF	Equity : U.S. : Size & Style : Broad Market	2019-03-12	0.02%	470	93.13%
PBUS	Invesco PureBeta MSCI USA ETF	Equity : U.S. : Size & Style : Broad Market	2017-09-22	0.04%	471	92.57%

Showing 1 to 11 of 11 entries

The **ETF Comps Research Frame** provides a table of other equity ETFs with the highest overlap percentage, based on their underlying holdings. Only equity holdings are considered.

The **ETF Comps Table** lists names of funds, how many equity holdings are held in common, and what the overlap percentage is. For more in-depth analysis of portfolio overlap, refer to the **ETF Overlap Analyzer** (see "ETF Overlap Analyzer").

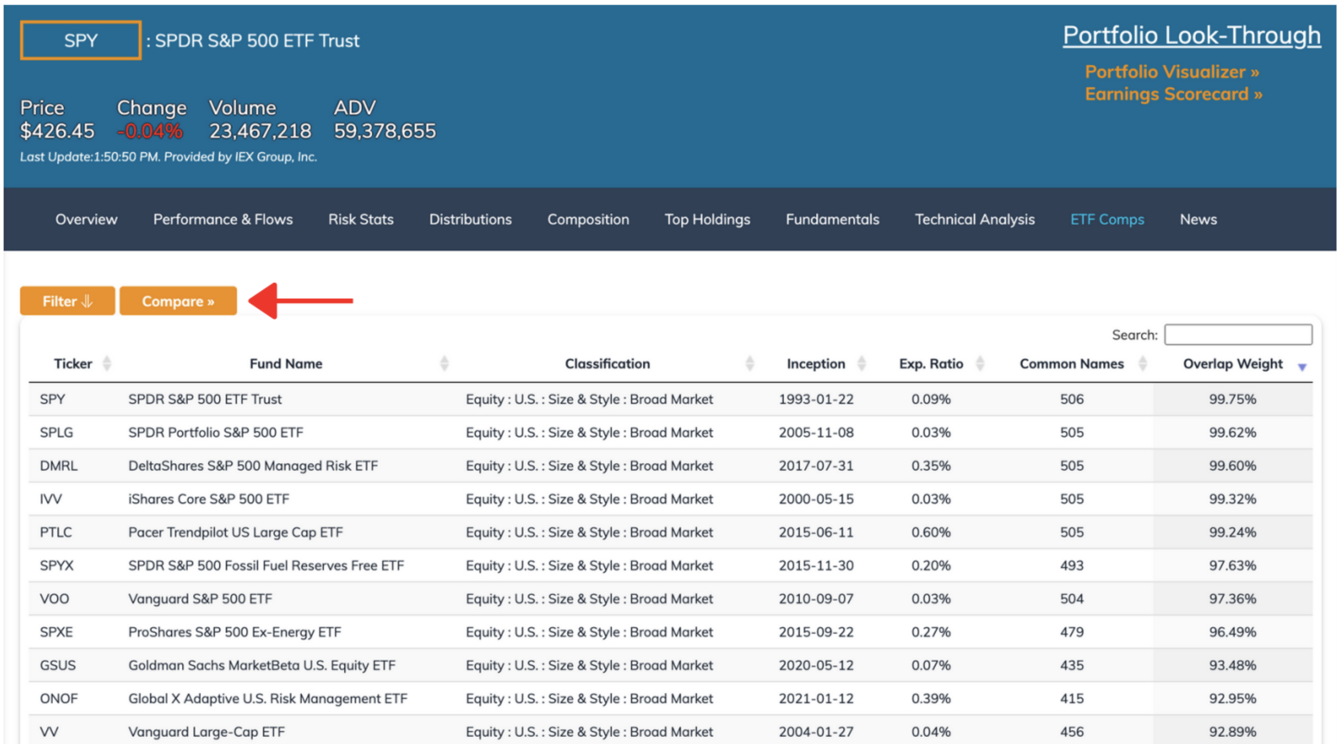
Fields in the **ETF Comps Table** include:

- *Ticker:* Ticker of the similar ETF
- *Fund Name:* Full fund name of the similar ETF
- *Classification:* The similar ETF's classification within the ETF Action Classification System
- *Inception:* Inception date for the similar ETF
- *Exp. Ratio:* Annual expense ratio for the similar ETF
- *Common Names:* How many portfolio holdings the similar ETF has in common with the selected ETF
- *Overlap Weight:* How much portfolio overlap there is, in percentage terms, between the similar ETF and the selected ETF.

NOTE: Overlap percentages may exceed 100% in certain cases, as other assets/liabilities, including cash, can cause individual ETF portfolio weights to exceed 100%. (e.g., master limited partnerships sometimes have deferred tax liabilities/assets, etc.)

Loading The ETF Comps Into Other Toolsets

It is possible to load the list of **ETF Comps** into the **ETF Navigator** and the **Compare Lens** by using the orange **Filter** and **Compare** buttons, respectively. These buttons are located on the top left-hand corner of the **ETF Comps Table:**

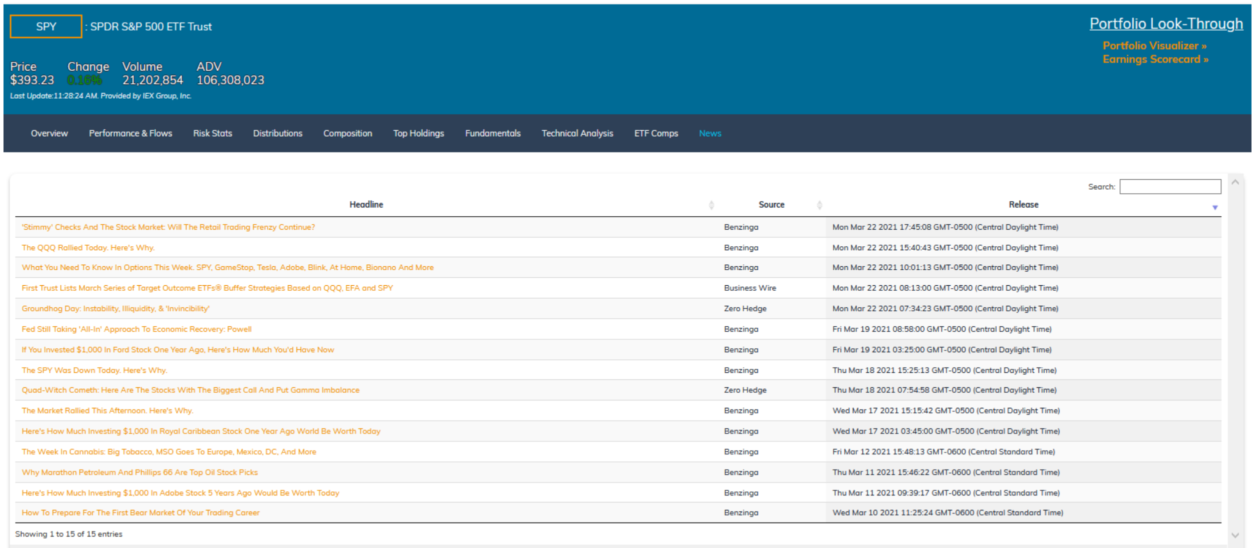


Ticker	Fund Name	Classification	Inception	Exp. Ratio	Common Names	Overlap Weight
SPY	SPDR S&P 500 ETF Trust	Equity : U.S. : Size & Style : Broad Market	1993-01-22	0.09%	506	99.75%
SPLG	SPDR Portfolio S&P 500 ETF	Equity : U.S. : Size & Style : Broad Market	2005-11-08	0.03%	505	99.62%
DMRL	DeltaShares S&P 500 Managed Risk ETF	Equity : U.S. : Size & Style : Broad Market	2017-07-31	0.35%	505	99.60%
IVV	iShares Core S&P 500 ETF	Equity : U.S. : Size & Style : Broad Market	2000-05-15	0.03%	505	99.32%
PTLC	Pacer Trendpilot US Large Cap ETF	Equity : U.S. : Size & Style : Broad Market	2015-06-11	0.60%	505	99.24%
SPYX	SPDR S&P 500 Fossil Fuel Reserves Free ETF	Equity : U.S. : Size & Style : Broad Market	2015-11-30	0.20%	493	97.63%
VOO	Vanguard S&P 500 ETF	Equity : U.S. : Size & Style : Broad Market	2010-09-07	0.03%	504	97.36%
SPXE	ProShares S&P 500 Ex-Energy ETF	Equity : U.S. : Size & Style : Broad Market	2015-09-22	0.27%	479	96.49%
GSUS	Goldman Sachs MarketBeta U.S. Equity ETF	Equity : U.S. : Size & Style : Broad Market	2020-05-12	0.07%	435	93.48%
ONOF	Global X Adaptive U.S. Risk Management ETF	Equity : U.S. : Size & Style : Broad Market	2021-01-12	0.39%	415	92.95%
VV	Vanguard Large-Cap ETF	Equity : U.S. : Size & Style : Broad Market	2004-01-27	0.04%	456	92.89%

To load the list of **ETF Comps** into the **ETF Navigator,** select the **Filter** button.

To load the list of **ETF Comps** into the **Compare Lens**, select the **Compare** button.

ETF Research Frames: News



Headline	Source	Release
'Stimmy' Checks And The Stock Market: Will The Retail Trading Frenzy Continue?	Benzinga	Mon Mar 22 2021 17:45:08 GMT-0500 (Central Daylight Time)
The QQQ Rallied Today. Here's Why.	Benzinga	Mon Mar 22 2021 15:40:43 GMT-0500 (Central Daylight Time)
What You Need To Know In Options This Week. SPY, GameStop, Tesla, Adobe, Blink, At Home, Bionano And More	Benzinga	Mon Mar 22 2021 10:01:13 GMT-0500 (Central Daylight Time)
First Trust Lists March Series of Target Outcome ETFs® Buffer Strategies Based on QQQ, EFA and SPY	Business Wire	Mon Mar 22 2021 08:13:00 GMT-0500 (Central Daylight Time)
Groundhog Day: Instability, Illiquidity, & 'Invincibility'	Zero Hedge	Mon Mar 22 2021 07:34:23 GMT-0500 (Central Daylight Time)
Fed Still Taking 'All-In' Approach To Economic Recovery: Powell	Benzinga	Fri Mar 19 2021 08:58:00 GMT-0500 (Central Daylight Time)
If You Invested $1,000 In Ford Stock One Year Ago, Here's How Much You'd Have Now	Benzinga	Fri Mar 19 2021 03:25:00 GMT-0500 (Central Daylight Time)
The SPY Was Down Today. Here's Why.	Benzinga	Thu Mar 18 2021 15:25:13 GMT-0500 (Central Daylight Time)
Quad-Witch Cometh: Here Are The Stocks With The Biggest Call And Put Gamma Imbalance	Zero Hedge	Thu Mar 18 2021 07:54:58 GMT-0500 (Central Daylight Time)
The Market Rallied This Afternoon. Here's Why.	Benzinga	Wed Mar 17 2021 15:15:42 GMT-0500 (Central Daylight Time)
Here's How Much Investing $1,000 In Royal Caribbean Stock One Year Ago World Be Worth Today	Benzinga	Wed Mar 17 2021 03:45:00 GMT-0500 (Central Daylight Time)
The Week In Cannabis: Big Tobacco, MSO Goes To Europe, Mexico, DC, And More	Benzinga	Fri Mar 12 2021 15:48:13 GMT-0600 (Central Standard Time)
Why Marathon Petroleum And Phillips 66 Are Top Oil Stock Picks	Benzinga	Thu Mar 11 2021 15:46:22 GMT-0600 (Central Standard Time)
Here's How Much Investing $1,000 In Adobe Stock 5 Years Ago Would Be Worth Today	Benzinga	Thu Mar 11 2021 09:39:17 GMT-0600 (Central Standard Time)
How To Prepare For The First Bear Market Of Your Trading Career	Benzinga	Wed Mar 10 2021 11:25:24 GMT-0600 (Central Standard Time)

Showing 1 to 15 of 15 entries

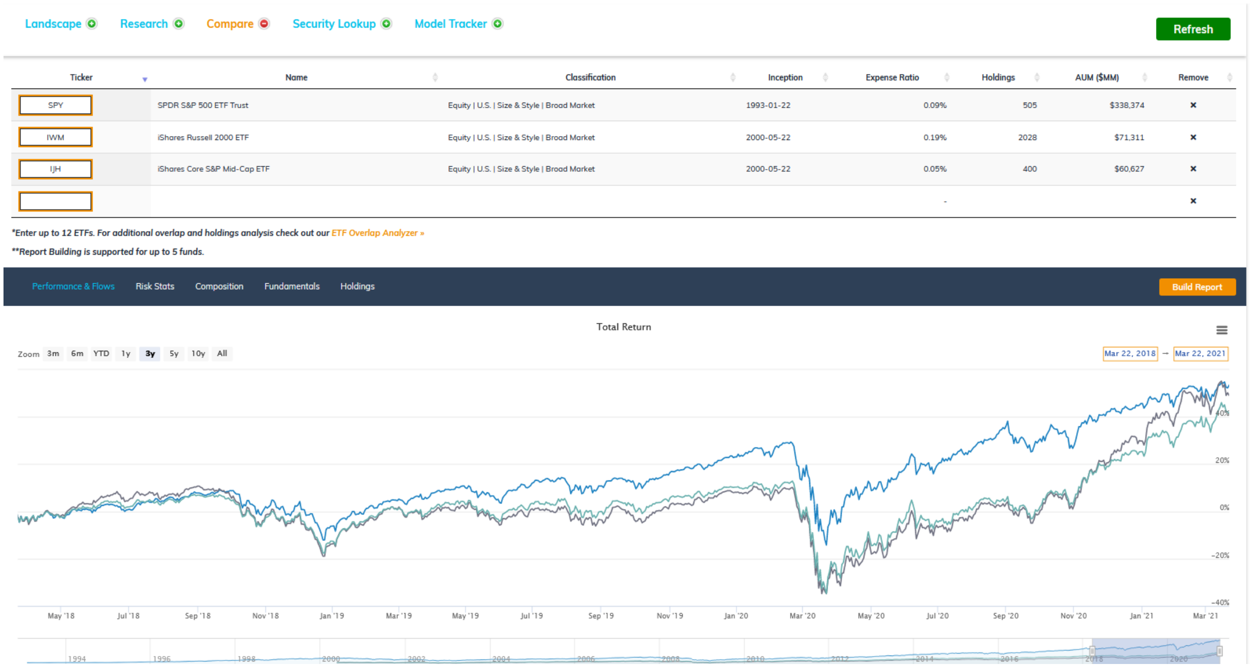
In the **News Research Frame**, users will find an RSS feed of 15-20 of the most recent news stories tagged for that company. Clicking on a headline opens up a separate tab in the browser, so you won't lose your place in the ETF Action platform.

News stories are listed with three fields: a hyperlinked *Headline,* the *Source* media outlet of origin, and *Release* data, including date and time of first publication.

To search the feed, use the **Search Bar** in the upper righthand corner of the feed.

Back to Table of Contents

Compare Lens



The **Compare Lens** enables deep, comparative analysis of a list of up to 15 ETFs, including the ability to compare performance, risk statistics, composition, fundamentals, and holdings. It consists of two modules:

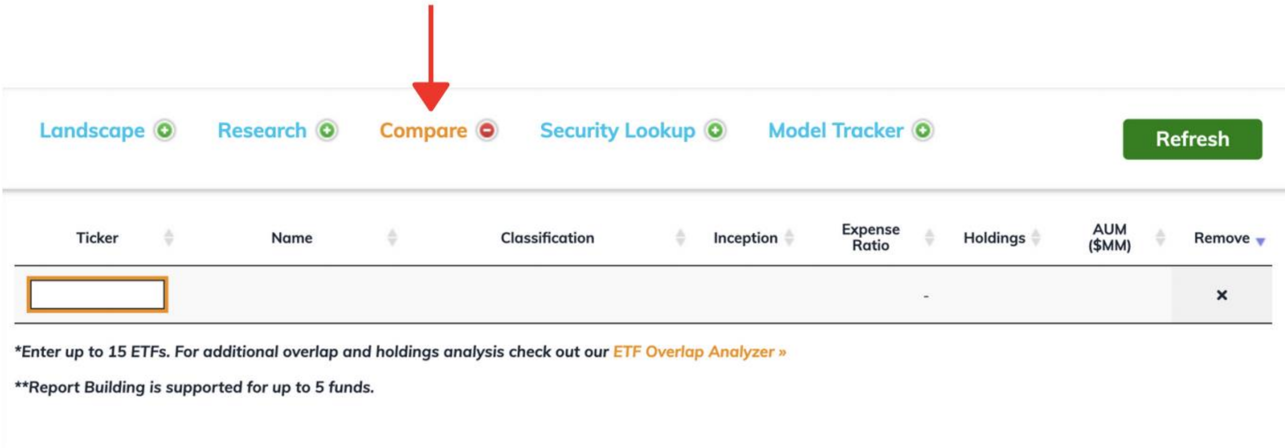
1) The **Compare Lens Module,** in which ETF tickers may be entered into the Tool
2) The **Comparative Research Frames,** which dynamically update as ETF tickers are updated into the **Compare Lens Module**

In the **Compare Lens,** Professional Level subscribers may also build comparative **Custom Reports,** which generate client-facing collateral bearing your firm's logos, disclosures, and more.

How To Load ETFs Into The Compare Lens Module

To load ETFs directly into the **Compare Lens Module,** first select the **Compare** heading from the top of the ETF Action Platform:

Back to Table of Contents

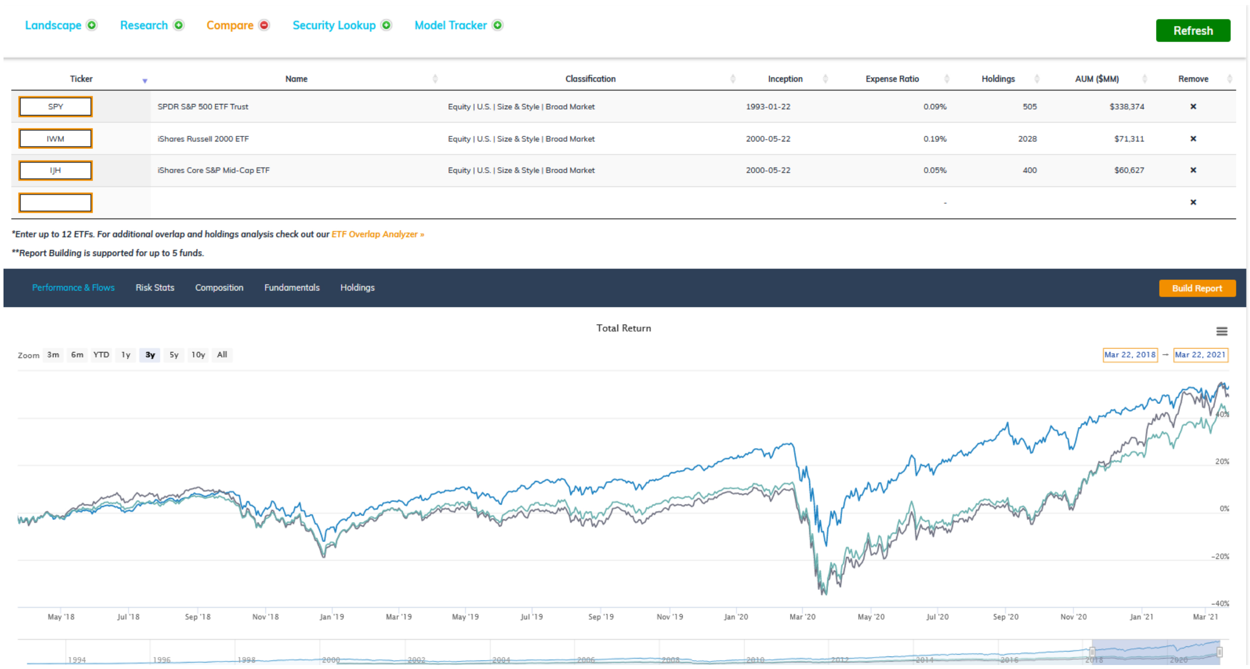


Second, type individual ETF tickers into the orange **Ticker Boxes**. As valid ETF tickers are entered, data about those funds will automatically populate in the fields of the **Compare Lens,** including Fund Name, ETF Action Classification, Inception date, Expense Ratio, Number of Holdings, and Assets Under Management.

Up to 12 ETF tickers may be added. Attempting to add more will rewrite the fund associated with the selected ticker box.

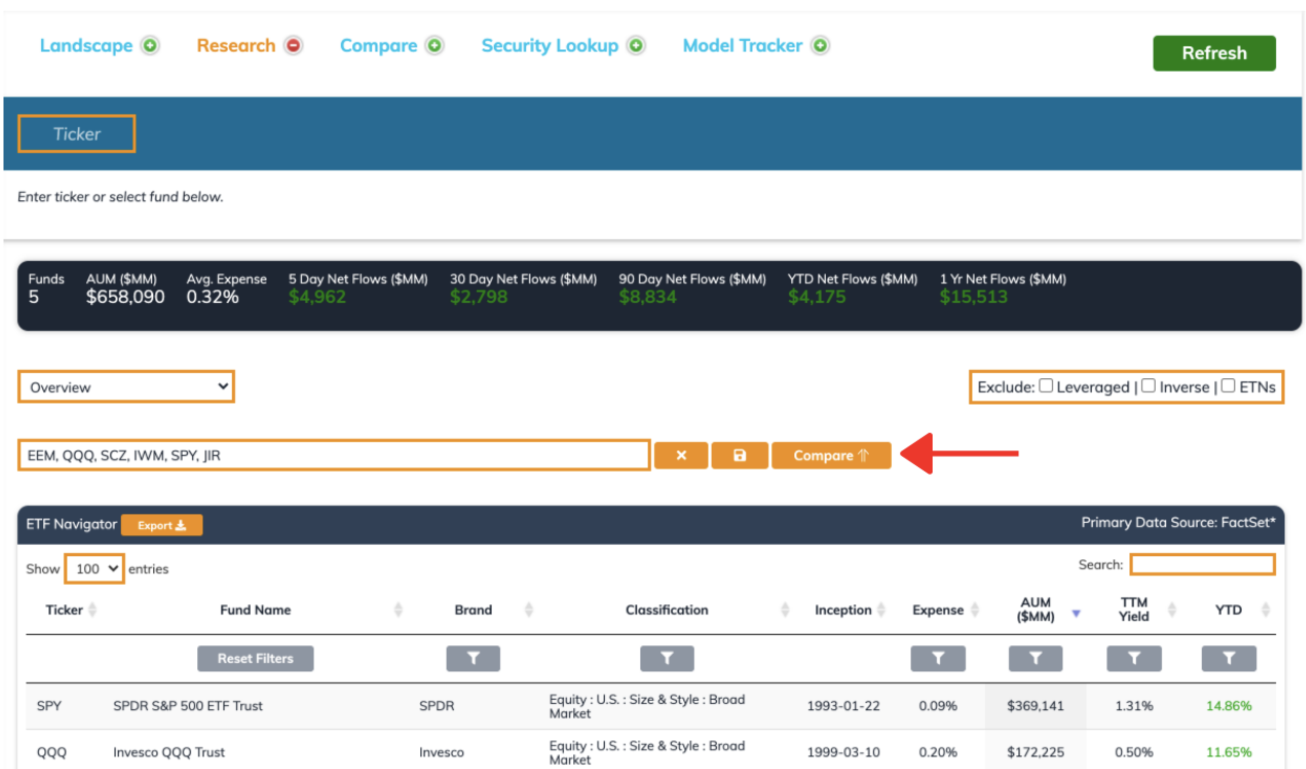
To remove funds, click the "X" in the **Remove** column at the far right; or simply overwrite the fund's ticker in the **Ticker Box** with a new fund.

As valid ETF tickers are added, the **Comparative Research Frames** will automatically update with comparative data, as depicted below:



How to Load ETFs Into The Compare Lens From The ETF Navigator

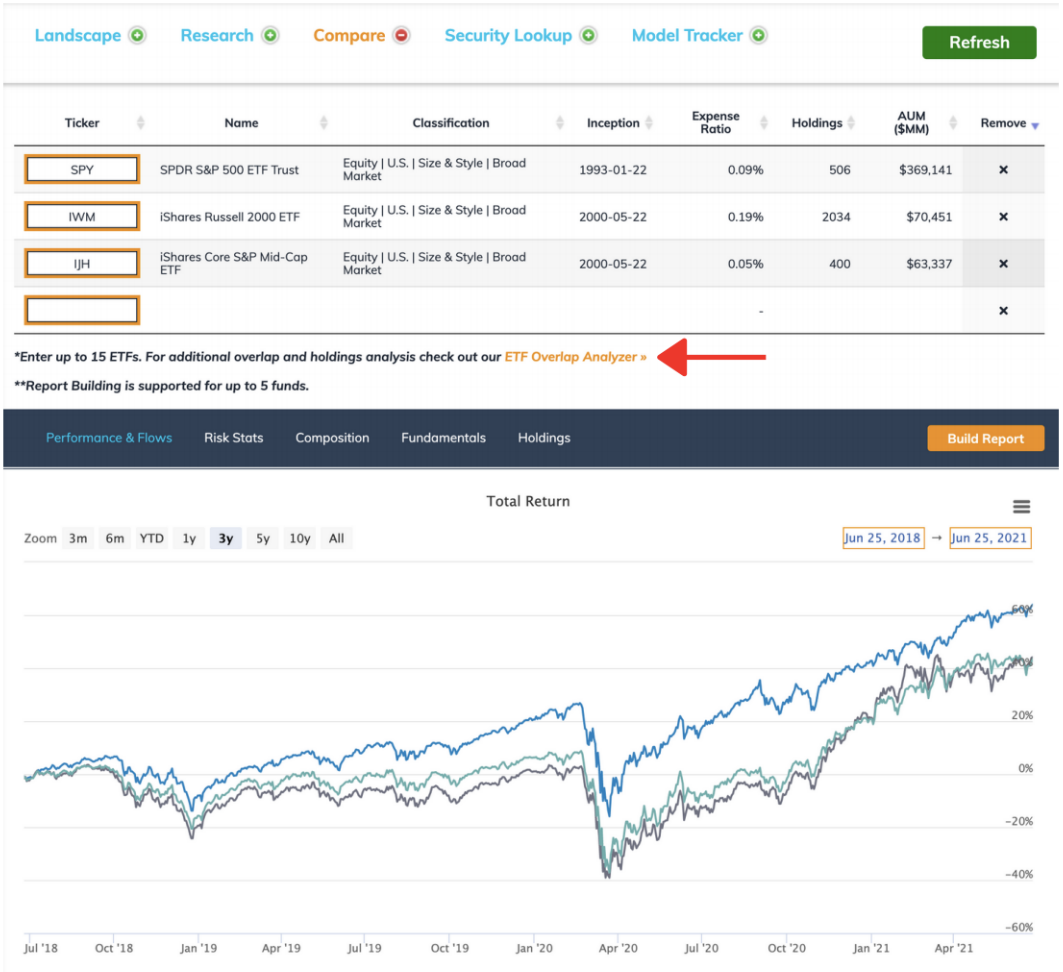
Lists of ETFs called up by the **ETF Navigator** can be loaded into the **Compare Lens** by clicking the orange **Compare** button next to the **ETF Navigational Bar:**



Back to Table of Contents

How to Load ETFs From the Compare Lens Into The ETF Overlap Analyzer

Likewise, ETFs inputted into the **Compare Lens Module** can be loaded into the **ETF Overlap Analyzer** by clicking on the orange **ETF Overlap Analyzer** link at the bottom of the **Compare Lens** module:

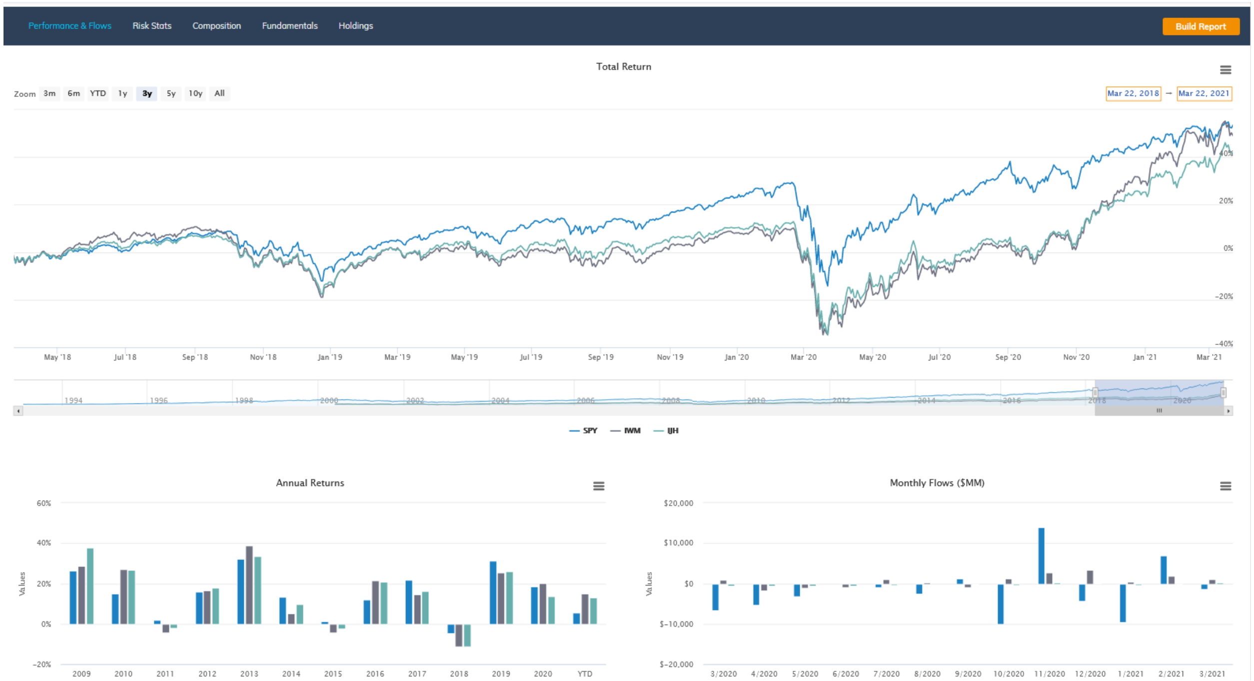


Comparative Research Frames

The **Comparative Research Frames** are similar the **ETF Research Frames;** however, instead of looking at a single ETF, users can compare up to 12 ETFs at once.

Back to Table of Contents

Comparative Research Frame: Performance & Flows



The **Comparative Performance & Flows Research Frame** provides dynamic, exportable charts of the total return and monthly flows for all the ETFs loaded into the Compare Lens. There are three main visualizations:

- **Total Return** for the selected ETFs
- **Annual Returns** for the selected ETFs, dating back 10 years and year-to-date
- **Monthly Flows** for the selected ETFs, including the past 12 calendar months and month-to-date

By default, the time frame for the Total Return chart is three years (3y). To change this, select one of the pre-set time frames in the top left corner (3m, 6m, YTD, 1 yr, 3y, 5y, 10y, All); or input a custom time range in the orange boxes in the top right corner. You can also zoom by clicking and dragging across the body of the chart. To reset the timeframe, click the grey *Reset Zoom* box on the top right of the chart.

By default, the time frame for the Annual Returns chart is since inception or 10 years, whichever is shorter; as well as year-to-date data. This time range is not adjustable as the **Total Return** chart is; to see annual returns farther back than ten years, or in different frequencies (such as quarterly or daily), refer to the **ETF Data Explorer** (see: "**ETF Data Explorer**")

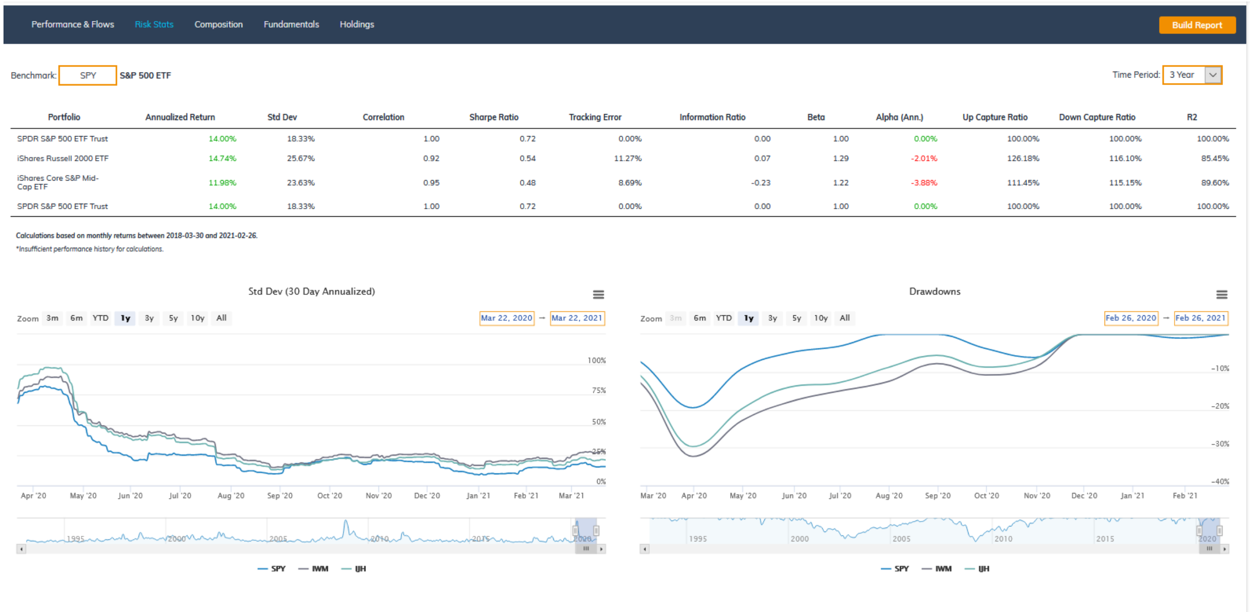
By default, the time frame for the Monthly Flows chart is since inception or the past 12 calendar months, whichever is shorter; as well as month-to-date data. This time range is not adjustable as the **Total Return** chart is; to see monthly flows dating farther back than 12 months, or in different frequencies (such as quarterly or daily), refer to the **ETF Data Explorer** (see: "**ETF Data Explorer**")

<u>All data is current as of the previous day's close.</u>

The Total Return, Annual Returns, and Monthly Flows Charts can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

The data underpinning the Total Return, Annual Returns, and Monthly Flows Charts can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

Comparative Research Frame: Risk Stats



The **Comparative Risk Stats Research Frame** provides risk and correlation statistics for ETFs with a track record of at least one year. (If the track record for one of the selected ETFs is less than one year, then that ETF will be marked with an asterisk [*] and no statistics will be loaded.)

These risk metrics, which are calculated based on monthly returns and compared to a customizable benchmark ETF, are collated in the **Comparative Risk Stats Table**, as well as visualized in the **Comparative Volatility** and **Drawdowns Line Charts** (see "**Comparative Volatility And Drawdowns Line Charts**" below).

Understanding the Comparative Risk Stats Table

The **Comparative Risk Stats Table** includes several fields of data, including:

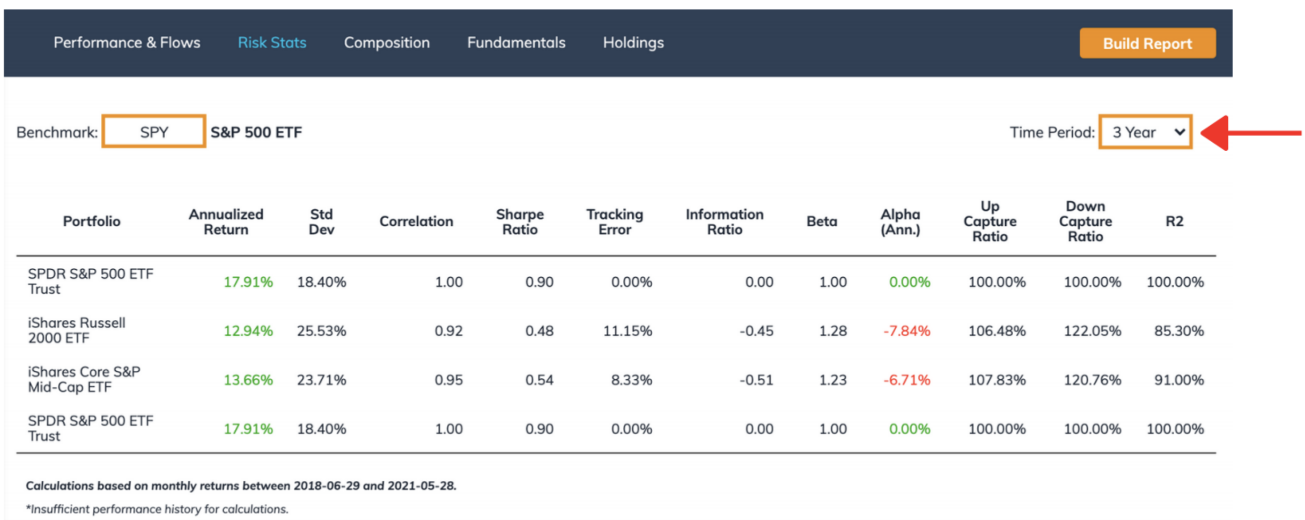
- *Portfolio:* The name of the ETF (or the name of the designated benchmark ETF)
- *Annualized Return:* The annualized return of the fund over the specified time period
- *Std Dev:* Volatility of those returns, over the specified time period
- *Correlation:* Correlation of the ETF's returns to those of the designated benchmark ETF, over the specified time period
- *Sharpe Ratio:* The ETF's Sharpe ratio over the specified time period
- *Tracking error:* The ETF's tracking error relative to its designated benchmark ETF, over the specified time period

- *Information Ratio:* The ETF's information ratio, relative to its designated benchmark ETF, over the specified time period
- *Beta:* The ETF's measured beta, over the specified time period
- *Alpha (Ann.)*: The ETF's measured annualized alpha, relative to its designated benchmark ETF, over the specified time period
- *Up Capture Ratio:* The ETF's measured up capture ratio, relative to its designated benchmark ETF, over the specified time period
- *Down Capture Ratio:* The ETF's measured down capture ratio, relative to its designated benchmark ETF, over the specified time period
- *R2:* The ETF's R^2, relative to its designated benchmark ETF, over the specified time period

If there is not enough data for one or more of these metrics to be calculated over the selected time period, the metrics will be blank, and the fund marked with an asterisk (*).

Customizing The Comparative Risk Stats Table

By default, risk statistics in the table are calculated over a three-year time period. To change this, select a different time frame from the *Time Period* drop down menu in the upper right corner. Available time frames include 1 Year, 3 Years, 5 Years, 10 Years, and Since Inception:



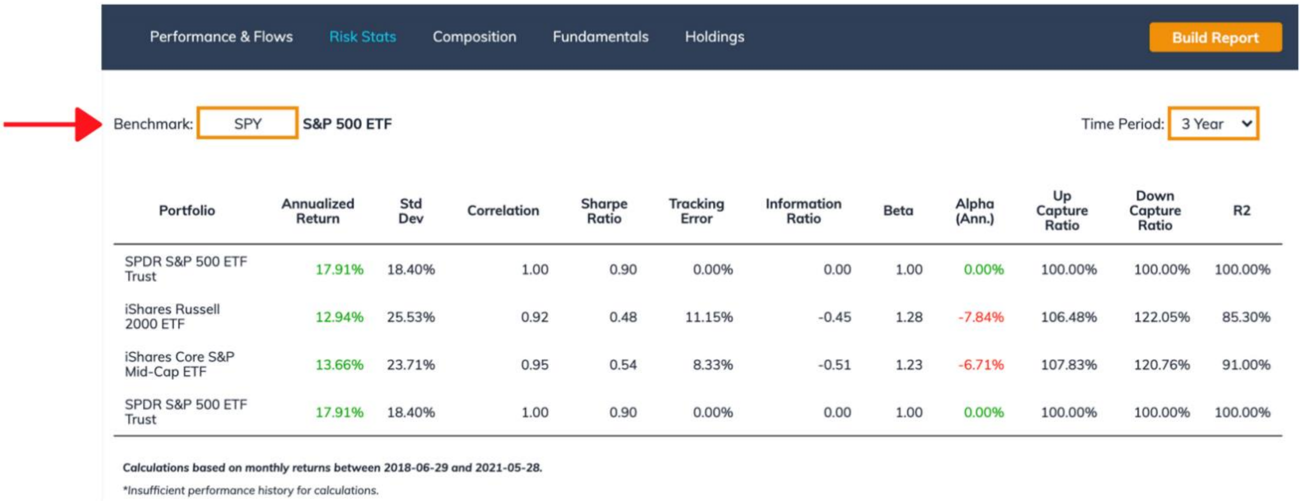
Portfolio	Annualized Return	Std Dev	Correlation	Sharpe Ratio	Tracking Error	Information Ratio	Beta	Alpha (Ann.)	Up Capture Ratio	Down Capture Ratio	R2
SPDR S&P 500 ETF Trust	17.91%	18.40%	1.00	0.90	0.00%	0.00	1.00	0.00%	100.00%	100.00%	100.00%
iShares Russell 2000 ETF	12.94%	25.53%	0.92	0.48	11.15%	-0.45	1.28	-7.84%	106.48%	122.05%	85.30%
iShares Core S&P Mid-Cap ETF	13.66%	23.71%	0.95	0.54	8.33%	-0.51	1.23	-6.71%	107.83%	120.76%	91.00%
SPDR S&P 500 ETF Trust	17.91%	18.40%	1.00	0.90	0.00%	0.00	1.00	0.00%	100.00%	100.00%	100.00%

Calculations based on monthly returns between 2018-06-29 and 2021-05-28.

**Insufficient performance history for calculations.*

By default, a benchmark fund is assigned based on the ETF's categorization in the ETF Action Classification System. This can be changed by typing a new ticker in the **Ticker Entry Box** at the top of the **Risk Stats Table:**

Back to Table of Contents



Portfolio	Annualized Return	Std Dev	Correlation	Sharpe Ratio	Tracking Error	Information Ratio	Beta	Alpha (Ann.)	Up Capture Ratio	Down Capture Ratio	R2
SPDR S&P 500 ETF Trust	17.91%	18.40%	1.00	0.90	0.00%	0.00	1.00	0.00%	100.00%	100.00%	100.00%
iShares Russell 2000 ETF	12.94%	25.53%	0.92	0.48	11.15%	-0.45	1.28	-7.84%	106.48%	122.05%	85.30%
iShares Core S&P Mid-Cap ETF	13.66%	23.71%	0.95	0.54	8.33%	-0.51	1.23	-6.71%	107.83%	120.76%	91.00%
SPDR S&P 500 ETF Trust	17.91%	18.40%	1.00	0.90	0.00%	0.00	1.00	0.00%	100.00%	100.00%	100.00%

Calculations based on monthly returns between 2018-06-29 and 2021-05-28.

**Insufficient performance history for calculations.*

Comparative Volatility And Drawdowns Line Charts

The **Comparative Risk Stats Frame** also includes two visualizations: a **Comparative Volatility Line Chart** and a **Comparative Drawdowns Chart.**

- The **Comparative Volatility Line Chart**, titled **Std Dev (30 Day Annualized)**, plots volatility in the ETFs' returns over a dynamic time period.
- The **Comparative Drawdowns Chart** specifies drawdowns in the ETFs over a dynamic time period.

By default, the time frame for both charts is set to one year. This can be changed in three ways:

- Selecting a different pre-set time period in the left-hand corner (3m, 6m, YTD, 3y, 5y, 10y or All)
- Clicking and dragging on the line chart to zoom in on a specific time period
- Inputting a custom time range in the orange boxes on the righthand corner of the chart.

The **Comparative Volatility** and **Drawdown Line Charts** can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

The data underpinning the **Comparative Volatility** and **Drawdown Line Charts** can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

Back to Table of Contents

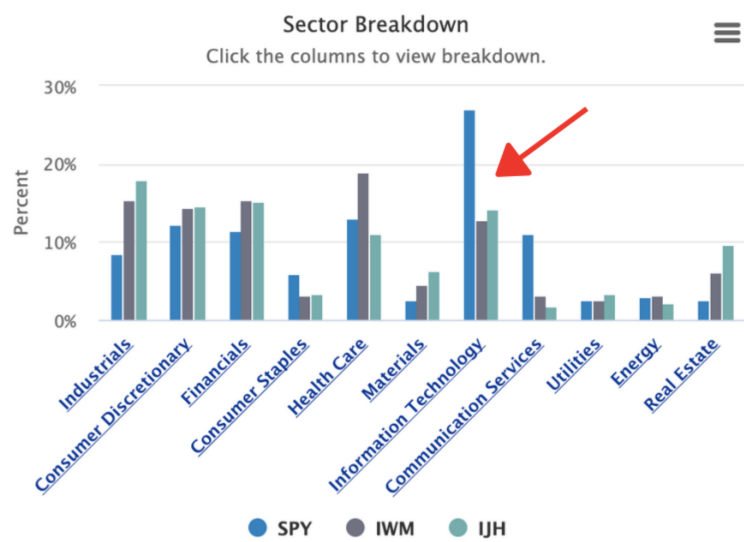
Comparative Research Frame: Composition

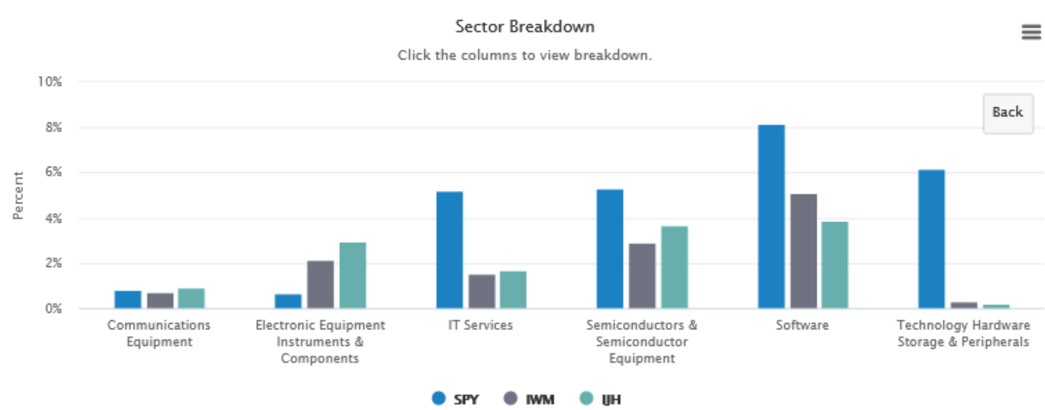
The **Comparative Composition Research Frame** visualizes the composition of the equities within the ETFs' portfolios in four **Comparative Breakdown Charts**:

- *Market:* Illustrates how the equities in each ETF align with broad economic development exposure.
- *Region:* Illustrates the equities in the ETFs according to their regional and/or single country exposure. Defaults to Region, but can be changed to Single Country (see below).
- *Sector:* Illustrates the equities in the ETFs according to their GICS Sector and/or Industry exposure. Defaults to Sector, but can be changed to Industry (see below)
- *Size:* Illustrates equities in the ETFs according to their average market capitalization. "Large cap" is defined as greater than $10 B; "mid cap" is less than $10 B but greater than $2 B; and "small cap" is less than $2 billion.

Back to Table of Contents

Clicking on the Region and Sector Charts allows for further breakdown by subgroupings. To see ETFs' equities within a Region grouped by their Single Country exposure; or within a Sector grouped by their Industry exposure, click on the desired Region/Sector to expand. Click the grey "Back" in the righthand corner of the chart to reset the chart:





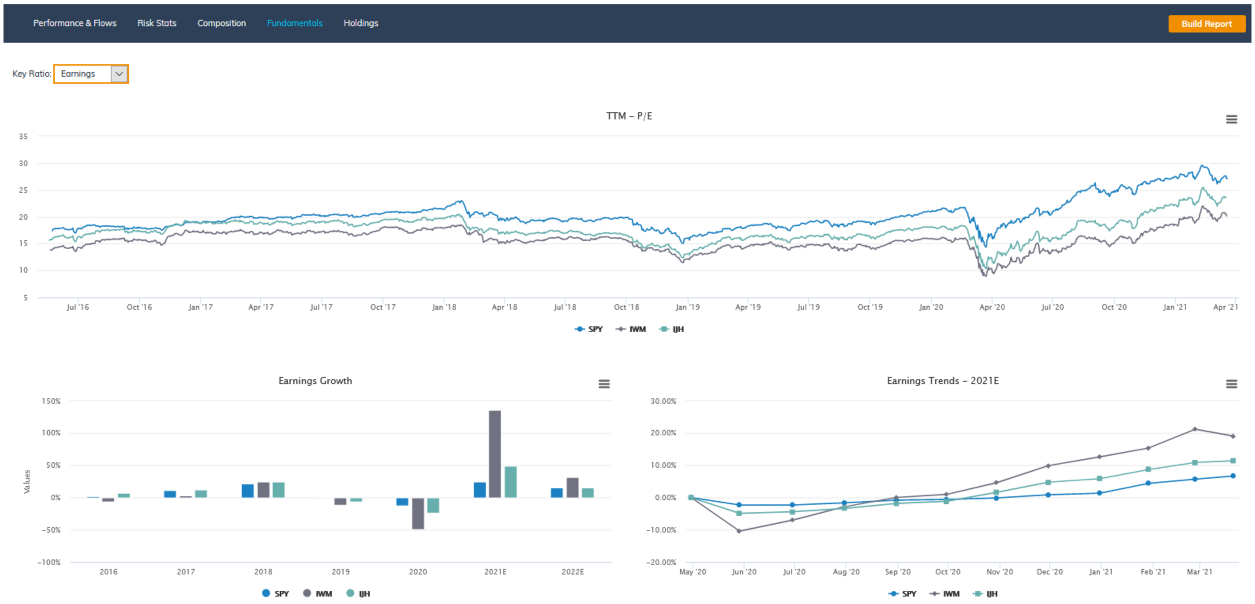
How To Export Comparative Composition Breakdown Charts

The **Comparative Composition Breakdown Charts,** as well as the data underpinning them, can be exported to a variety of file formats by clicking the three parallel lines in the top right corner of each chart.

Each chart can be viewed in full screen, printed, or exported to a .png, .jpeg, .pdf, or .svg file; while the data underpinning the bar chart can be exported to a .csv or .xls file.

Back to Table of Contents

Comparative Research Frame: Fundamentals



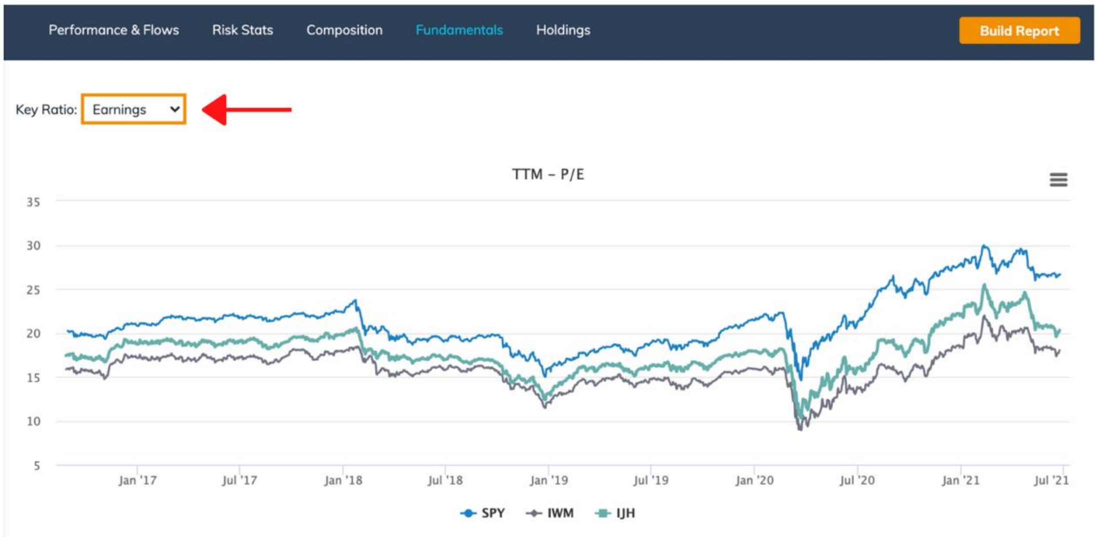
The **Comparative Fundamentals Research Frame** provides dynamic, exportable charts of several key equity fundamentals on the fund level for each of the ETFs in the set. These fundamental ratios include **Earnings, Sales, Cash Flow, Book Value** and **Dividends**.

Two important notes about the data underpinning the **Comparative Fundamentals Research Frame:**

3) Historical fundamental data is based on each ETF's current portfolio holdings, not point-in-time portfolio holdings.
4) Negative ratios are excluded from the valuation computations.

Back to Table of Contents

To switch between key fundamentals, select a new fundamental metric from the *Key Ratios* drop down menu at the top of the Research Frame:



Each Key Ratio selection provides three charts based on the selected fundamental:

4) *Trailing Twelve Month (TTM):* Historical data for the relevant key ratio, with the 5-year average indicated as a dotted line on the chart. Ratios provided include: P/E, P/S, P/CF, P/B, or Dividend Yield.

   By default, data is provided for the past five years. To select a shorter time frame, click and drag across the body of the chart. To reset the timeframe, click the grey *Reset Zoom* box on the top right of the chart.

   The TTM Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

   The data underpinning the TTM Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

5) *(Fundamental) Growth:* Five years of growth rates for the selected fundamental, including forward-looking estimates for the years to come.

   The (Fundamental) Growth Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

   The data underpinning the (Fundamental) Growth Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

Back to Table of Contents

6) *(Fundamental) Trends 2021E:* Monthly analyst estimates for the selected fundamental over the past twelve months.

The (Fundamental) Trends 2021E Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

The data underpinning the (Fundamental) Trends 2021E Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

Comparative Research Frame: Holdings

Performance & Flows | Risk Stats | Composition | Fundamentals | Holdings | Build Report

Ticker	Name	SPY	IWM	IJH	Avg Wt	Count
AAPL-US	Apple Inc.	5.83%	-	-	1.94%	1
MSFT-US	Microsoft Corporation	5.33%	-	-	1.78%	1
AMZN-US	Amazon.com, Inc.	3.98%	-	-	1.33%	1
FB-US	Facebook, Inc. Class A	2.11%	-	-	0.70%	1
GOOGL-US	Alphabet Inc. Class A	1.83%	-	-	0.61%	1
GOOG-US	Alphabet Inc. Class C	1.76%	-	-	0.59%	1
TSLA-US	Tesla Inc	1.54%	-	-	0.51%	1
CZR-US	Caesars Entertainment Inc	0.06%	0.57%	0.85%	0.49%	3
PENN-US	Penn National Gaming, Inc.	0.05%	0.61%	0.79%	0.48%	3
BRK.B-US	Berkshire Hathaway Inc. Class B	1.43%	-	-	0.48%	1
JPM-US	JPMorgan Chase & Co.	1.38%	-	-	0.46%	1
JNJ-US	Johnson & Johnson	1.26%	-	-	0.42%	1
UNH-US	UnitedHealth Group Incorporated	1.04%	-	-	0.35%	1
V-US	Visa Inc. Class A	1.06%	-	-	0.35%	1
DIS-US	Walt Disney Company	1.05%	-	-	0.35%	1
NVDA-US	NVIDIA Corporation	0.98%	-	-	0.33%	1
PG-US	Procter & Gamble Company	0.96%	-	-	0.32%	1
DAR-US	Darling Ingredients Inc.	-	0.41%	0.52%	0.31%	2
MA-US	Mastercard Incorporated Class A	0.94%	-	-	0.31%	1
HD-US	Home Depot, Inc.	0.93%	-	-	0.31%	1
GNRC-US	Generac Holdings Inc.	0.06%	-	0.85%	0.30%	2
BAC-US	Bank of America Corp	0.86%	-	-	0.29%	1
PYPL-US	PayPal Holdings Inc	0.86%	-	-	0.29%	1

Showing 1 to 2,773 of 2,773 entries

The **Comparative Holdings Research Frame** provides a **Comparative Holdings Data Table** that lists all the securities held by all the ETFs in the selected set, as well as how much of each equity each fund holds.

Each stock entry in the **Comparative Holdings Data Table** provides several data fields, including:

- *Ticker:* Security ticker, including listing exchange code.
- *Name:* Security name, including whether the security is an ADR
- *Tickers 1-12:* The total percentage weight of the security in that ETF's portfolio. If the equity is not present in that ETF, then the entry is marked with a "-".
- *Avg Wt:* The average weight of that security across all the ETFs in the selected set
- *Count:* Number of ETFs in the set in which the security appears

By default, all unique equities are loaded in the Comparative Holdings Data Table. It is not possible at this time to change the number of entries displayed, but entries can be sorted by using the up/down arrows next to each column heading.

Back to Table of Contents

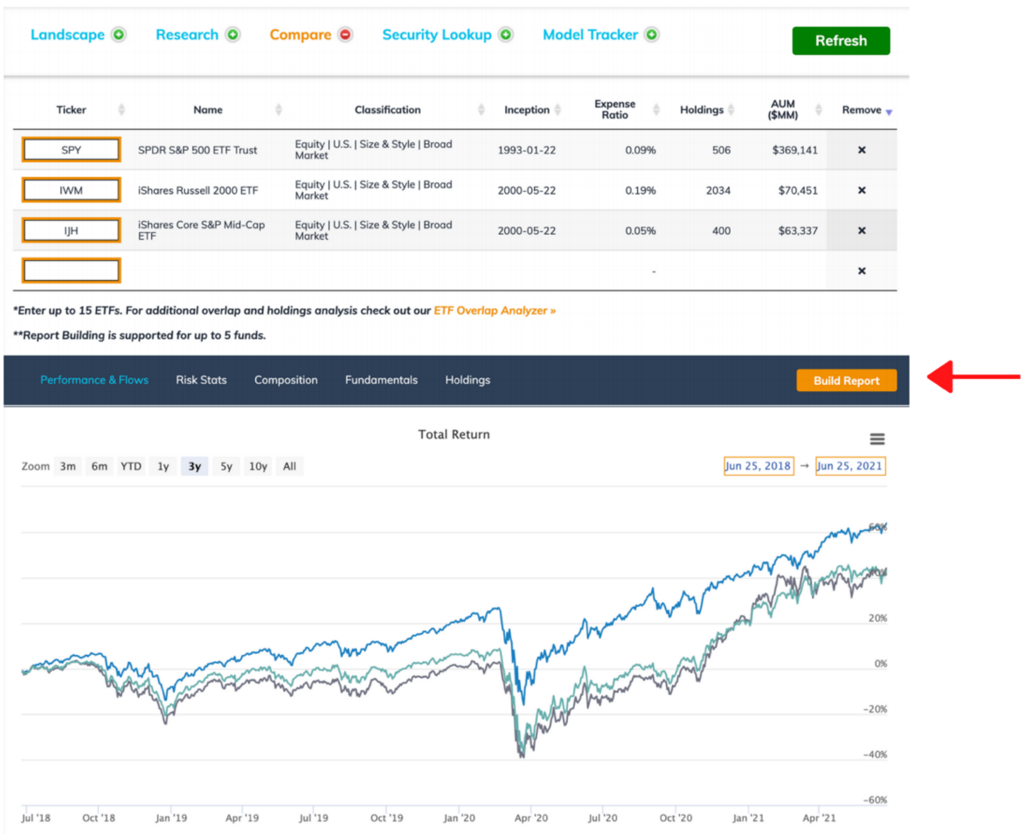
It is not possible at this time to save or export the data in the **Comparative Holdings Data Table.** For more capabilities, see the **ETF Overlap Analyzer** (see: "[ETF Overlap Analyzer]").

Creating Custom Reports

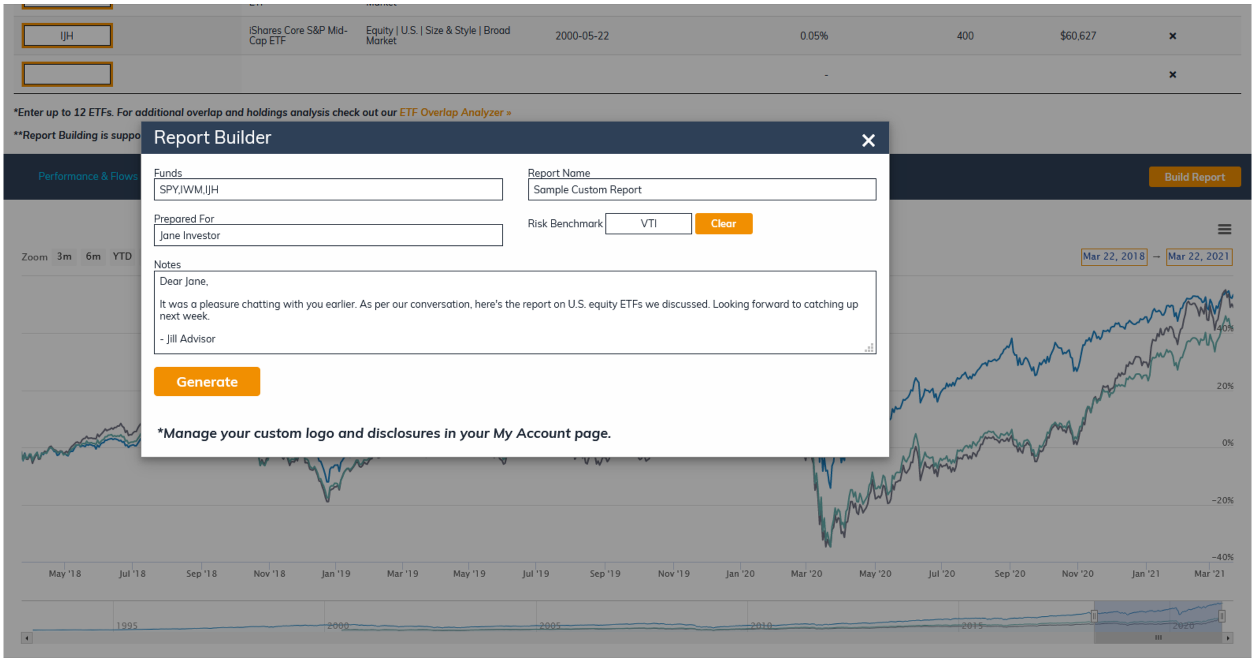
In the **Compare Lens,** Professional Level subscribers have the ability to generate comparative **Custom Reports**, which collate a wealth of visualizations and analysis in one client-ready package.

These Custom Reports will bear your company logo and disclosures. (See: "[Adding Company Information To Your Account.]")

To generate a custom report, load up to five ETFs into the Compare Lens, then click the orange **Build Report** button in the headings bar of the **Compare Frames:**



This will bring up a dialogue box, in which the Custom Report can be named, a benchmark can be specified, a recipient can be specified, and a personal message of up to 250 characters can be added:



Clicking the orange **Generate** button starts the **Custom Report Builder**. A progress wheel will begin to spin, indicating that the Builder is working. **Please allow up to one minute to let the Builder generate the report.**

When the Builder is finished, a green **Download Report** button will appear. Clicking it will automatically download the report in a .PDF format.

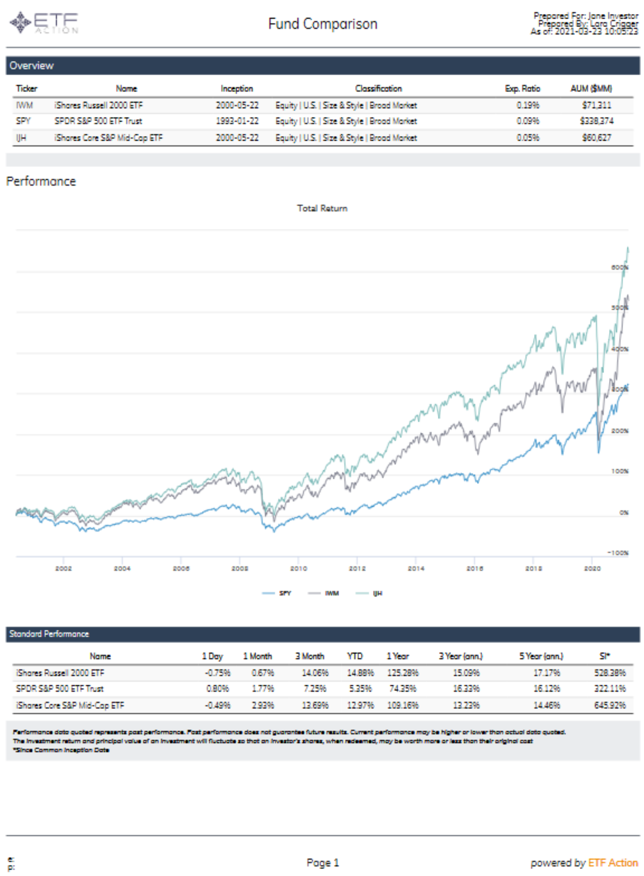
For now, the **Build Report** function can handle up to five ETFs. If more than five ETFs have been loaded into the **Compare Lens**, the **Build Report** button will remain non-interactive (colored grey). To enable the **Build Report** functionality, remove ETFs from the **Compare Lens** until you have five or fewer.

Back to Table of Contents

Inside The Custom Report

Each **Custom Report** is eight pages long, including data regarding the funds' comparative performance, trading and liquidity, flows, risk statistics, technical indicators, fundamental metrics, key equity ratios, constituent composition, and common holdings.

We include a sample page here:



Fund Comparison

Prepared For: Jane Investor
Prepared By: Lara Crigger
As of: 2021-03-23 10:05:23

Overview

Ticker	Name	Inception	Classification	Exp. Ratio	AUM ($MM)
IWM	iShares Russell 2000 ETF	2000-05-22	Equity | U.S. | Size & Style | Broad Market	0.19%	$71,311
SPY	SPDR S&P 500 ETF Trust	1993-01-22	Equity | U.S. | Size & Style | Broad Market	0.09%	$338,374
IJH	iShares Core S&P Mid-Cap ETF	2000-05-22	Equity | U.S. | Size & Style | Broad Market	0.05%	$60,627

Performance

Total Return

Standard Performance

Name	1 Day	1 Month	3 Month	YTD	1 Year	3 Year (ann.)	5 Year (ann.)	SI*
iShares Russell 2000 ETF	-0.75%	0.67%	14.06%	14.88%	125.28%	15.09%	17.17%	528.38%
SPDR S&P 500 ETF Trust	0.80%	1.77%	7.25%	5.35%	74.35%	16.33%	16.12%	322.11%
iShares Core S&P Mid-Cap ETF	-0.49%	2.93%	13.69%	12.97%	109.16%	13.23%	14.46%	645.92%

Performance data quoted represents past performance. Past performance does not guarantee future results. Current performance may be higher or lower than actual data quoted.
The investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost
*Since Common Inception Date

Page 1

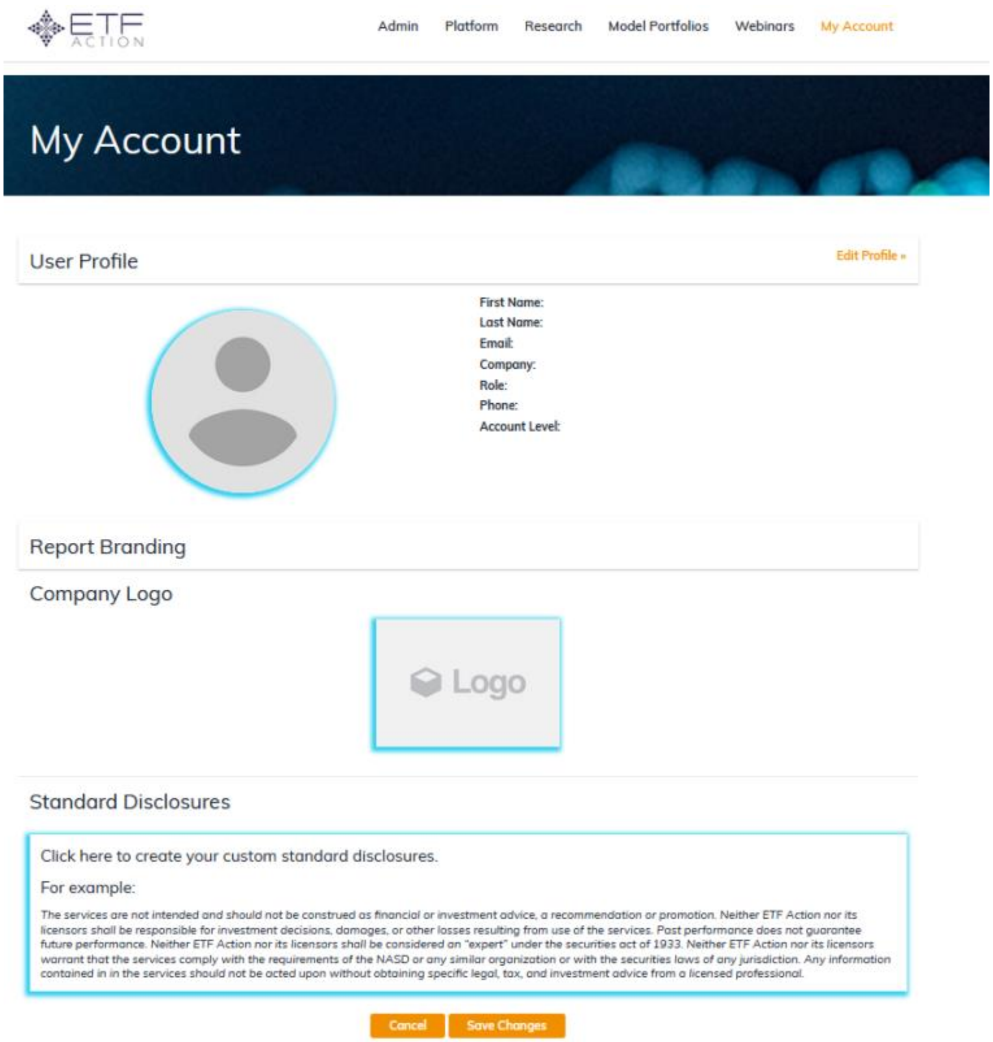
powered by ETF Action

Adding Company Information To Your Account

On your **User Profile** page, you can upload contact information, company logos, or standard disclosures to be automatically added to your Custom Reports.

To access your **User Profile,** click **My Account** at the top of the ETF Action Platform:

Back to Table of Contents

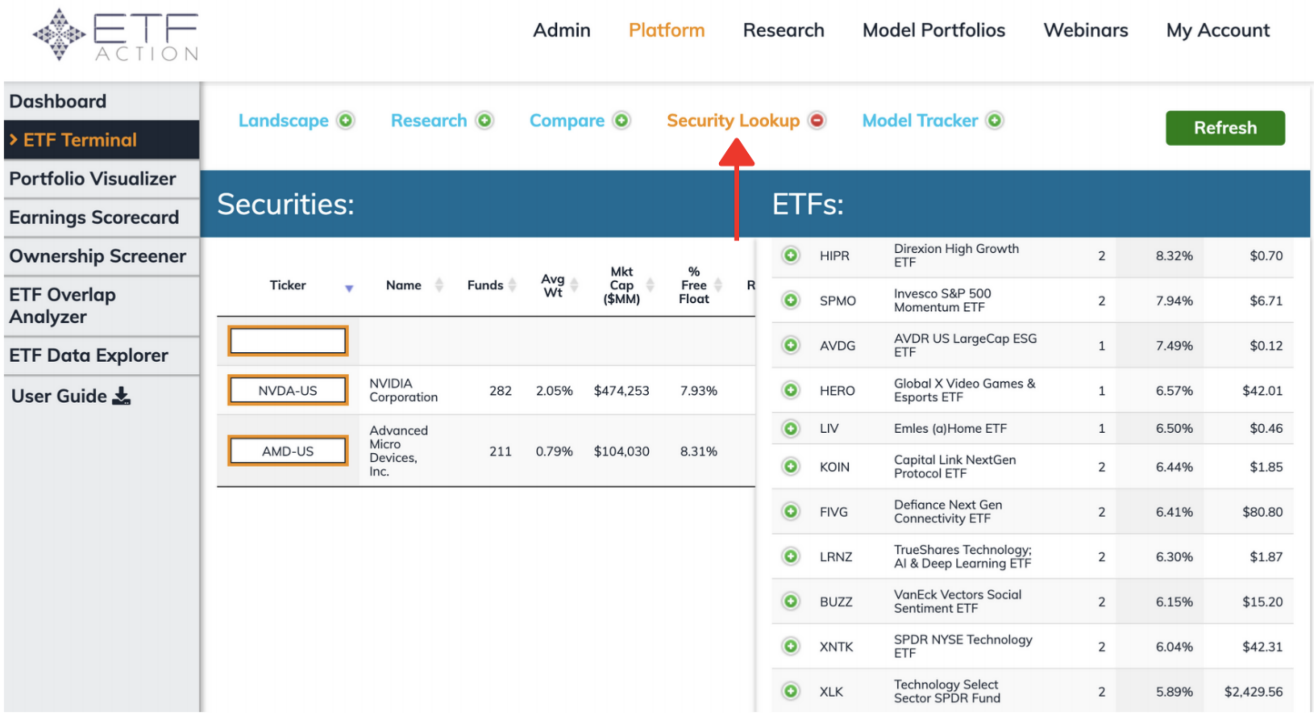


Here you can upload a personal photo, a company logo, and standard disclosures by clicking on the interactive light blue boxes. This will bring up either an upload dialogue box, where photos can be loaded from your device; or a text editor in which to copy-paste your standard disclosures.

You can also update your personal information, including email address, company, role, and phone number.

Back to Table of Contents

Security Lookup



The **Security Lookup** Tool allows users to search for what ETFs own which individual companies. The tool can accommodate a list of up to 20 individual securities, providing aggregated ownership data that can be broken down into individual ETF ownership.

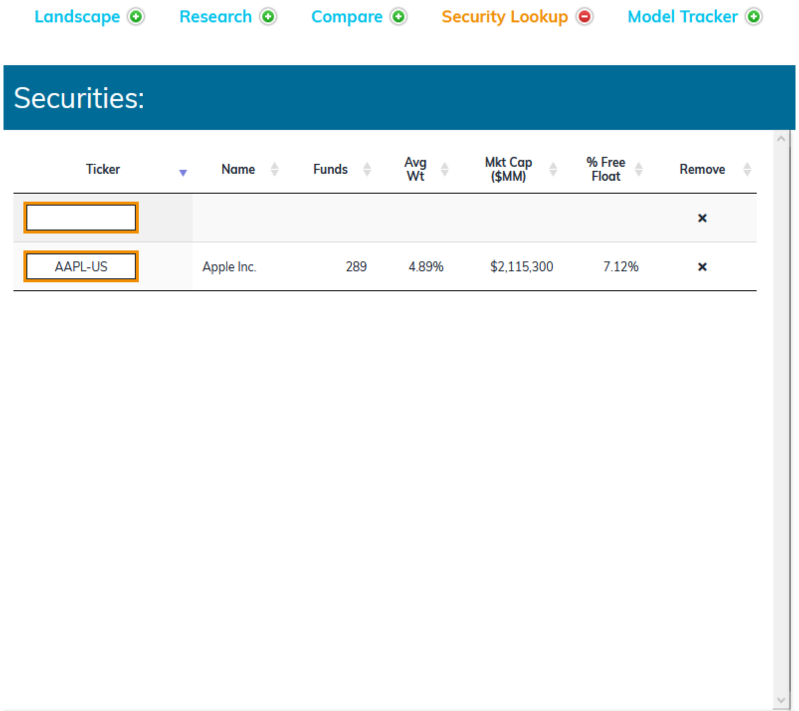
The **Security Lookup** tool consists of two modules:

- The **Ticker Entry Table**, which feeds a set of up to 20 individual securities into the **Security Lookup** Tool
- The **Aggregate ETF Ownership Table**, which displays the ETFs that own the set of ETFs, and in what amounts.

Each of these is described in more detail in the following sections.

Back to Table of Contents

The Ticker Entry Table

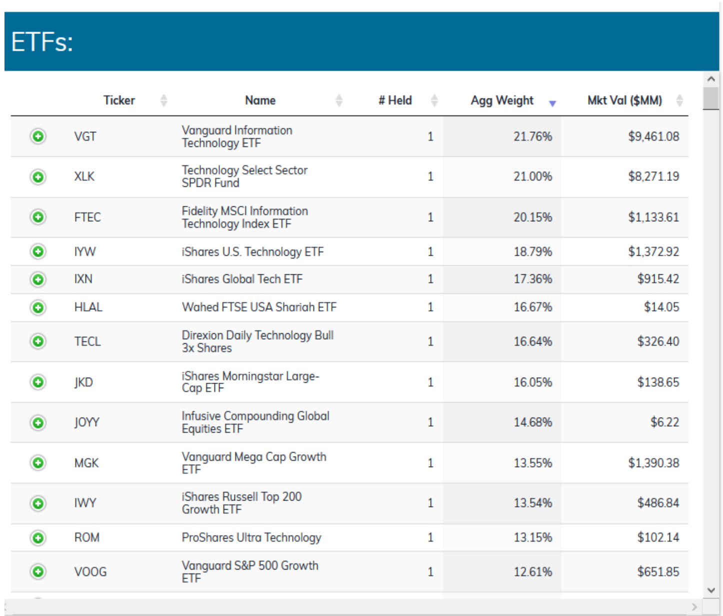


The **Ticker Entry Table** feeds a set of up to 20 individual stocks into the Security Lookup Tool. But it also displays relevant ownership data about each security, including:

- *Name:* Name of the security.
- *Funds:* How many total ETFs own shares of this security.
- *Avg Wt:* The average portfolio weight this security is given across all ETFs that own it.
- *Mkt Cap ($MM):* The total market capitalization of the security.
- *% Free Float:* The total percentage of free float shares of the security that are owned by ETFs.

Back to Table of Contents

The Aggregate ETF Ownership Table



ETFs:

Ticker	Name	# Held	Agg Weight	Mkt Val ($MM)
VGT	Vanguard Information Technology ETF	1	21.76%	$9,461.08
XLK	Technology Select Sector SPDR Fund	1	21.00%	$8,271.19
FTEC	Fidelity MSCI Information Technology Index ETF	1	20.15%	$1,133.61
IYW	iShares U.S. Technology ETF	1	18.79%	$1,372.92
IXN	iShares Global Tech ETF	1	17.36%	$915.42
HLAL	Wahed FTSE USA Shariah ETF	1	16.67%	$14.05
TECL	Direxion Daily Technology Bull 3x Shares	1	16.64%	$326.40
JKD	iShares Morningstar Large-Cap ETF	1	16.05%	$138.65
JOYY	Infusive Compounding Global Equities ETF	1	14.68%	$6.22
MGK	Vanguard Mega Cap Growth ETF	1	13.55%	$1,390.38
IWY	iShares Russell Top 200 Growth ETF	1	13.54%	$486.84
ROM	ProShares Ultra Technology	1	13.15%	$102.14
VOOG	Vanguard S&P 500 Growth ETF	1	12.61%	$651.85

The **Aggregate ETF Ownership Table** lists the results of the Security Lookup query, displaying the ETFs that own the specified stocks. By default, the results are listed in descending order of portfolio weight given; this can be changed by clicking the up and down arrows next to any column heading in the Aggregate ETF Ownership Table.

The Aggregate ETF Ownership Table provides several fields:

- *Ticker:* Ticker of the ETF that owns the security or securities
- *Name:* Full name of the ETF that owns the security or securities.
- *# Held:* How many of the specified stocks in the set the ETF holds
- *Agg Weight:* The total portfolio weight the ETF dedicates to all the securities in the set
- *Mkt Val ($MM):* The total market value of the security or securities that the ETF holds.

The green pluses next to each ETF ticker indicate expandable entries. Click on them to see which stocks in the set a given ETF holds, and in what weights. **It is unlikely that all ETFs in the Aggregate ETF Ownership Table will hold all the stocks in the specified set.**

How To Use The Security Lookup Tool

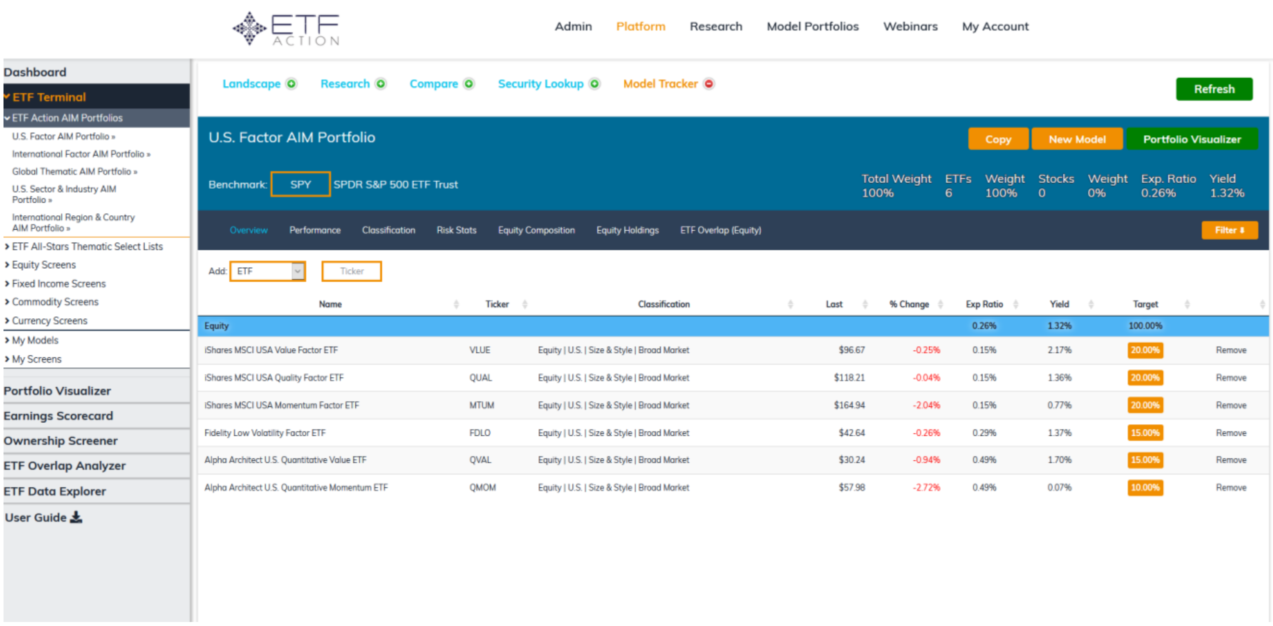
Typing a ticker into the **Ticker Entry Table** automatically populates data into the **Ticker Entry Table** and **Aggregate ETF Ownership Table.** You may type up to 20 stocks; any additional entries will overwrite that stock's entry in the Ticker Entry Table.

To remove a stock from the Ticker Entry Table, click the "X" in the "Remove" column. Its results will disappear from the Ticker Entry Table and Aggregate ETF Ownership Table simultaneously.

Back to Table of Contents

The green pluses next to each ETF in the Aggregate ETF Ownership Table indicate expandable entries. Click on them to see which stocks in the set a given ETF holds, and in what weights. **<u>It is unlikely that all ETFs in the Aggregate ETF Ownership Table will hold all the stocks in the specified set.</u>**

Model Tracker



The **Model Tracker** tool allows users to build portfolios of ETFs and individual stocks to analyze performance, composition, and risk statistics.

There are two main modules to the Model Tracker:

1. The **Model Portfolio Summary Statistics Bar**, which lists important data about the composition of the selected model, including a comparative benchmark that may be changed (See: "Model Portfolio: Summary Statistics Bar");
2. The **Model Portfolio Research Frames**, which allow deeper analysis into portfolio constituents. They are structured much like the **ETF Research Frames** (See: "ETF Terminal: Research Frames").

There are seven Research Frames, each discussed in more detail in the following sections. The selected Model Portfolio Research Frame will be highlighted in light blue. These frames are:

1) *<u>Overview:</u>* Provides overview information about the model portfolio's holdings, including their tickers, names, classifications, pricing information, expense ratio, yield, and weight in the portfolio.

2) *<u>Performance:</u>* Provides a dynamic, exportable chart and table of the historical return for each of the holdings in the model portfolio.

3) *<u>Classification:</u>* Visualizes the classification differences between holdings in the model.

4) *<u>Risk Stats:</u>* Provides an exportable table of relevant risk statistics across the full model portfolio.

Back to Table of Contents

5) *Equity Composition:* Provides dynamic, exportable charts of the overall market, region, sector and size exposures of the equities within the model portfolio, as compared to the benchmark

6) *Equity Holdings:* Provides an exportable, searchable table of all the equities held within the model portfolio, as well as in what amounts and by how many funds

7) *ETF Overlap (Equity):* Like the **ETF Overlap Analyzer,** provides an exportable, searchable table of ETFs that own the same stocks as found in the model portfolio, ranked by weight and how many stocks they have in common.

How To Use The Model Tracker

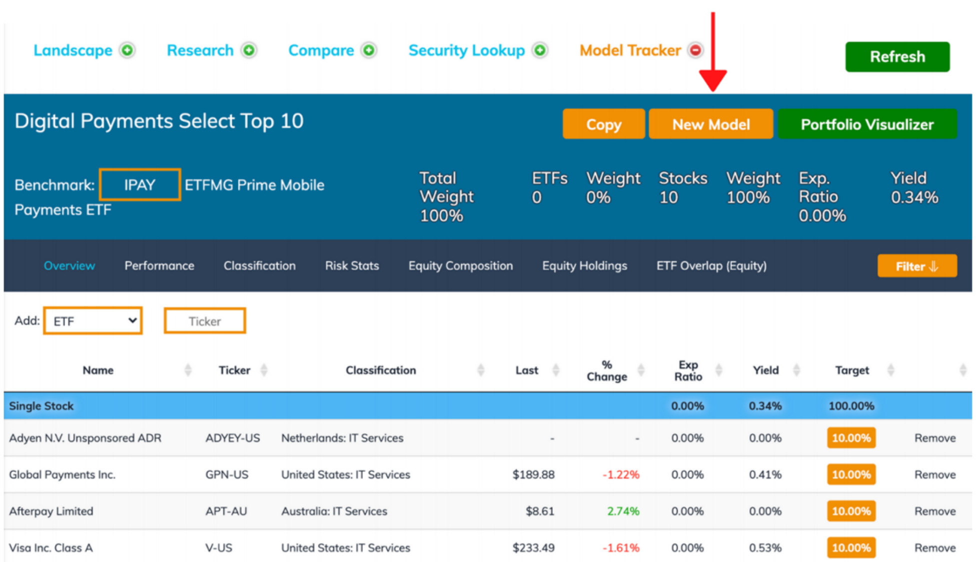
There are three primary ways to load model portfolios in the **Model Tracker.**

1. Create a new model portfolio, using the "New Model" button.
2. Launch a prebuilt, ETF Action model portfolio from the lefthand sidebar, including the **ETF Action AIM Portfolios** and the **ETF All-Stars® Thematic Select Lists.**
3. Launch a saved custom model portfolio from "My Models," on the lefthand sidebar.

Each of these methods will be discussed in the sections below.

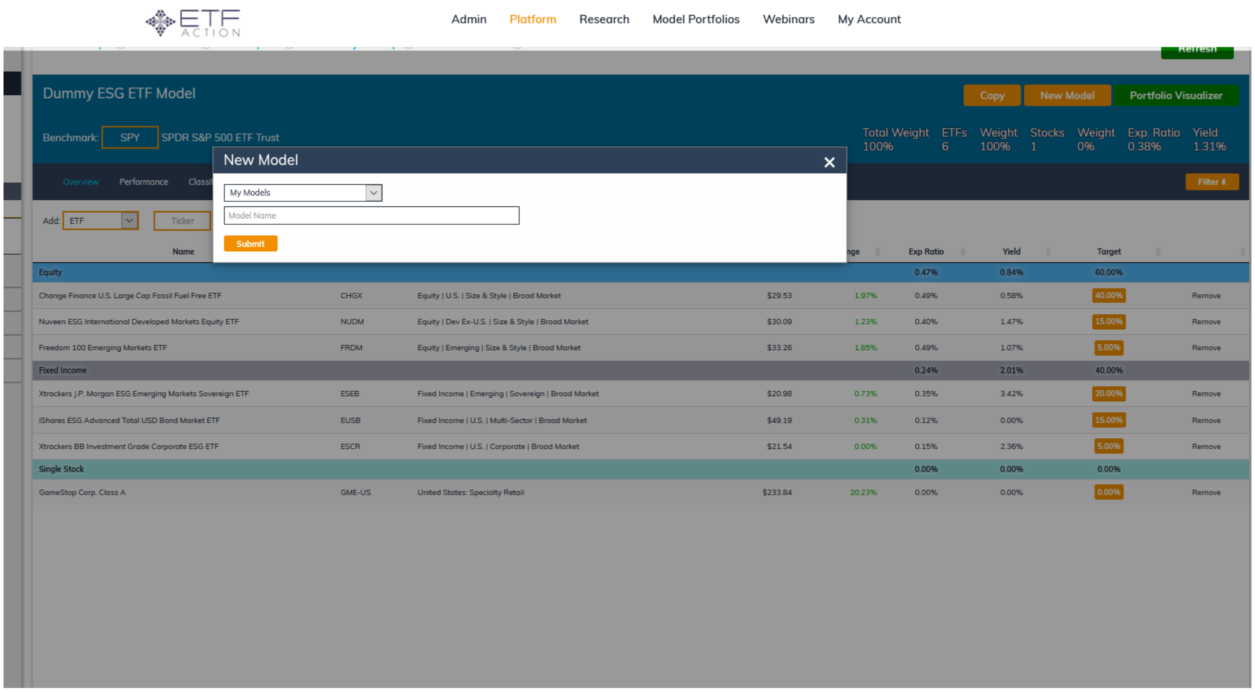
How To Create A New Model Portfolio

To create a new model portfolio, click the orange **"New Model"** button in the upper right corner of the Model Tracker screen.



That will launch a pop up window allowing you to rename your model, as well as designate the model as personal use ("My Models") or to be shared with your team ("Team Models"). Team Models require an Enterprise-level subscription.

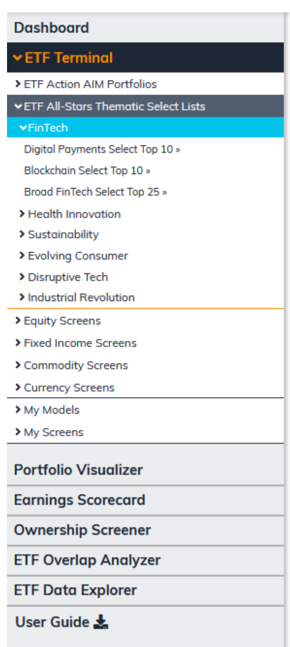
Back to Table of Contents



How to Launch A Prebuilt Model Portfolio

The ETF Action Platform comes loaded with several prebuilt **ETF Action Active Index Model (AIM) Portfolios** and **ETF All-Stars® Thematic Select Lists.** Each of these can be loaded into the Model Tracker.

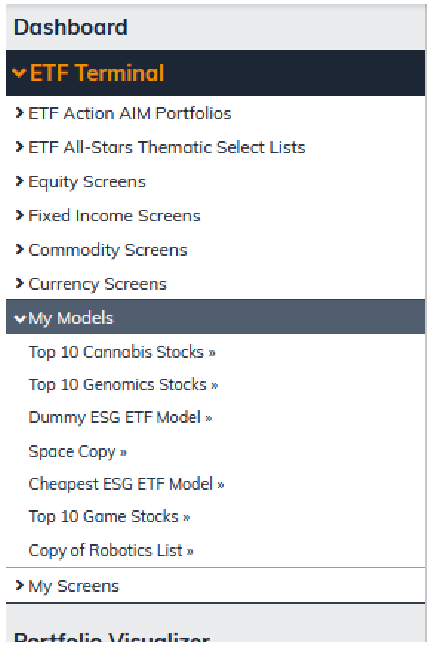
To launch a prebuilt portfolio, click on either **ETF Action AIM Portfolios** or **ETF All-Stars® Thematic Select Lists** on the grey, left-hand side bar. Then click on the desired model.



Back to Table of Contents

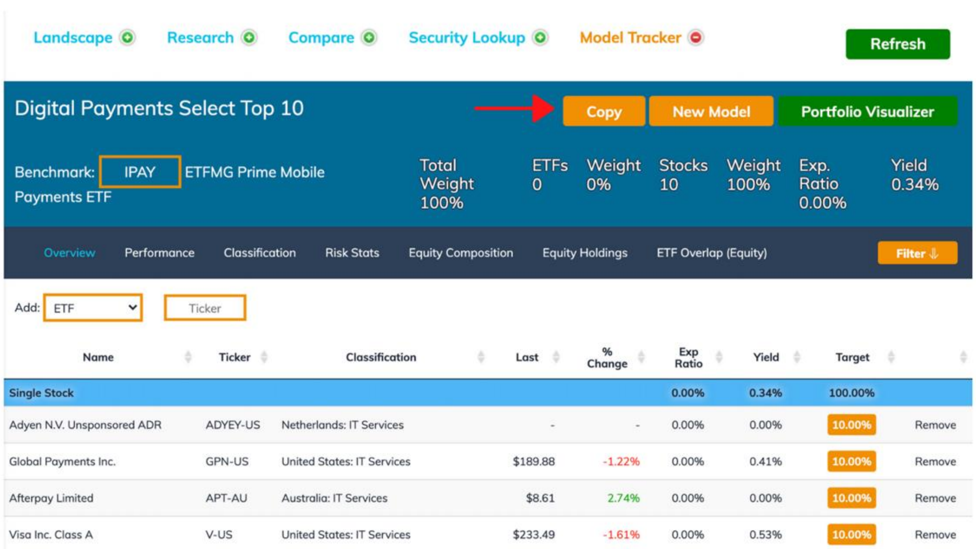
How To Launch A Saved Custom Model Portfolio

Saved model portfolios are accessible on the grey, left hand sidebar under "My Models." To load a saved model portfolio into the **Model Tracker,** select "My Models," then click on the desired model portfolio.



How To Copy A Model Portfolio

To make a duplicate copy of a model portfolio, click the orange "Copy" button in the upper right corner of the Model Tracker. Doing so will save the model portfolio under "My Models."



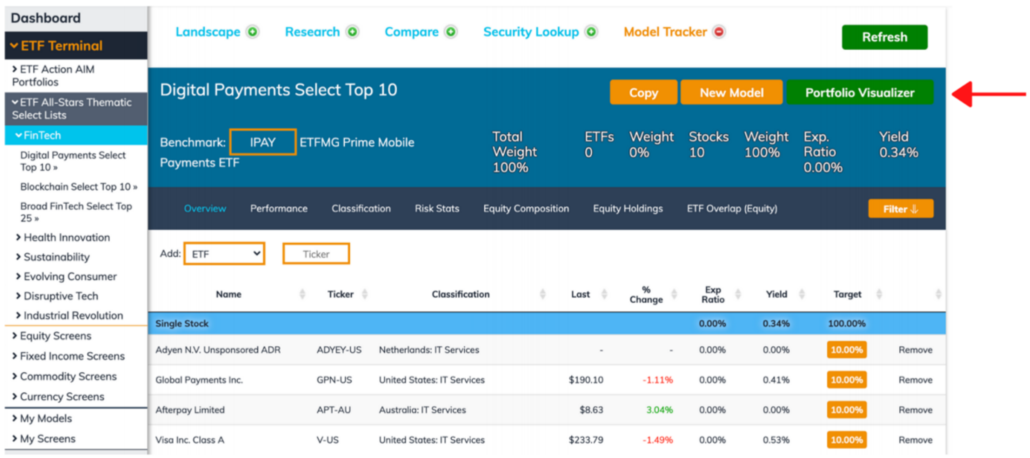
Back to Table of Contents

How to Load Model Portfolios Into Other ETF Action Toolsets

Model Portfolios can be cross-loaded from the **Model Tracker** into the **Portfolio Visualizer** and the **ETF Terminal: Research Lens.**

How to Load Model Portfolios Into The Portfolio Visualizer

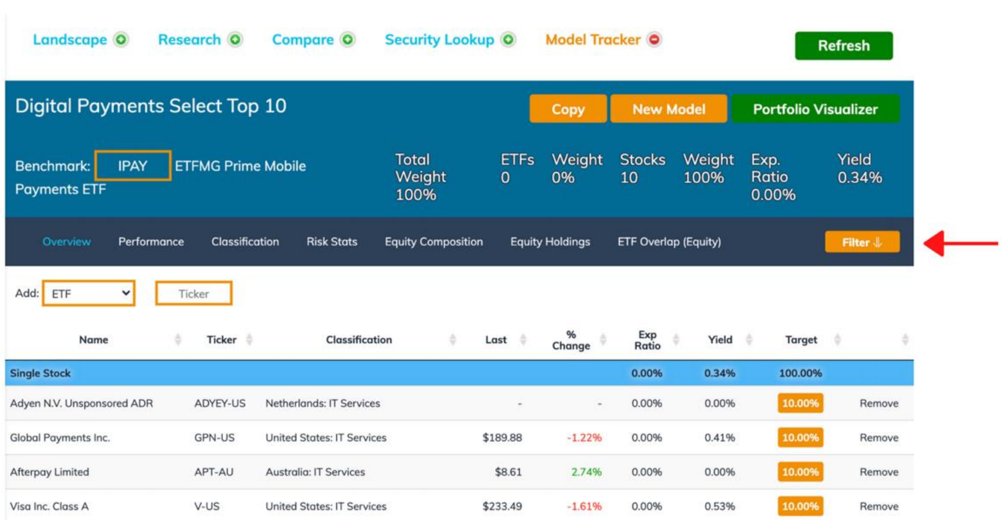
To load a model portfolio into the **Portfolio Visualizer,** click the green "Portfolio Visualizer" button in the upper right corner of the Model Tracker:



To return to the **Model Tracker,** simply select **"ETF Terminal"** from the grey, left hand navigational sidebar. This will automatically return you to the Model Tracker toolset.

How To Load ETF Model Portfolios Into The Research Lens

ETFs in the selected model can be loaded into the **Research Lens** of the ETF Terminal by clicking the static orange **Filter** button in the upper right corner of the Summary Statistics Bar. **Individual stocks will not be loaded.**



Back to Table of Contents

The Model Portfolio: Summary Statistics Bar

At the top of the Model Tracker is a static **Summary Statistics Bar** that captures several important characteristics about the fund, including:

- *Benchmark:* The benchmark against which the selected model is measured. This is customizable (see: "How To Change The Benchmark in The Model Tracker").
- *Total Weight:* The aggregate portfolio weight of all securities inside the selected model.
- *ETFs:* The total number of ETFs inside the selected model.
- *Weight (ETFs):* The aggregate portfolio weight of all ETFs within the selected model.
- *Stocks:* The total number of stocks inside the selected model.
- *Weight (Stocks):* The aggregate portfolio weight of all stocks within the selected model.
- *Exp. Ratio:* The blended expense ratio of the selected model
- *Yield:* The average trailing twelve-month yield for all the securities in the model.

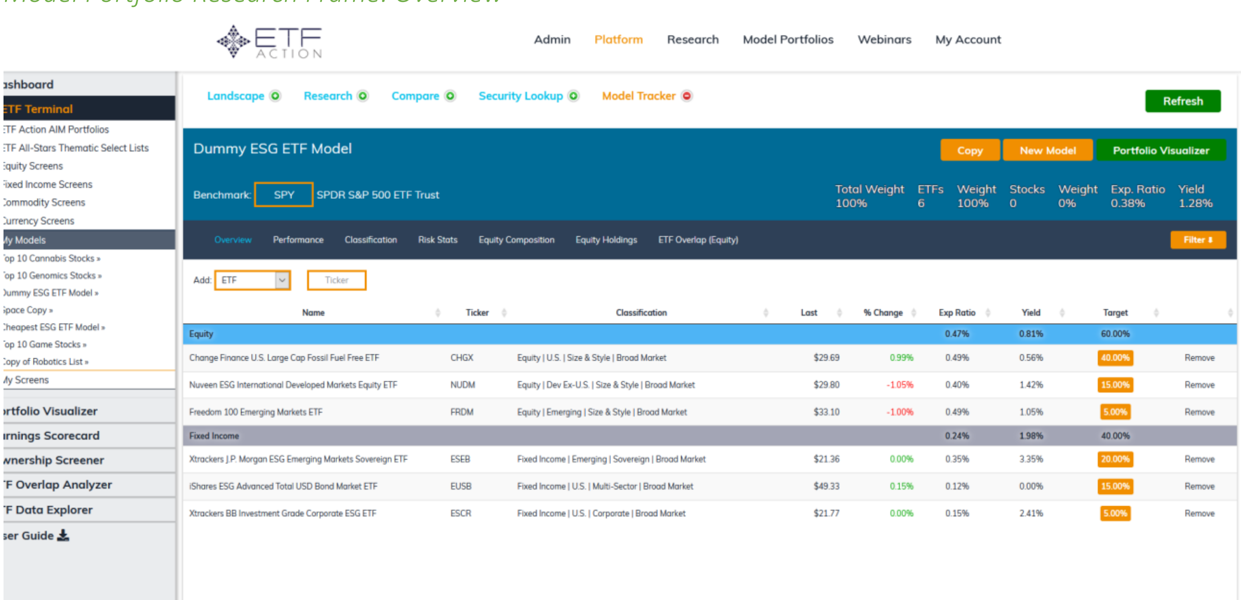
How To Change The Benchmark In The Model Tracker

To change the ETF used to benchmark the selected model portfolio, type any U.S.-listed ETF ticker into the orange ticker box at the top of the Model Tracker.

The Model Portfolio Research Frames

There are seven **Model Portfolio Research Frames**, each discussed in more detail in the following sections; the selected Model Portfolio Research Frame will be highlighted in light blue.

Model Portfolio Research Frame: Overview



The **Overview** Research Frame is where the model portfolio may be built. It also provides at-a-glance information about all the holdings inside the selected model portfolio, including:

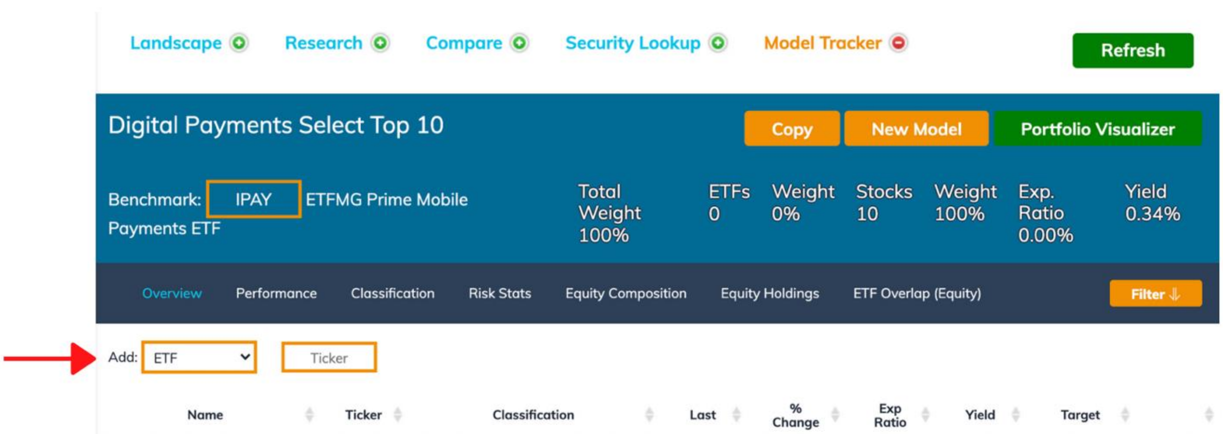
- *Name:* The full name of the security
- *Ticker*: The ticker for the security
- *Classification:* The security's classification within the ETF Action Classification system
- *Last:* Last traded price for the security.
- *% Change:* Percentage change in price from previous quote.
- *Exp Ratio:* Expense ratio of the security
- *Yield:* The trailing twelve month yield for the security.
- *Target:* The weight given to that security in the model portfolio.

The colored subheadings separate the holdings out by asset class—blue for Equity, grey for Fixed Income, etc.—while also providing summary statistics about that asset class's holdings, including:

- *Exp Ratio:* Simple average expense ratio for the securities in that asset class
- *Yield:* Average trailing twelve month yield for the securities in that asset class
- *Target:* The total amount of the model portfolio comprised of securities in that asset class

How To Add And Remove Securities To Your Model Portfolio

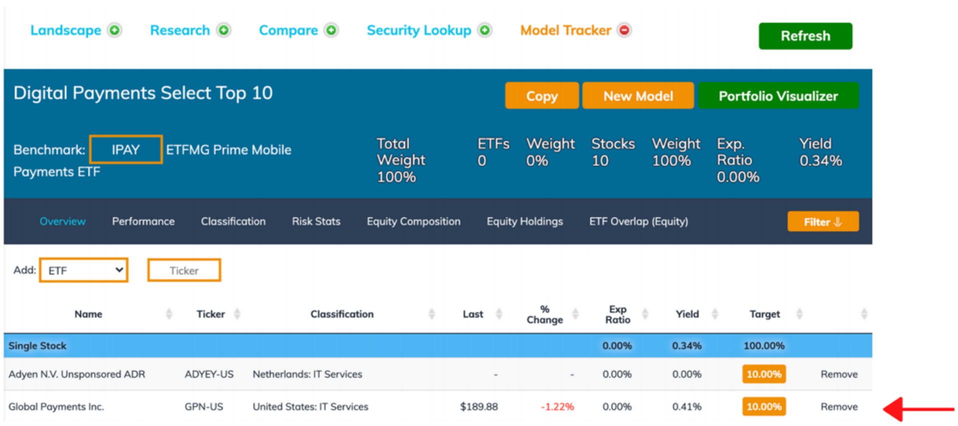
To add securities to a model portfolio, first select whether you want to add an ETF or a Single Stock from the *Add* drop down menu:



Back to Table of Contents

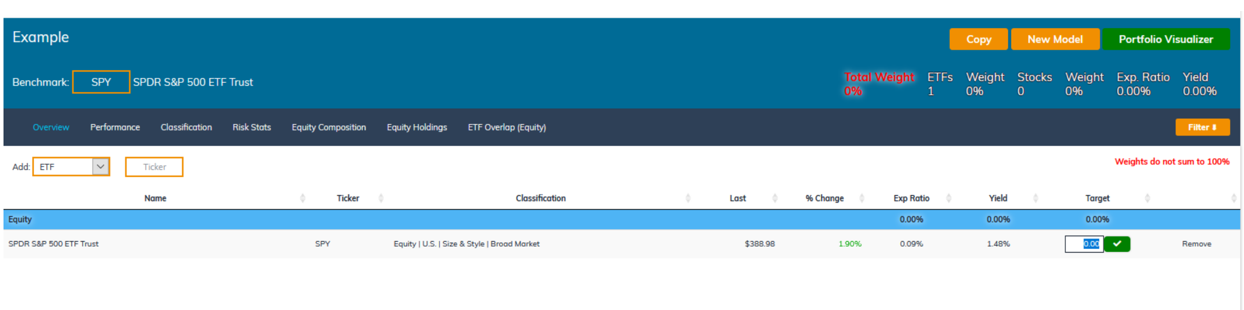
Then input the security ticker, and either select the security from the autocomplete list or click "Enter." This will automatically add the security to your portfolio.

To remove securities from a model portfolio, click "Remove" in the farthest-right column.



How to Change Security Weights In Your Model Portfolio

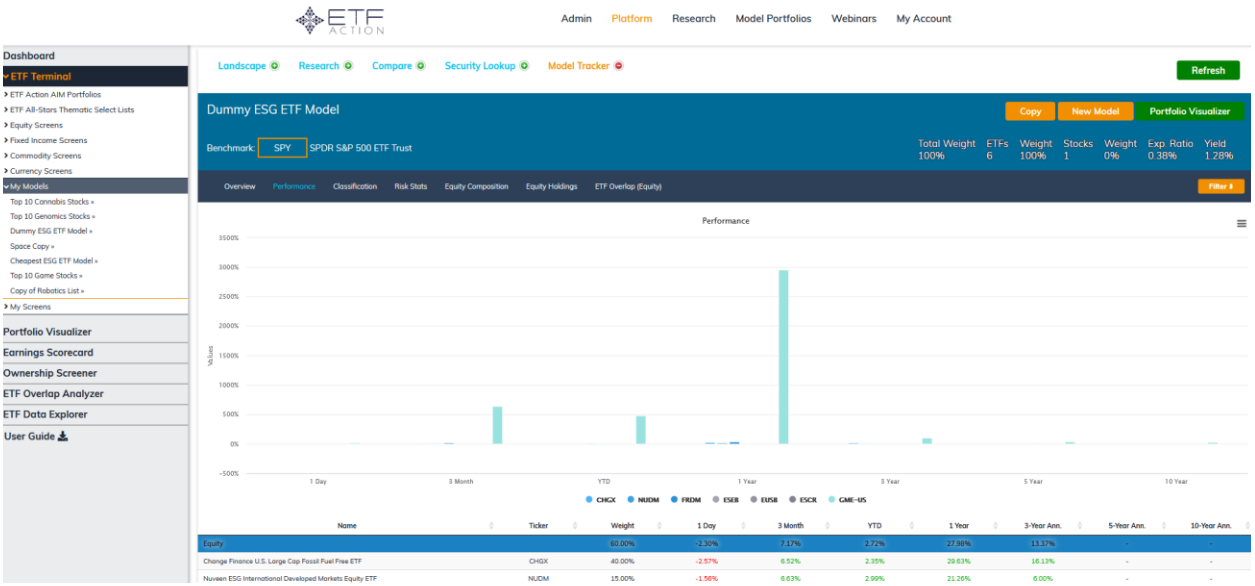
By default, a security's portfolio weight is set to 0.00% when it is added to a model portfolio. To change a security's weight in the model portfolio, click on the orange button under "Target." Type in the desired security weight, then click the green check mark to enter.



If all the security weights in the model portfolio do not sum to 100%, then a warning label will pop up indicating **"Weights do not sum to 100%".**

Back to Table of Contents

Model Portfolio Research Frame: Performance



The **Performance** Research Frame consists of two parts:

- A **Performance Bar Chart** which visualizes performance for each of the securities in the portfolio over multiple time frames, including one day, three months, year-to-date, one year, three years annualized, five years annualized, and ten years annualized.
- A **Performance Table** that lists performance for each of the securities in the portfolio over multiple time frames, including one day, three months, year-to-date, one year, three years annualized, five years annualized, and ten years annualized.

In the bar chart, securities are grouped by asset class and colored accordingly: All equity ETFs will have a blue shade; all fixed income ETFs will have a grey shade, all single securities will have an aqua shade, and so on.

In the table, securities are grouped by asset class. Average values for each asset class are displayed in the colored bars.

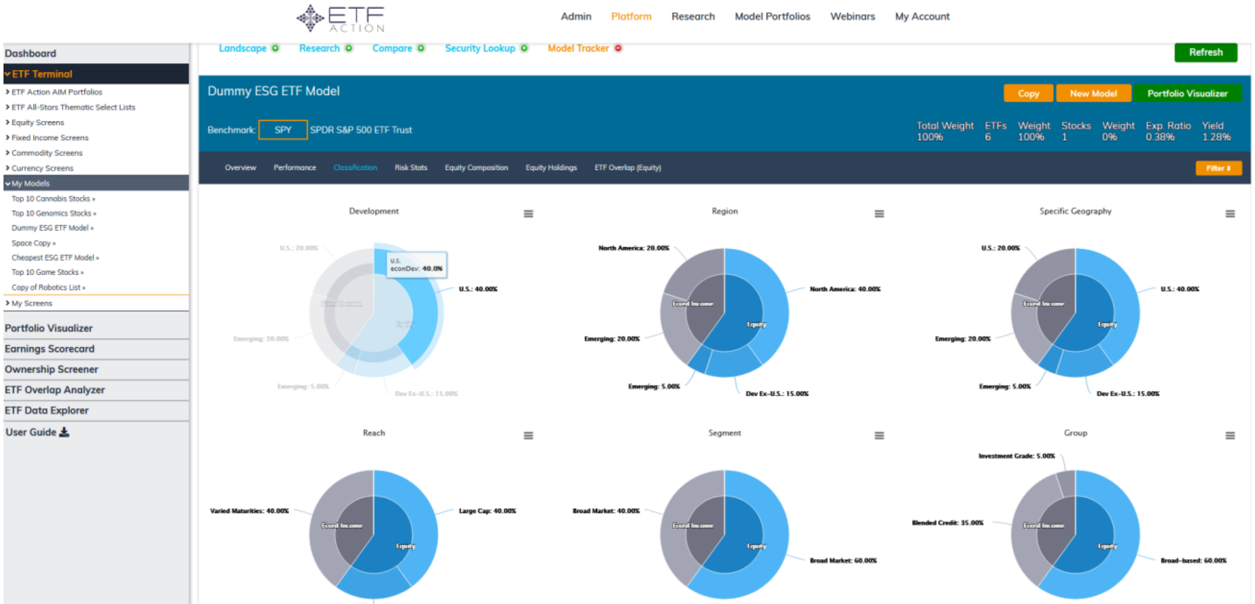
How To Export Model Portfolio Performance Data

The **Model Portfolio Performance Bar Chart**, as well as the data underpinning it, can be exported to a variety of file formats by clicking the three parallel lines in the top right corner of the chart.

The bar chart can be viewed in full screen, printed, or exported to a .png, .jpeg, .pdf, or .svg file; while the data underpinning the bar chart can be exported to a .csv or .xls file.

Back to Table of Contents

Model Portfolio Research Frame: Classification



The **Classification Research Frame** visualizes the securities in the model portfolio across various ETF Action Classification buckets, including:

- *Development:* **NOTE: Corresponds to "Market" in the ETF Action Classification system**. Indicates one of four major economic development categories: United States (U.S.), Developed Ex-U.S. (Dev Ex-U.S.), Emerging, and Frontier.
- *Region:* Indicates ETFs' geographic region, as specified in their primary investment objective. ETFs without a specified region maintain whatever classification they held in the "Development" field.
- *Specific Geography:* **NOTE: Corresponds to "Country" in the ETF Action Classification system.** Indicates the ETFs' specific country, as specified in their primary investment objective. ETFs without a specified country maintain whatever classification they held in the "Development" field.
- *Reach:* Indicates what type of securities the ETF holds (e.g, Large Cap, Floating Rate, Total Market, Physically Held, etc.)
- *Segment:* Indicates the general focus of the investment objective (e.g., Broad Market, Consumer Staples, Senior Loans, Coffee.)
- *Group:* Drills down further into the particular niche the investment objective covers (e.g., Food & Beverage, FANG +, Clean Energy: Wind, Streaming Services).

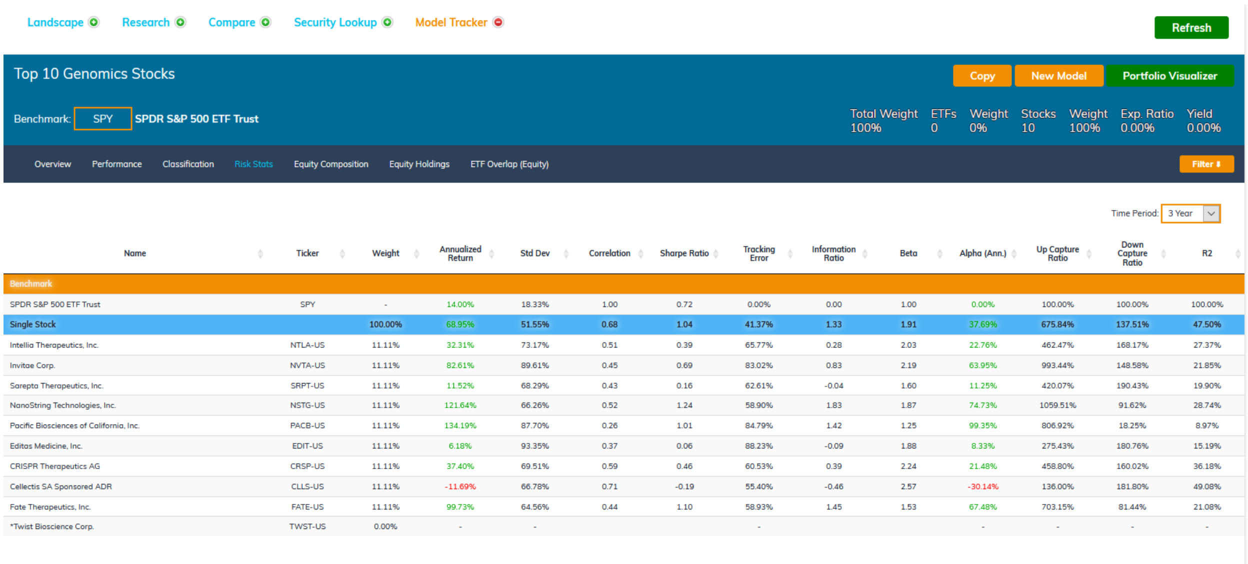
How To Export Model Portfolio Classification Data

The Model Portfolio **Classification Charts,** as well as the data underpinning them, can be exported to a variety of file formats by clicking the three parallel lines in the top right corner of each chart.

The chart can be viewed in full screen, printed, or exported to a .png, .jpeg, .pdf, or .svg file; while the data underpinning the bar chart can be exported to a .csv or .xls file.

Back to Table of Contents

Model Portfolio Research Frame: Risk Stats



Name	Ticker	Weight	Annualized Return	Std Dev	Correlation	Sharpe Ratio	Tracking Error	Information Ratio	Beta	Alpha (Ann.)	Up Capture Ratio	Down Capture Ratio	R2
Benchmark													
SPDR S&P 500 ETF Trust	SPY	-	14.00%	18.33%	1.00	0.72	0.00%	0.00	1.00	0.00%	100.00%	100.00%	100.00%
Single Stock		100.00%	68.95%	51.55%	0.68	1.04	41.37%	1.33	1.91	37.69%	675.84%	137.51%	47.50%
Intellia Therapeutics, Inc.	NTLA-US	11.11%	32.31%	73.17%	0.51	0.39	65.77%	0.28	2.03	22.76%	462.47%	168.17%	27.37%
Invitae Corp.	NVTA-US	11.11%	82.61%	89.61%	0.45	0.69	83.02%	0.83	2.19	63.95%	993.44%	148.58%	21.85%
Sarepta Therapeutics, Inc.	SRPT-US	11.11%	11.52%	68.29%	0.43	0.16	62.61%	-0.04	1.60	11.25%	420.07%	190.43%	19.90%
NanoString Technologies, Inc.	NSTG-US	11.11%	121.64%	66.26%	0.52	1.24	58.90%	1.83	1.87	74.73%	1059.51%	91.62%	28.74%
Pacific Biosciences of California, Inc.	PACB-US	11.11%	134.19%	87.70%	0.26	1.01	84.79%	1.42	1.25	99.35%	806.92%	18.25%	8.97%
Editas Medicine, Inc.	EDIT-US	11.11%	6.18%	93.35%	0.37	0.06	88.23%	-0.09	1.88	8.33%	275.43%	180.76%	15.19%
CRISPR Therapeutics AG	CRSP-US	11.11%	37.40%	69.51%	0.59	0.46	60.53%	0.39	2.24	21.48%	458.80%	160.02%	36.18%
Cellectis SA Sponsored ADR	CLLS-US	11.11%	-11.69%	66.78%	0.71	-0.19	55.40%	-0.46	2.57	-30.14%	136.00%	181.80%	49.08%
Fate Therapeutics, Inc.	FATE-US	11.11%	99.73%	64.56%	0.44	1.10	58.93%	1.45	1.53	67.48%	703.15%	81.44%	21.08%
*Twist Bioscience Corp.	TWST-US	0.00%	-	-			-			-	-	-	-

The **Risk Stats Frame** collects a variety of relevant risk statistics for the ETFs in the selected model portfolio into one **Risk Stats Table**.

By default, the Risk Stats Table is populated with data for the past three years. To change the time frame, click on the *Time Period* drop down menu in the upper right corner of the table, and select 1 Year, 3 Year, 5 Year, or 10 Year.

Risk data is calculated using monthly returns, with weights rebalanced back to target weights monthly. When a security does not have sufficient history to be included, **it is removed entirely and its weight re-distributed across the remaining holdings proportionately.**

Understanding The Risk Stats Table

Data in the **Risk Stats Table** is broken into several asset class related categories, separated by colored bars. At the top of the table is an orange bar, indicating data for the selected ETF benchmark (See: "**How To Change The Benchmark In The Model Tracker**.") A blue bar indicates data for all equity ETFs in the portfolio; grey indicates fixed income; and teal indicates single stocks.

Data entries recorded in each of these colored bars indicates average values across all the ETFs in that asset class.

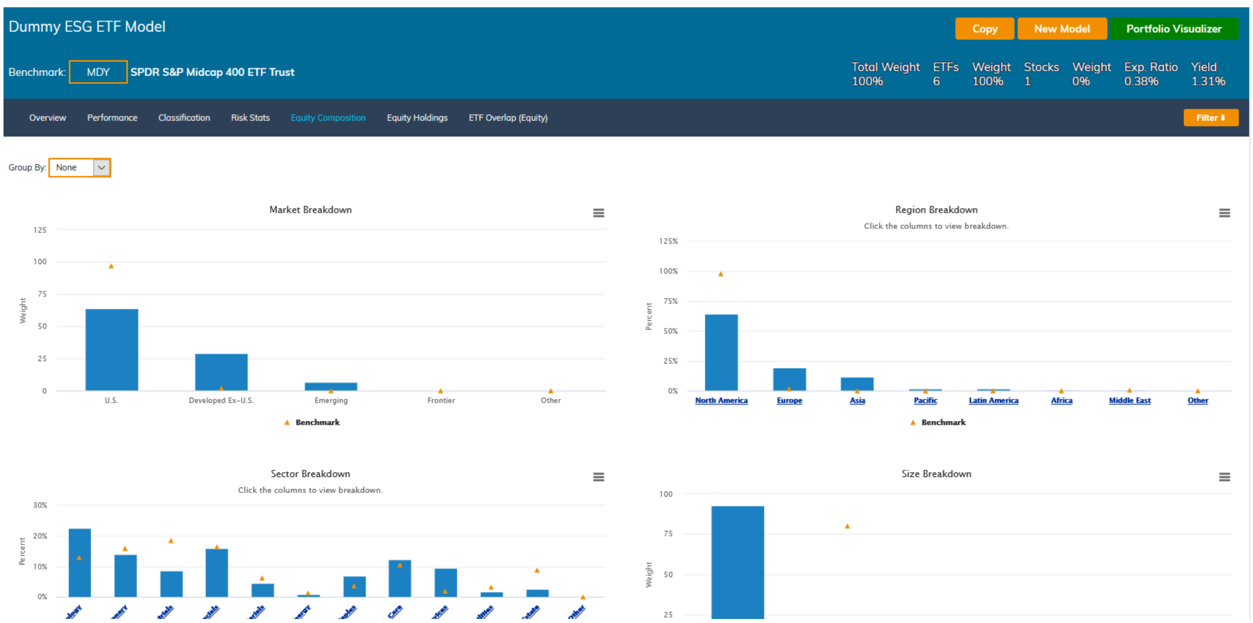
For each security in the model portfolio, the Risk Stats Table records 14 data fields, including:

- *Name:* The full name of the ETF or stock
- *Ticker:* The ticker under which the security trades
- *Weight:* The amount of weight in the portfolio that the security possesses.
- *Annualized Return:* The annualized return over the selected Time Frame.
- *Std Dev:* The standard deviation of those returns from the benchmark, over the selected Time Frame.
- *Correlation:* The security's correlation to the benchmark, over the selected Time Frame.
- *Sharpe Ratio:* The security's Sharpe ratio, over the selected Time Frame.

- *Tracking Error:* The security's tracking error to the selected benchmark, over the selected Time Frame.
- *Information Ratio:* The security's information ratio, compared to the selected benchmark, over the selected Time Frame.
- *Beta:* The security's beta, compared to the selected benchmark, over the selected Time Frame.
- *Alpha (Ann.):* The security's annualized alpha, compared to the selected benchmark, over the selected Time Frame.
- *Up Capture Ratio:* The security's up capture ratio, compared to the selected benchmark, over the selected Time Frame.
- *Down Capture Ratio:* The security's down capture ratio, compared to the selected benchmark, over the selected Time Frame.
- *R2:* The security's R^2 value, compared to the selected benchmark, over the selected Time Frame.

It is not possible to export the data in the **Risk Stats Table** at this time.

Model Portfolio Research Frame: Equity Composition

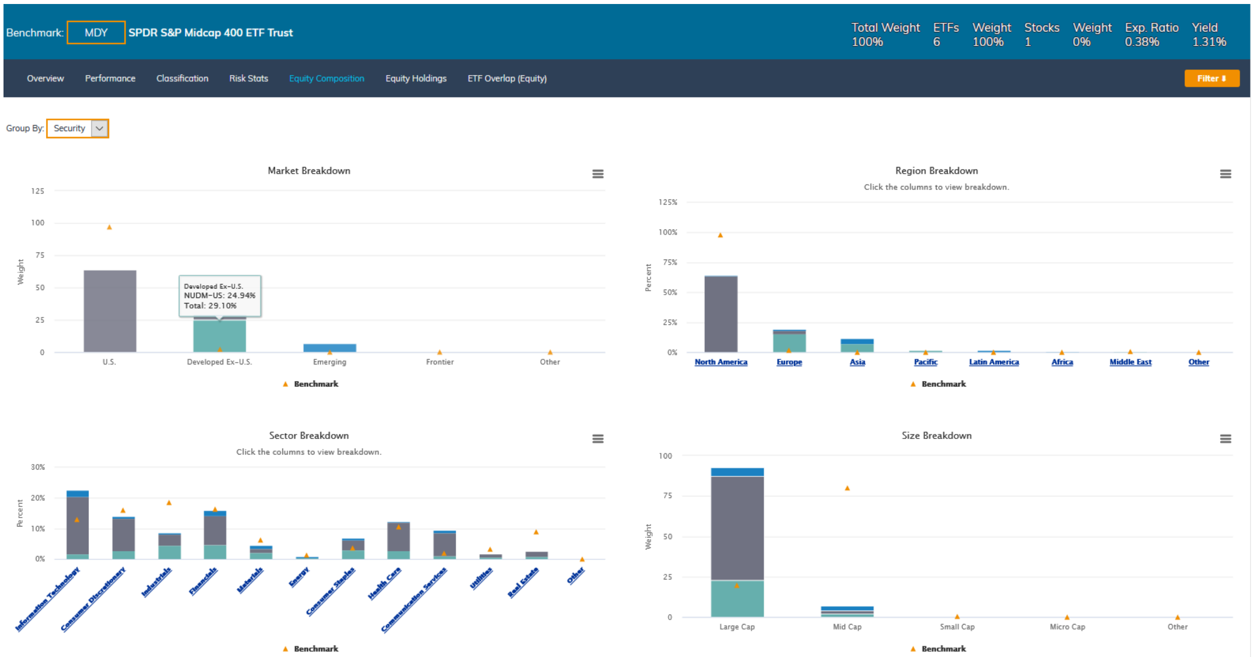


The **Equity Composition Frame** allows the user to make comparisons much like those available in the **ETF Terminal: Composition Research Frame**, except against the selected benchmark. (See: "[How To Change The Benchmark In The Model Tracker]".)

There are four **Breakdown Bar Charts**, comparing the securities in the selected model portfolio against values for the chosen benchmark, indicated on each graph with an orange triangle. The four Breakdown Bar Charts are as follows:

- *Market Breakdown:* Illustrates ETFs in the portfolio according to their economic development exposure.
- *Region Breakdown:* Illustrates ETFs in the portfolio according to their regional exposure.
- *Sector Breakdown:* Illustrates ETFs in the portfolio according to their GICS sector exposure.
- *Size Breakdown:* Illustrates ETFs in the portfolio according to their average market capitalization.

By default, there is no grouping applied to the data visualized in the Breakdown Bar Charts. To apply a grouping, select from the *Group by* drop down menu in the upper left corner a new grouping category, including None, Security, Market, Country, Sector, and Size. This will automatically map the groupings onto the existing charts; to see which ETFs fall into which grouping, hover over the bars:



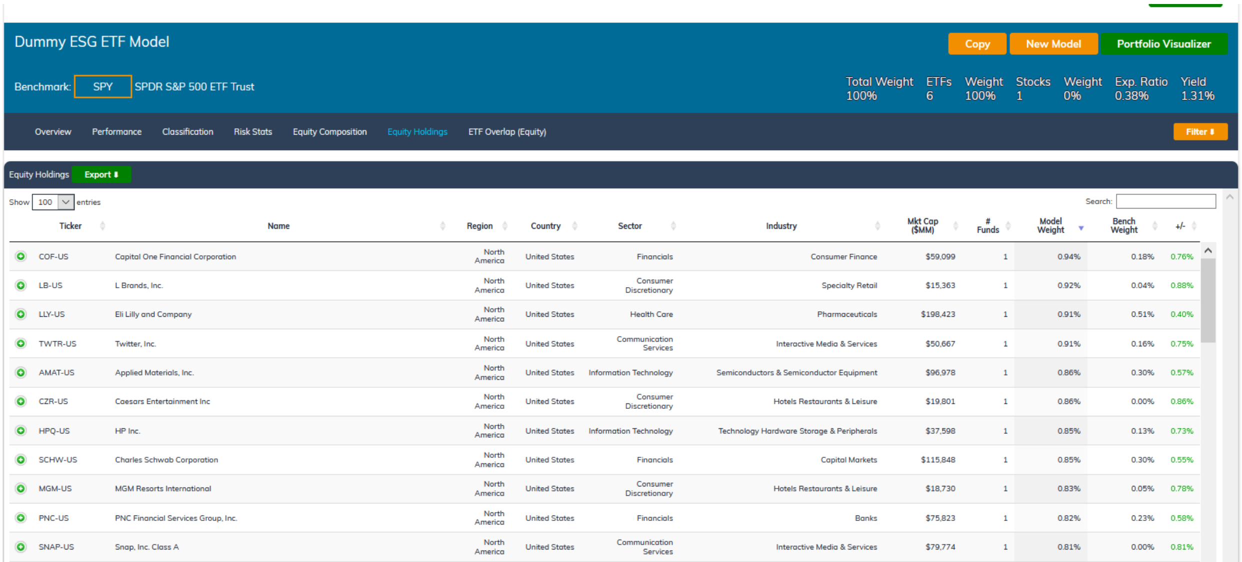
How To Export Model Portfolio Equity Composition Data

The Model Portfolio **Breakdown Bar Charts,** as well as the data underpinning them, can be exported to a variety of file formats by clicking the three parallel lines in the top right corner of each chart.

The chart can be viewed in full screen, printed, or exported to a .png, .jpeg, .pdf, or .svg file; while the data underpinning the bar chart can be exported to a .csv or .xls file.

Back to Table of Contents

Model Portfolio Research Frame: Equity Holdings



The **Equity Holdings Frame** provides an **Equity Holdings Data Table** that lists all the securities held by all the ETFs in the selected model portfolio, as well any single stocks within the selected model portfolio, as well as certain information about them, including classification data, prevalence in the portfolio, price changes and more.

Each stock entry in the **Equity Holdings Data Table** provides several data fields, including:

- *Ticker:* Security ticker, including listing exchange code.
- *Name:* Security name, including whether the security is an ADR
- *Region:* Region of domicile for the security
- *Country:* Country of domicile for the security
- *Sector:* GICS sector classification for the security
- *Industry:* GICS industry classification for the security
- *Mkt Cap ($MM):* Market capitalization of the security
- *# Funds:* Number of ETFs in the set in which the security appears
- *Model Weight:* Total security weight in the ETFs in the model, divided by the **total number** of ETFs in the set (not just the ETFs in which the security appears)
- *Bench Weight:* Total security weight in the selected ETF benchmark
- *+/-:* Difference between the weight of the security in the model portfolio and the weight of the security in the selected ETF benchmark.

By default, 100 securities are shown in the Equity Holdings Data Table. To change the number of securities displayed, click on the *Show Entries* drop down menu to select 10, 25, 50, 100, or All.

Back to Table of Contents

Expanding Entries In The Equity Holdings Data Table

Each security listed in the **Equity Holdings Data Table** has a **green** plus sign "+" next to its ticker. Clicking that button expands the row, so that you can see in which ETFs the security appears, including the weight it is given and total market value held.

To close the expanded row, click the **green** plus sign "+" again.

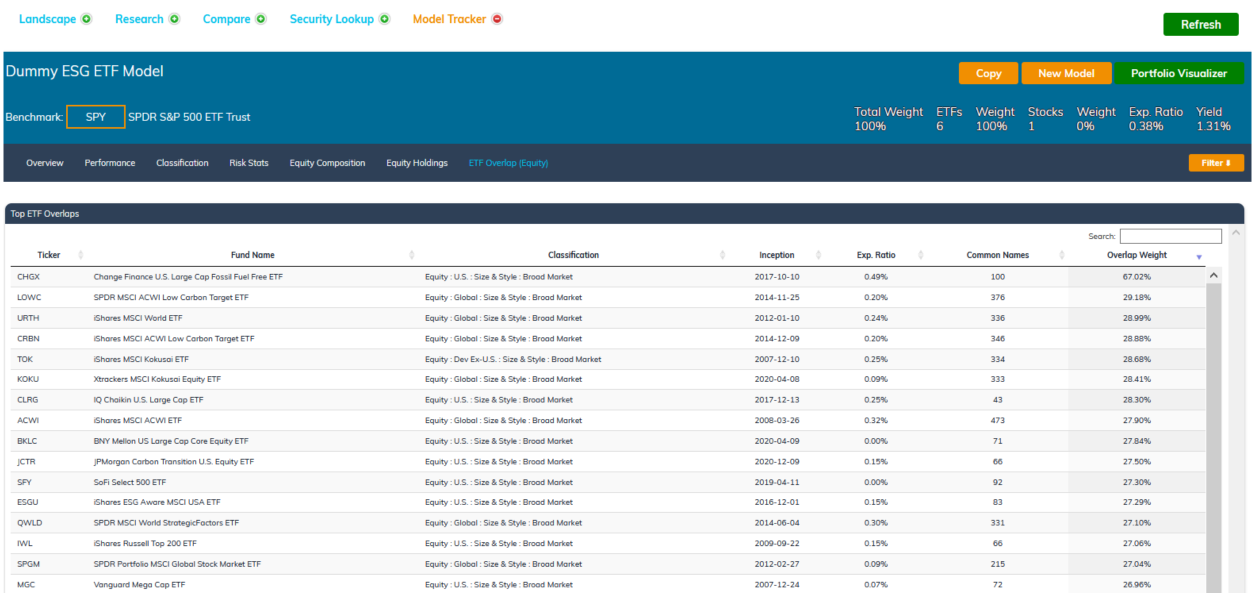
Searching the Equity Holdings Data Table

By default, all securities listed in all ETFs in the model portfolio are displayed in the **Equity Holdings Data Table.** To search for a particular security's entry, or for a particular known data point, type a search field into the **Search Bar** at the top right corner of the Equity Holdings Data table.

Exporting the Equity Holdings Data Table

The Equity Holdings Data Table may be exported to a .csv file by clicking on the green "Export" button in the upper left corner of the Equity Holdings Data Table. A download window will pop up, indicating your data is ready to open or save.

Model Portfolio Research Frame: ETF Overlap (Equity)


Landscape Research Compare Security Lookup Model Tracker Refresh

Dummy ESG ETF Model Copy New Model Portfolio Visualizer

Benchmark: SPY SPDR S&P 500 ETF Trust — Total Weight 100% | ETFs 6 | Weight 100% | Stocks 1 | Weight 0% | Exp. Ratio 0.38% | Yield 1.31%

Overview Performance Classification Risk Stats Equity Composition Equity Holdings ETF Overlap (Equity) Filter

Top ETF Overlaps

Search:

Ticker	Fund Name	Classification	Inception	Exp. Ratio	Common Names	Overlap Weight
CHGX	Change Finance U.S. Large Cap Fossil Fuel Free ETF	Equity : U.S. : Size & Style : Broad Market	2017-10-10	0.49%	100	67.02%
LOWC	SPDR MSCI ACWI Low Carbon Target ETF	Equity : Global : Size & Style : Broad Market	2014-11-25	0.20%	376	29.18%
URTH	iShares MSCI World ETF	Equity : Global : Size & Style : Broad Market	2012-01-10	0.24%	336	28.99%
CRBN	iShares MSCI ACWI Low Carbon Target ETF	Equity : Global : Size & Style : Broad Market	2014-12-09	0.20%	346	28.88%
TOK	iShares MSCI Kokusai ETF	Equity : Dev Ex-U.S. : Size & Style : Broad Market	2007-12-10	0.25%	334	28.68%
KOKU	Xtrackers MSCI Kokusai Equity ETF	Equity : Global : Size & Style : Broad Market	2020-04-08	0.09%	333	28.41%
CLRG	IQ Chaikin U.S. Large Cap ETF	Equity : U.S. : Size & Style : Broad Market	2017-12-13	0.25%	43	28.30%
ACWI	iShares MSCI ACWI ETF	Equity : Global : Size & Style : Broad Market	2008-03-26	0.32%	473	27.90%
BKLC	BNY Mellon US Large Cap Core Equity ETF	Equity : U.S. : Size & Style : Broad Market	2020-04-09	0.00%	71	27.84%
JCTR	JPMorgan Carbon Transition U.S. Equity ETF	Equity : U.S. : Size & Style : Broad Market	2020-12-09	0.15%	66	27.50%
SFY	SoFi Select 500 ETF	Equity : U.S. : Size & Style : Broad Market	2019-04-11	0.00%	92	27.30%
ESGU	iShares ESG Aware MSCI USA ETF	Equity : U.S. : Size & Style : Broad Market	2016-12-01	0.15%	83	27.29%
QWLD	SPDR MSCI World StrategicFactors ETF	Equity : Global : Size & Style : Broad Market	2014-06-04	0.30%	331	27.10%
IWL	iShares Russell Top 200 ETF	Equity : U.S. : Size & Style : Broad Market	2009-09-22	0.15%	66	27.06%
SPGM	SPDR Portfolio MSCI Global Stock Market ETF	Equity : Global : Size & Style : Broad Market	2012-02-27	0.09%	215	27.04%
MGC	Vanguard Mega Cap ETF	Equity : U.S. : Size & Style : Broad Market	2007-12-24	0.07%	72	26.96%

The **ETF Overlap (Equity) Frame** provides a list, in descending order, of the top 20 existing ETFs ("comp ETFs") whose holdings most closely match the holdings and weights of the selected model portfolio. This information is collected in the **ETF Overlap (Equity) Data Table**, which includes the following fields:

- *Ticker:* The comp ETF's ticker, including listing exchange code.
- *Fund Name:* The comp ETF's full fund name, including whether the security is an ADR
- *Classification:* The comp ETF's classification within the ETF Action Classification System
- *Inception:* The date on which the comp ETF first began trading.
- *Exp. Ratio:* The annual expense ratio for the comp ETF.

Back to Table of Contents

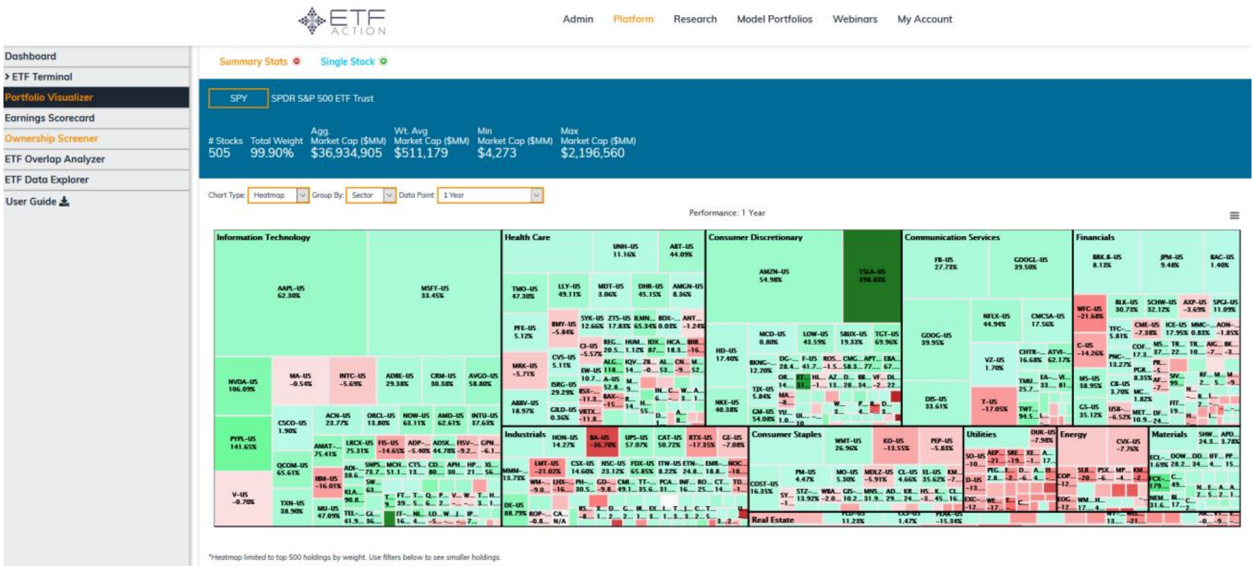
- *Common Names:* How many names are held in common between the comp ETF and the selected model portfolio.
- *Overlap Weight:* The overlapping portfolio weight of the names held in common between the comp ETF and the selected model portfolio.

The data in the **ETF Overlap (Equity) Data Table** is not exportable at this time.

Searching the ETF Overlap (Equity) Data Table

To search for a particular comp ETF, or for a particular known data point, type a search field into the **Search Bar** at the top right corner of the ETF Overlap (Equity) Data Table.

Portfolio Visualizer



The **Portfolio Visualizer** enables deep, look-through research and analysis into individual ETFs and stocks. It comprises two main Tools:

1. The **Summary Stats** Tool (also known as the **Stock Visualizer)** collects and visualizes equity-level data on the holdings within a given ETF, including exposures, performance, technical indicators, growth estimates, and key equity ratios.

   NOTE: When Portfolio Visualizer is selected from the left sidebar of the ETF Action platform, the Summary Stats Tool loads by default.

2. The **Single Stock** Tools: Similar to the Research Lens in the **ETF Terminal,** the **Single Stock** Tool enables research into dozens of data points and metrics, including price info, classification information, historical returns, technical indicators, distribution history, fundamental ratios, ETF ownership, and recent headlines.

These two Toolsets are described individually in the sections to follow.

Back to Table of Contents

Summary Stats (Stock Visualizer) Tool

The **Summary Stats (A)** Tool (also known as the **Stock Visualizer)** collects and visualizes equity-level data on the holdings within a given ETF, including exposures, performance, technical indicators, growth estimates, and key equity ratios.

After an ETF is selected, summary information about it will appear at the top of the Summary Stats Tool in the **Portfolio Visualizer Summary Statistics Bar (B),** which lists several data points about the ETF, including:

- *# Stocks:* Total number of stocks in the ETF (or model)
- *Total Weight:* Total amount of portfolio weight for which the stocks account.
- *Agg. Market Cap ($MM):* The sum total of all the market capitalizations of all the stocks within the portfolio, in millions of dollars.
- *Wt. Avg Market Cap ($MM)*: The weighted average market capitalization of all the stocks within the portfolio, in millions of dollars.
- *Min. Market Cap ($MM):* The smallest market capitalization in the ETF's portfolio, in millions of dollars.
- *Max Market Cap ($MM):* The largest market capitalization in the ETF's portfolio, in millions of dollars.

Much like other toolsets on the ETF Action Platform, the Summary Stats Tool also consists of two modules, which are described in more detail in the following sections:

1. The **Dynamic Portfolio Charting (C)** module that displays selected data graphically via heatmaps, histograms, or scatter plots of data, which can then be exported to various file formats (See: "Dynamic Portfolio Charting Module")
2. The **Company Navigator Table** module, which displays equity-level data in a table format. (See: "Company Navigator Table")

How To Use The Summary Stats Tool

To use the Summary Stats Tool, enter a ticker into the orange Ticker Box at the top of the screen. The Dynamic Portfolio Charting module and Company Navigator Table will automatically populate with data about the specified ETF.

Dynamic Portfolio Charting Module

The **Dynamic Portfolio Charting** module provides visualization of various key metrics about a given ETF. There are several interactive elements in the module allowing customization of the data:

- *Chart Type:* Dropdown menu that allows you to select the type of visualization depicted, from **Heatmap, Histogram,** or **Scatter Plot.**
- *Group By (Heatmap and Scatter Plot Only):* Dropdown menu that allows you to determine how securities are grouped within the heatmap, including by **Sector, Industry, Region,** or **Country.**
- *Data Point:* Dropdown menu of 38 different metrics to visualize, including **weight, market cap, historical performance** (over several time frames), **technical indicators, fundamental growth estimates,** and various **key equity ratios**.
- *X-Axis and Y-Axis (Scatter Plot Only):* Assigns Data Points (see above) for each axis of the scatter plot visualization.

Note (D): For faster loading times, the Heatmap is limited to 1,000 securities. However, all companies are listed in the Company Navigator Table (see: "Company Navigator Table" below).

The visualization in the Dynamic Portfolio Charting module can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

The data underpinning the visualization in the Dynamic Portfolio Charting module can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

How To Drill Deeper Into Stocks Depicted On The Heatmap

Clicking on an individual stock's square on the heatmap depicted in the **Dynamic Portfolio Charting** module will call up that stock's entry in the **Single Stock.** (See "**Single Stock Tool**" for more information.)

To return to the heatmap, click the red circle with the minus sign next to "Single Stock" at the top of the screen.

Company Navigator Table

The **Company Navigator Table (E)** provides statistics on the ETFs' stocks in a table format. Like other **Navigator Tables** in the ETF Action Platform, the **Company Navigator Table** is searchable and customizable through the use of Filters.

The Company Navigator Table can be set according to the broad headings that appear in the *Data Point* drop down menu in the **Dynamic Portfolio Charting** module above. By default, the table is set to "Overview." This can be changed by selecting a category from the drop down menu in the top left corner of the table.

Available categories include:

1) *Overview:* Provides data on each stock's portfolio weight, market capitalization, region and country of domicile, and GICS classification (sector and industry).
2) *Performance:* Provides performance data for each stock on time frames ranging from one day to 10 years.
3) *Technicals:* Provides technical indicators for each stock, including % away from 52-week high/low; % above/below the 50-day and 200-day moving averages, and 14-day RSI.
4) *Growth Estimates:* Growth estimates for fundamentals for each stock, including earnings, sales, cash flow, book value, and dividends.
5) *Key Ratios:* Displays 12 key equity ratios for each stock, inc**luding: Yield, Gross Margin, Net Margin, ROE, ROA, P/E, P/S, P/CF, P/BK, Interest Coverage, D/E, and Payout Ratio.**

How To Drill Deeper Into Stocks Listed in the Company Navigator Table

Clicking on an individual stock's fund name in the **Company Navigator Table** will call up that stock's entry in the **Single Stock.** (See "**Single Stock Tool**" for more information.)

To return to the Company Navigator Table, click the red circle with the minus sign next to "Single Stock" at the top of the screen.

Organizing Entries In The Company Navigator Table

By default, the Company Navigator Table is set to display 100 entries. To change this, select 10, 25, 50, 100, or All from the *Show Entries* drop down menu at the top left corner of the table.

To search for a specific keyword, such as an investment theme or brand name, type a keyword into the **Search Bar** (as indicated above), then click Enter. Search results will automatically populate in the **Company Navigator Table**.

To organize the **Company Navigator Table** in ascending or descending order, click the small up and down arrows at next to the heading of each column.

Using Filters On The Company Navigator Table

The powerful ETF Action filters can be used to narrow down the Company Navigator Table as well. Filters can be set by clicking the grey **Filter button**, located above each column in the **Company Navigator Table.** This will open a Filter menu, where you can then select checkboxes to specify classification categories or set a specific numerical range for the data, as appropriate. Click the Filter button again to close and apply the specified settings.

Results will automatically populate in the **Company Navigator Table,** as Filters are applied. **They will also change the visualization depicted in the Dynamic Portfolio Charting module.**

To reset filters, click the grey **Reset Filters** button at the top of the table under the "Name" heading.

Filter categories include:

- **Overview**
  - *Weight:* Set a minimum and/or maximum range for weight in the ETF portfolio.
  - *Market Cap ($MM):* Set a minimum and/or maximum range for market capitalization
  - *Region:* Specify a region of domicile for stocks.
  - *Country:* Specify a country of domicile for stocks.
  - *Sector:* Specify a GICS sector classification.
  - *Industry:* Select a GICS industry classification.
- **Performance**
  - *1 Day:* Set a minimum and/or maximum range for one day performance.
  - *Week to Date:* Set a minimum and/or maximum range for week-to-date performance.
  - *1 Month:* Set a minimum and/or maximum range for one month performance.
  - *3 Day:* Set a minimum and/or maximum range for three-month performance.
  - *YTD:* Set a minimum and/or maximum range for YTD performance.
  - *1 Year:* Set a minimum and/or maximum range for one year performance.
  - *3-Year Ann.:* Set a minimum and/or maximum range for three-year (annualized) performance.
  - *5-Year Ann.:* Set a minimum and/or maximum range for five-year (annualized) performance.
  - *10-Year Ann.:* Set a minimum and/or maximum range for ten-year (annualized) performance.
- **Technicals**
  - *% from 52W High:* Set a minimum and/or maximum range for the stock's percentage away from the previous 52-week high.
  - *% from 52W Low: :* Set a minimum and/or maximum range for the stock's percentage away from the previous 52-week low
  - *% Abv/Below 50 SMA:* Set a minimum and/or maximum range for the stock's percentage above or below its 50-day simple moving average.
  - *% Abv/Below 200 SMA:* Set a minimum and/or maximum range for the stock's percentage above or below its 200-day simple moving average.
  - *RSI (14-Day):* Set a minimum and/or maximum range for the stock's 14-day RSI.
- **Growth Estimates**
  - *2020E EPS:* Set a minimum and/or maximum range for the stock's estimated 2020 earnings per share.
  - *2021E EPS:* Set a minimum and/or maximum range for the stock's estimated 2021 earnings per share.
  - *2020E SPS:* Set a minimum and/or maximum range for the stock's estimated 2020 sales per share.
  - *2021E SPS:* Set a minimum and/or maximum range for the stock's estimated 2021 sales per share.
  - *2020E CFPS:* Set a minimum and/or maximum range for the stock's estimated 2020 cash flow per share.
  - *2021E CFPS:* Set a minimum and/or maximum range for the stock's estimated 2021 cash flow per share.

Back to Table of Contents

- *2020E BVPS:* Set a minimum and/or maximum range for the stock's estimated 2020 book value per share.
- *2021E BVPS:* Set a minimum and/or maximum range for the stock's estimated 2021 book value per share.
- *2020E DPS:* Set a minimum and/or maximum range for the stock's estimated 2020 dividend per share.
- *2021E DPS:* Set a minimum and/or maximum range for the stock's estimated 2021 dividend per share.

- **Key Ratios**
  - *Yield:* Set a minimum and/or maximum range for the stock's yield.
  - *Gross Margin:* Set a minimum and/or maximum range for the stock's gross margin.
  - *Net Margin:* Set a minimum and/or maximum range for the stock's net margin.
  - *ROE:* Set a minimum and/or maximum range for the stock's return on equity (ROE).
  - *ROA:* Set a minimum and/or maximum range for the stock's return on assets (ROA).
  - *P/E:* Set a minimum and/or maximum range for the stock's P/E ratio.
  - *P/S:* Set a minimum and/or maximum range for the stock's P/S ratio.
  - *P/CF:* Set a minimum and/or maximum range for the stock's P/CF ratio.
  - *P/BK:* Set a minimum and/or maximum range for the stock's P/BK ratio.
  - *Interest Coverage:* Set a minimum and/or maximum range for the stock's interest coverage.
  - *D/E:* Set a minimum and/or maximum range for the stock's D/E ratio.
  - *Payout Ratio:* Set a minimum and/or maximum range for the stock's payout ratio.

Loading Individual ETFs And Models In The Portfolio Visualizer Tool

It is also possible to visualize individual ETFs (see: "**Research Lens**") and model portfolios (see: "**Model Tracker**") in the **Portfolio Visualizer Summary Stats Tool.**

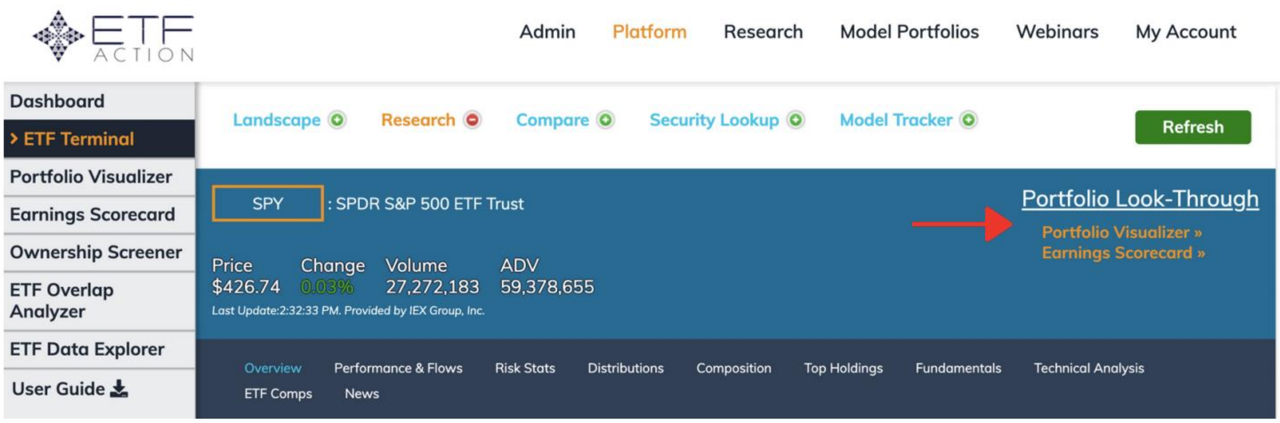
Loading ETFs/Models From The Research Lens

To visualize individual ETFs in the Portfolio Visualizer tool, first call up an ETF's individual page in the **ETF Terminal: Research Lens.** This can be done in a variety of ways:

- Typing a ticker into the orange Ticker Box at the top of the page in the **ETF Terminal: Research Lens**
- Clicking on an ETF from the Navigator Table in the **ETF Terminal: Research Lens**
- Clicking on an ETF's ticker/box in the Landscape Heatmap

Once the ETF's individual page has been accessed, click on the orange text that reads "Portfolio Visualizer >>" in the upper right corner of the page, under "Portfolio Look-Through":

Back to Table of Contents



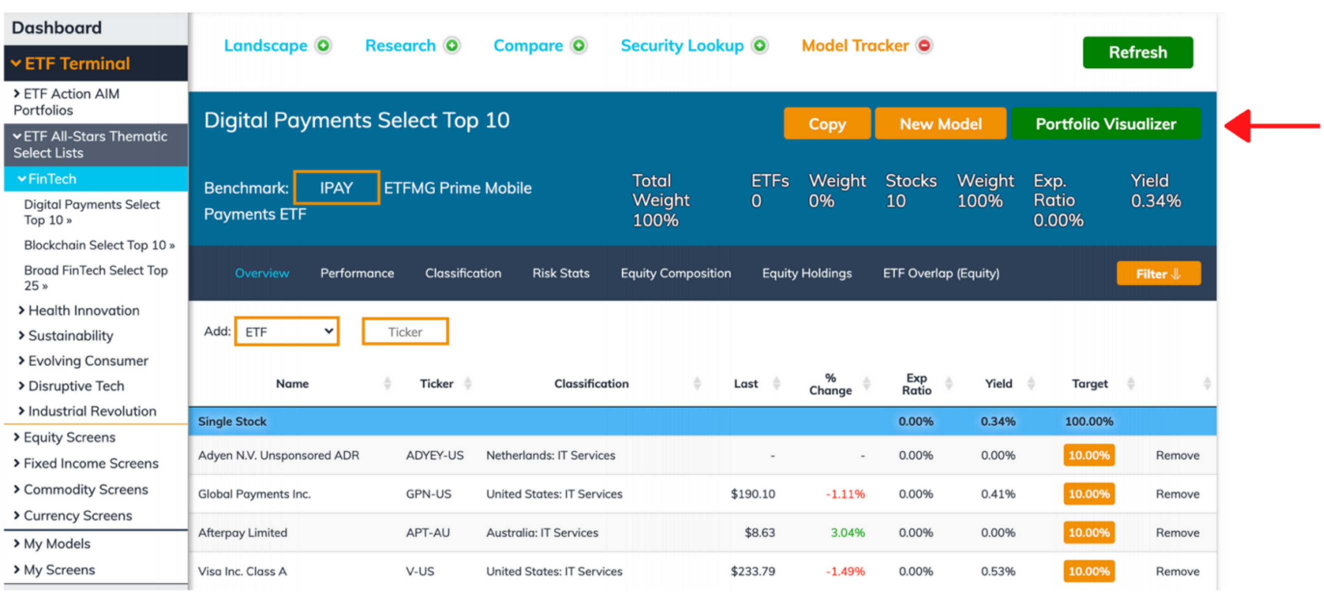
This will load the selected ETF into the **Summary Stats Tool,** automatically populating the **Dynamic Portfolio Charting Module** and **Company Navigator Table** with the ETF's portfolio data.

To return to the Research Lens, click on **ETF Terminal** in the left-hand sidebar.

Loading ETFs/Models From the Model Tracker

To visualize model portfolios in the Portfolio Visualizer tool, first load the desired model in the **Model Tracker;** this can be one of the pre-built AIM Portfolios or **ETF All-Stars® Thematic Select Lists**, or a Saved Model of the user's choice.

Then click the **"Portfolio Visualizer"** button in the top right corner of the screen:



Back to Table of Contents

This will load the selected model into the **Summary Stats Tool,** automatically populating the **Dynamic Portfolio Charting Module** and **Company Navigator Table** with the model portfolio's data.

To return to the Model Tracker, click on **ETF Terminal** in the lefthand sidebar; then once the ETF Terminal loads, click "Model Tracker" at the top of the screen.

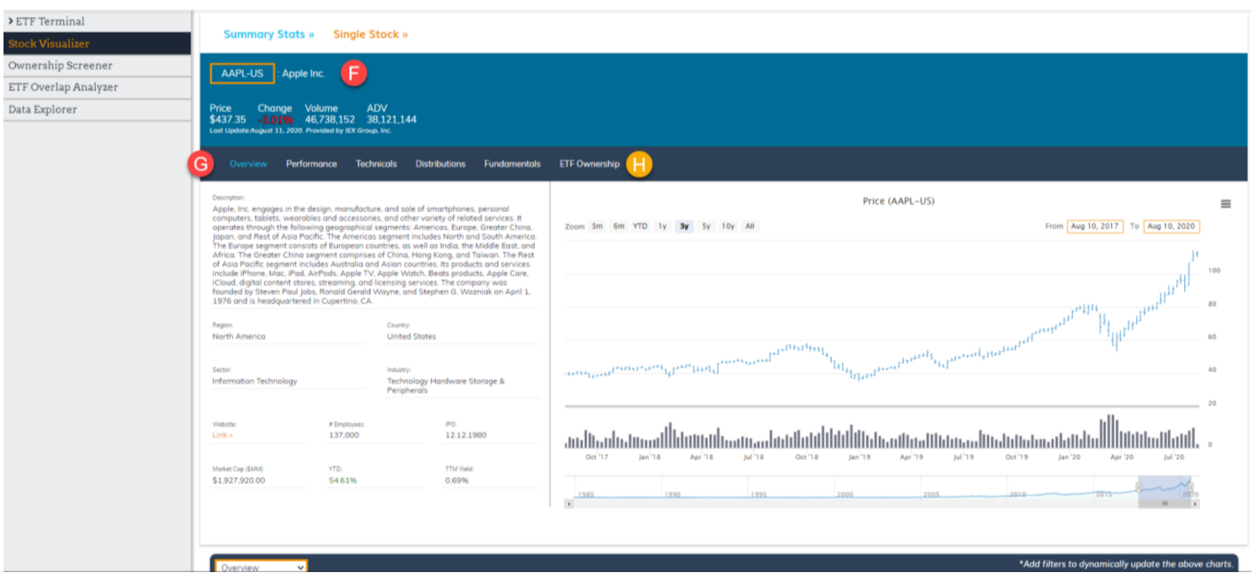
Loading Equities From The Ownership Screener In The Summary Stats Tool

It is also possible to visualize equity results from the **Ownership Screener** in the **Summary Stats Tool.** (See: "**Launching the Stock Ownership Table In the Stock Visualizer**.")

To do so while in the **Ownership Screener,** click the green **"Launch Stock Visualizer"** button on the right corner of the Stock Ownership module. Doing so will launch the Stock Ownership Table entries as a market-cap weight portfolio (display is limited to 500 stocks or fewer).

To return to the Ownership Screener from the Stock Visualizer, simply click "Ownership Screener" on the grey (static) sidebar of the left side ETF Action platform.

Single Stock Tool



The **Single Stock Tool** provides detailed data and dynamic charts for individual U.S. and international equities, including summary information, historical performance and price, technical indicators, distribution history, fundamental metrics, ETF ownership, and relevant news headlines. It consists of two main modules:

1) **The Company Summary Bar (F),** which lists several key facts about the company, and
2) **Single Stock: Research Frames (G),** which are structured much like the **ETF Research Frames** in the **ETF Terminal** (See: "ETF Terminal: Research Frames").

How To Use The Single Stock Tool

To use the **Single Stock Tool**, enter a ticker in the orange **Ticker Entry Box** at the top of the screen. The Single Stock Tool will dynamically update with several results.

The Company Summary Bar, which lists several key facts about the company, including: the full name of the stock; its most recent price; daily price change (in %); daily trading volume (in shares traded); and 3-Day average trading volume (in shares traded).

Trading information in the Company Summary Bar, which is provided by IEX Group, is updated throughout the trading day on a 15-minute delay.

In addition, seven **Single Stock Research Frames** will update. These frames are each discussed in more detail in the following sections. The selected Single Stock Research Frame will be highlighted in light blue.

These frames are:

1) *Overview:* Provides overview information about the stock, including company description & facts; domicile and classification info; website link; and dynamic, exportable historical daily price and volume charts.
2) *Performance:* Provides a dynamic, exportable chart of historical return
3) *Technicals:* Provides dynamic, exportable charts of 50-day and 200-day moving averages, Bollinger bands, and RSI.

Back to Table of Contents

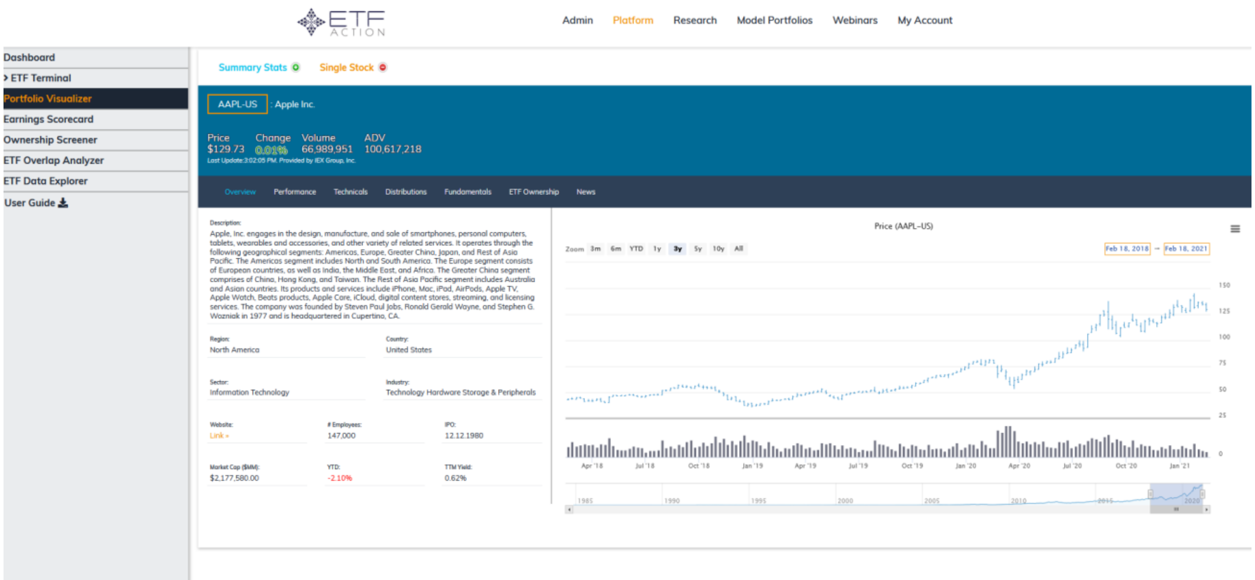
4) *Distributions:* Provides dynamic, exportable charts of historical yield and year-over-year distribution growth, as well as a table of distribution amounts and ex-dates.

5) *Fundamentals:* Provides dynamic, exportable charts of several key equity ratios, including earnings, sales, cash flow, book value and dividends.

6) *ETF Ownership:* Provides a searchable table of the ETFs that own the stock, and in what amounts, ranked by portfolio weight.

7) *News:* Provides recent news headlines about the security from trusted news sources worldwide.

Single Stock Research Frame: Overview



The **Overview Research Frame** provides a wealth of company data, including:

- *Description:* Brief description of the company, including its main products or services, regions of operation, founders, start date, and headquarters location.
- *Region:* Region in which the company is headquartered.
- *Country:* Country in which the company is listed.
- *Sector:* GICS sector under which the company is classified.
- *Industry:* GICS industry under which the company is classified.
- *Website:* Link to the company's website. Clicking it will open a new browser.
- *# of Employees:* Current number of employees worldwide.
- *IPO:* Date of the company's IPO.
- *Market Cap ($MM):* The company's current market capitalization
- *YTD:* The company's year-to-date performance
- *TTM Yield:* The company's trailing twelve-month yield

The Overview Frame also provides a dynamic, exportable chart of the company's historical price and volume. Price is depicted as line graph, while volume is displayed as a bar chart underneath.

Back to Table of Contents

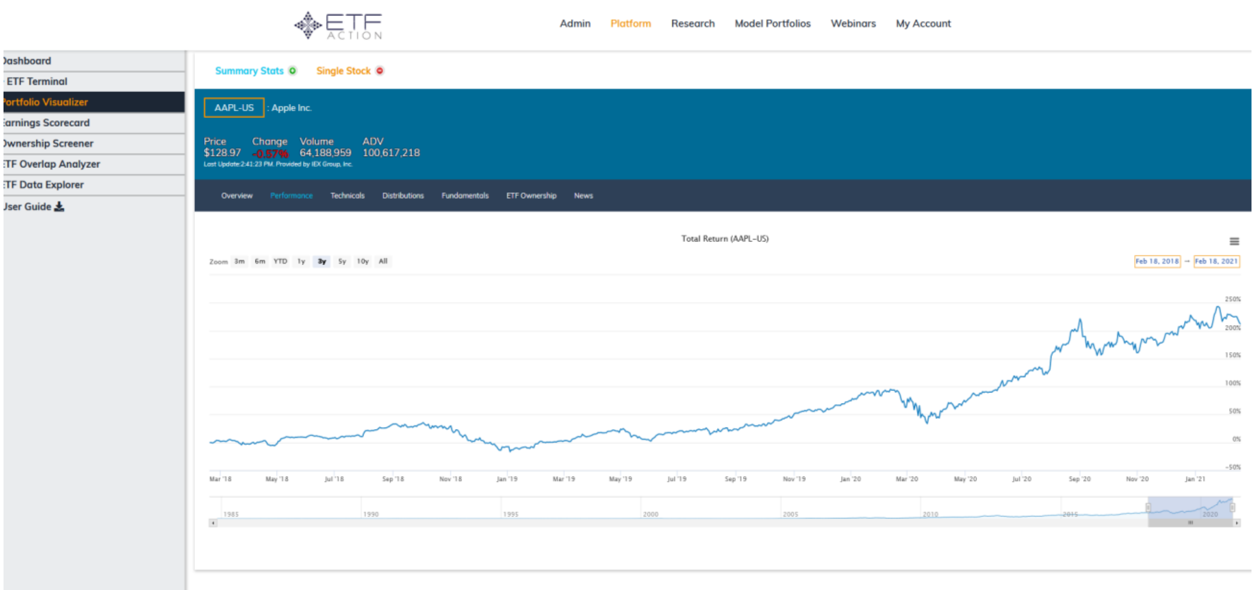
By default, the time frame of the Price Chart is three years (3y), with each data point equal to one week's average price. To change this, select one of the pre-set time frames in the top left corner (3m, 6m, YTD, 1 yr, 3y, 5y, 10y, All); or input a custom time range in the orange boxes in the top right corner. Longer time frames change each data point to monthly, while shorter time frames change each data point to daily.

You can also zoom in on a custom time range by clicking and dragging across the body of the chart. To reset the timeframe, click the grey *Reset Zoom* box on the top right of the chart.

The Price Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

The data underpinning the Price Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

Single Stock Research Frame: Performance



The **Performance Research Frame** provides a dynamic, exportable chart of total return for the stock.

By default, the time frame is over three years (3y). To change this, select one of the pre-set time frames in the top left corner (3m, 6m, YTD, 1 yr, 3y, 5y, 10y, All); or input a custom time range in the orange boxes in the top right corner.

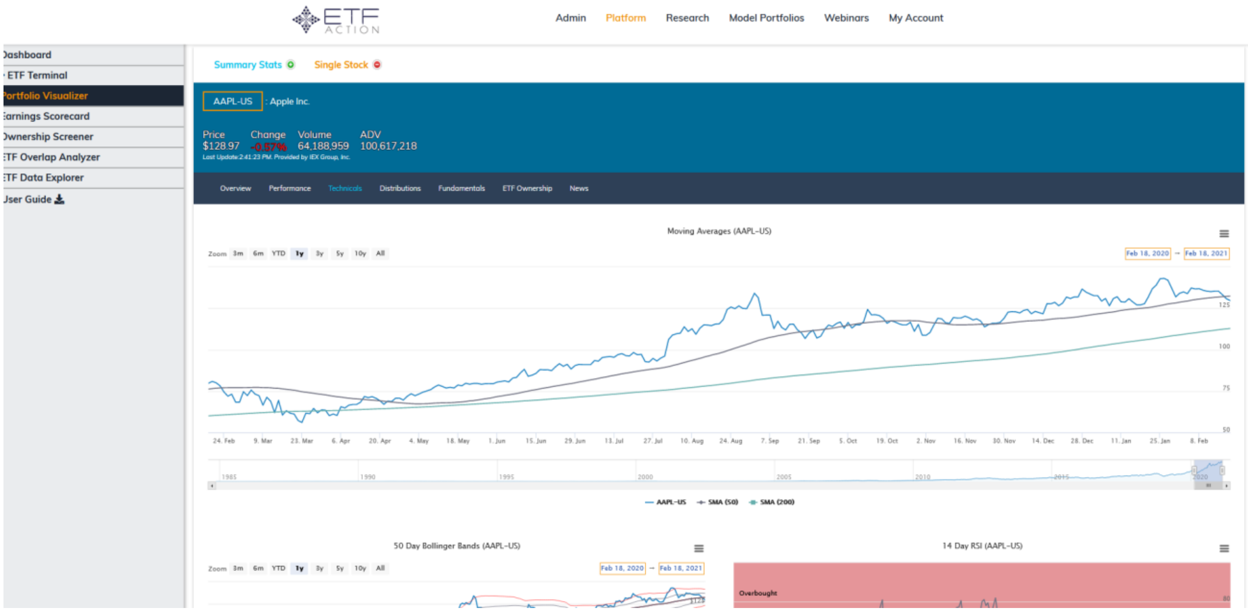
You can also zoom by clicking and dragging across the body of the chart. To reset the timeframe, click the grey *Reset Zoom* box on the top right of the chart.

The Total Return Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

Back to Table of Contents

The data underpinning the Total Return Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

Single Stock Research Frame: Technicals



The **Technicals Research Frame** provides dynamic, exportable historical charts of three commonly used technical indicators: moving averages, Bollinger bands, and RSI:

1) *Moving Averages:* Charts historical price action for the stock over the selected time frame, with the 50-day and 200-day moving average overlaid as grey and green solid lines, respectively.

   By default, the time frame is over one year (1y). To change this, select one of the pre-set time frames in the top left corner (3m, 6m, YTD, 1 yr, 3y, 5y, 10y, All) or input a custom time range in the orange boxes in the top right corner. You can also zoom by clicking and dragging across the body of the chart. To reset the timeframe, click the grey *Reset Zoom* box on the top right of the chart.

   The Moving Averages Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

   The data underpinning the Moving Averages Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

2) *50 Day Bollinger Bands:* Overlays 50-day Bollinger bands over the price action of the stock. "B1" represents one standard deviation, while "B2" represents two standard deviations.

   By default, the time frame is over one year (1y). To change this, select one of the pre-set time frames in the top left corner (3m, 6m, YTD, 1 yr, 3y, 5y, 10y, All) or input a custom time range in the orange boxes in the

Back to Table of Contents

top right corner. You can also zoom by clicking and dragging across the body of the chart. To reset the timeframe, click the grey *Reset Zoom* box on the top right of the chart.

The Bollinger Bands Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

The data underpinning the Bollinger Bands Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

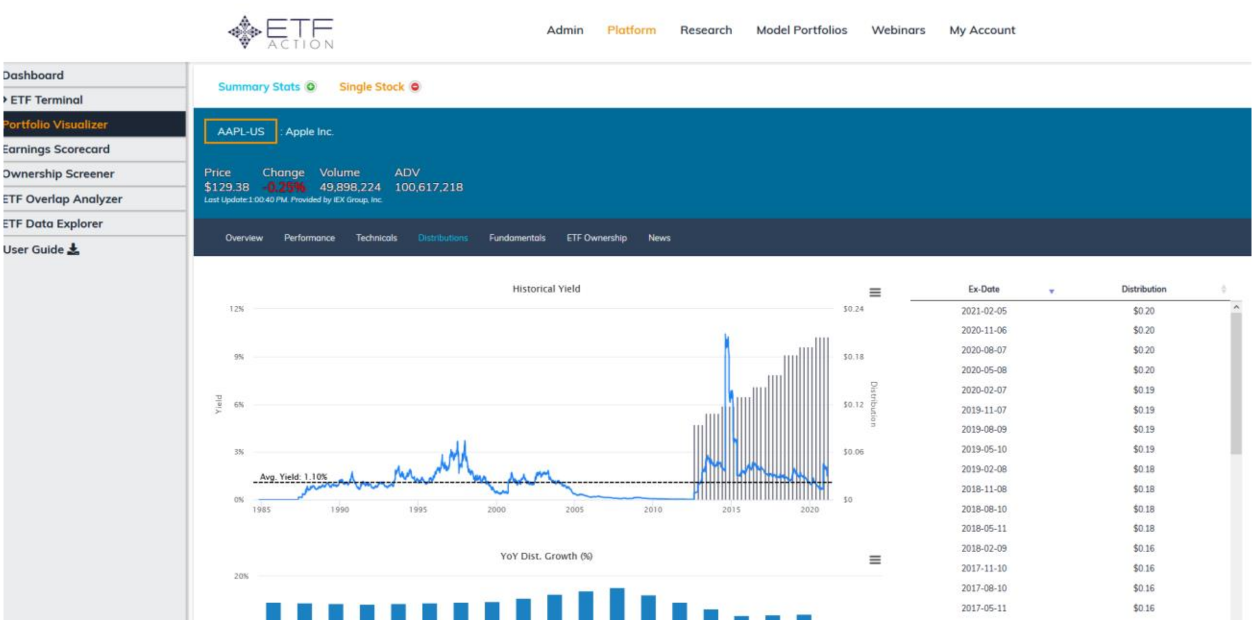
3) *14 Day RSI:* Displays the historical 14-day RSI for the stock, indicating timeframes when the stock's RSI indicated it may have been overbought (in red) or oversold (in green).

By default, the time frame is one year. To change this, select one of the pre-set time frames in the top left corner (3m, 6m, YTD, 1 yr, 3y, 5y, 10y, All) or input a custom time range in the orange boxes in the top right corner. You can also zoom by clicking and dragging across the body of the chart. To reset the timeframe, click the grey *Reset Zoom* box on the top right of the chart.

The RSI Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

The data underpinning the RSI Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

Single Stock Research Frame: Distributions



Back to Table of Contents

The **Distributions Research Frame** provides a closer look at the stock's historical yield and distribution growth. There are three elements to the Distributions Frame:

1) *Historical Yield:* Overlays the stock's distribution history on top of a chart of its historical yield. Average yield over the past five years is overlaid as a dotted line.

   By default, data is provided since the stock's IPO. To select a shorter time frame, click and drag across the body of the chart. To reset the timeframe, click the grey *Reset Zoom* box on the top right of the chart.

   The Historical Yield Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

   The data underpinning the Historical Yield Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

2) *YoY Dist. Growth (%):* Displays quarterly distribution growth, as compared to the same period last year, over the past five years' worth of distributions. Values are expressed as percentages.

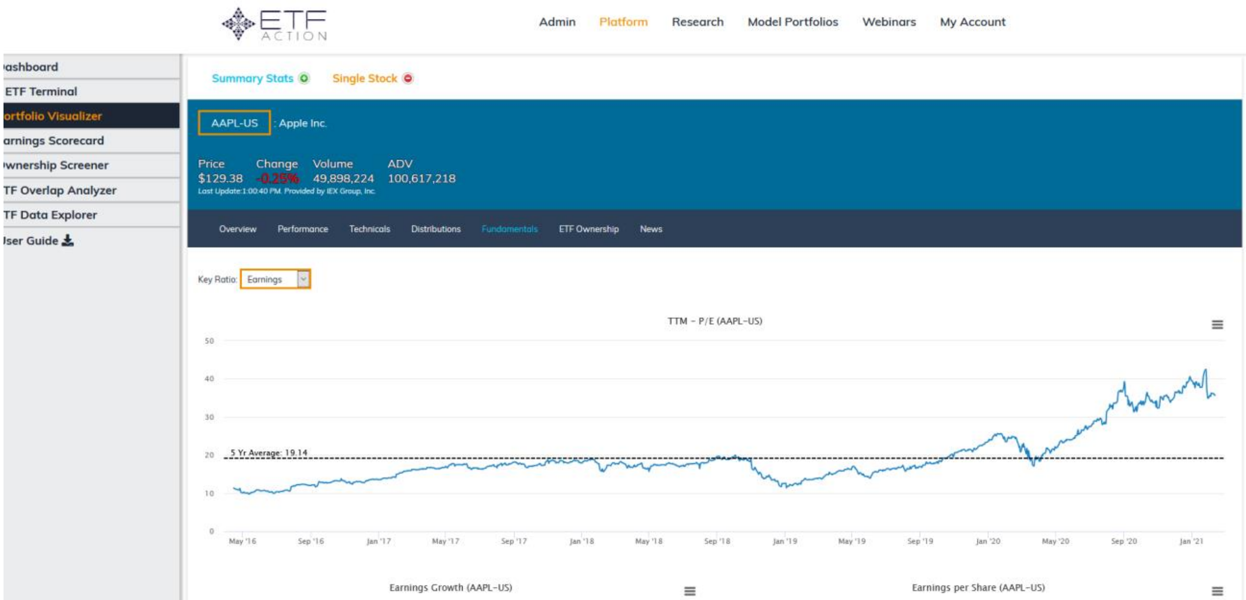
   The YoY Dist. Growth Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

   The data underpinning the YoY Dist. Growth Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

3) *Distributions Table:* Displays the stock's distribution history since IPO, including ex-date of the distribution and distribution amount. The table is sortable by column, but not yet exportable.

Back to Table of Contents

Single Stock Research Frame: Fundamentals



The **Fundamentals Research Frame** provides dynamic, exportable charts of several key equity fundamentals, including **Earnings, Sales, Cash Flow, Book Value** and **Dividends**. To switch between key fundamentals, select a new fundamental metric from the *Key Ratios* drop down menu at the top of the frame.

Each Key Ratio selection provides three charts based on the selected fundamental:

1) *Trailing Twelve Month (TTM):* Historical data for the relevant key ratio, with the 5-year average indicated as a dotted line on the chart. Ratios provided include: P/E, P/S, P/CF, P/B, or Dividend Yield.

   By default, data is provided for the past five years. To select a shorter time frame, click and drag across the body of the chart. To reset the timeframe, click the grey *Reset Zoom* box on the top right of the chart.

   The TTM Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

   The data underpinning the TTM Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

2) *(Fundamental) Growth:* Annual growth rates for the selected fundamental, including forward-looking estimates for the years to come.

   The Growth Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

   The data underpinning the Growth Chart can be exported to a .csv or .xls file by clicking on the three lines at

Back to Table of Contents

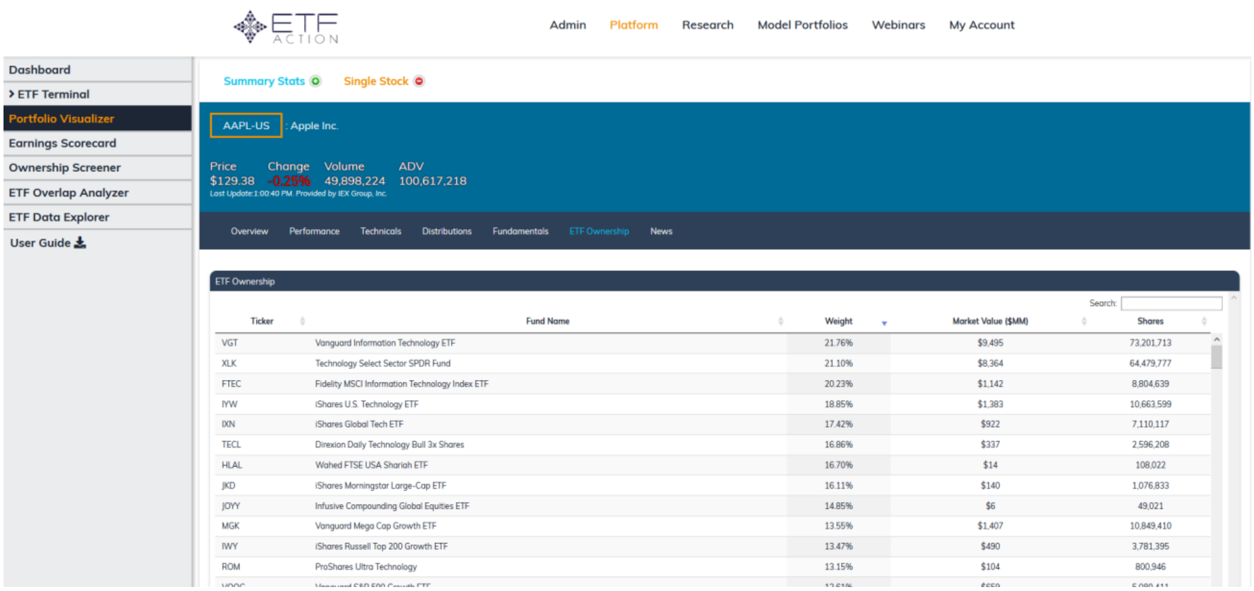
the top right corner of the chart.

3) *Values per Share:* Annual average per-share figures for the selected fundamental, including forward-looking estimates for the years to come.

The Values Per Share Chart can be exported to a variety of file formats, including .png, .jpeg, .pdf, and .svg, by clicking on the three lines at the top right corner of the chart.

The data underpinning the Values Per Share Chart can be exported to a .csv or .xls file by clicking on the three lines at the top right corner of the chart.

Single Stock Research Frame: ETF Ownership



In the **ETF Ownership Research Frame**, users will find a searchable **ETF Ownership Table** of all the ETFs owning the selected stock and in what amounts. This table includes several fields:

- Ticker: Ticker of the ETF
- Fund Name: Full name of the ETF
- Weight: The stock's current weight in that ETF portfolio
- Market Value ($MM): The total market value of the stock owned by the ETF, in millions of dollars
- Shares: The total outstanding shares of the stock owned by the ETF (NOTE: NOT in millions)

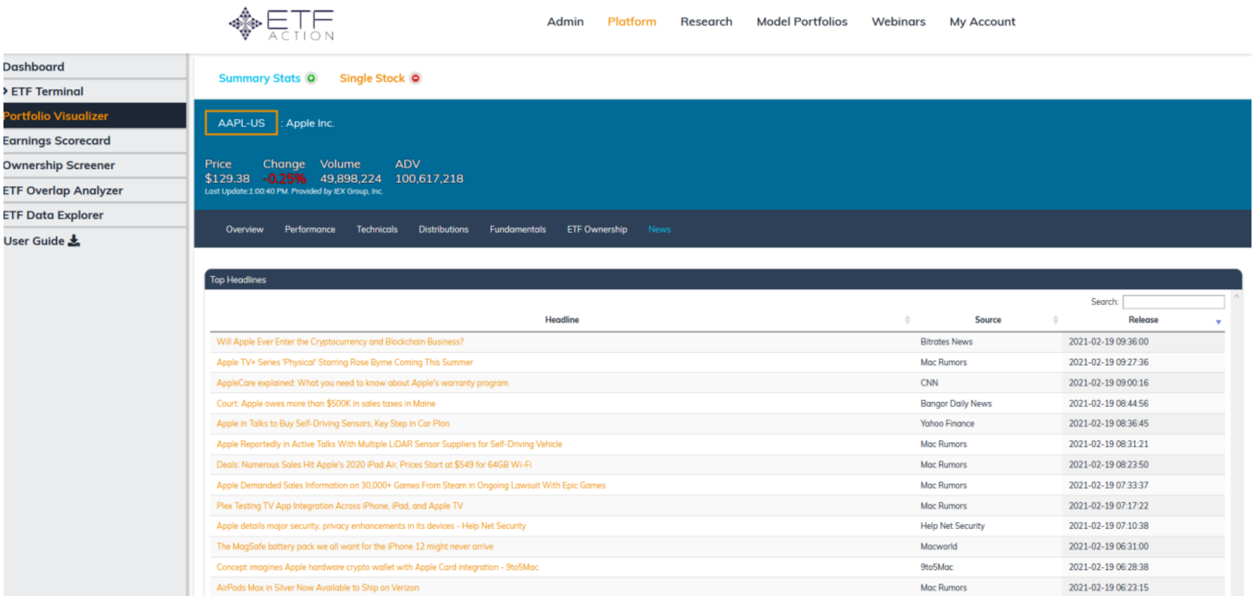
To sort the ETF Ownership Table by column, click the up or down arrows by a column's header.

To search the ETF Ownership Table, e.g. for a particular ticker or value, type a query into the Search box at the top of the table.

Back to Table of Contents

To see aggregated statistics of how many ETFs in total own the security, please refer to the **Security Lookup** in the **ETF Terminal.** (See: "Security Lookup")

Single Stock Research Frame: News

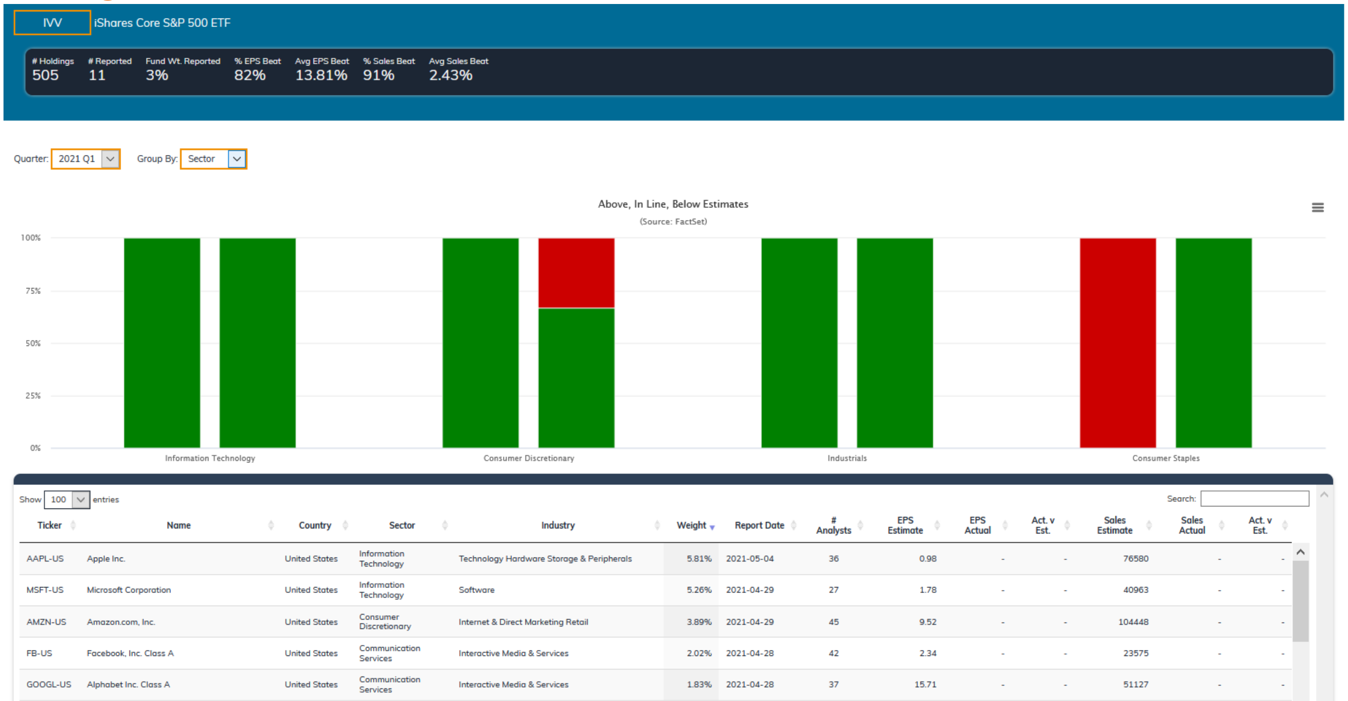


In the **News** Research Frame, users will find an RSS feed of 20 of the most recent news stories tagged for that company. Clicking on a headline opens up a separate tab in the browser, so you won't lose your place in the ETF Action platform.

News stories are listed with three fields: a hyperlinked *Headline,* the *Source* media outlet of origin, and *Release* data, including date and time of first publication.

To search the feed, use the **Search Bar** in the upper righthand corner of the feed.

Earnings Scorecard



The **Earnings Scorecard** allows users to see at a glance how the reported earnings per share and sales figures for the securities within a specified ETF's portfolio stack up against analyst estimates.

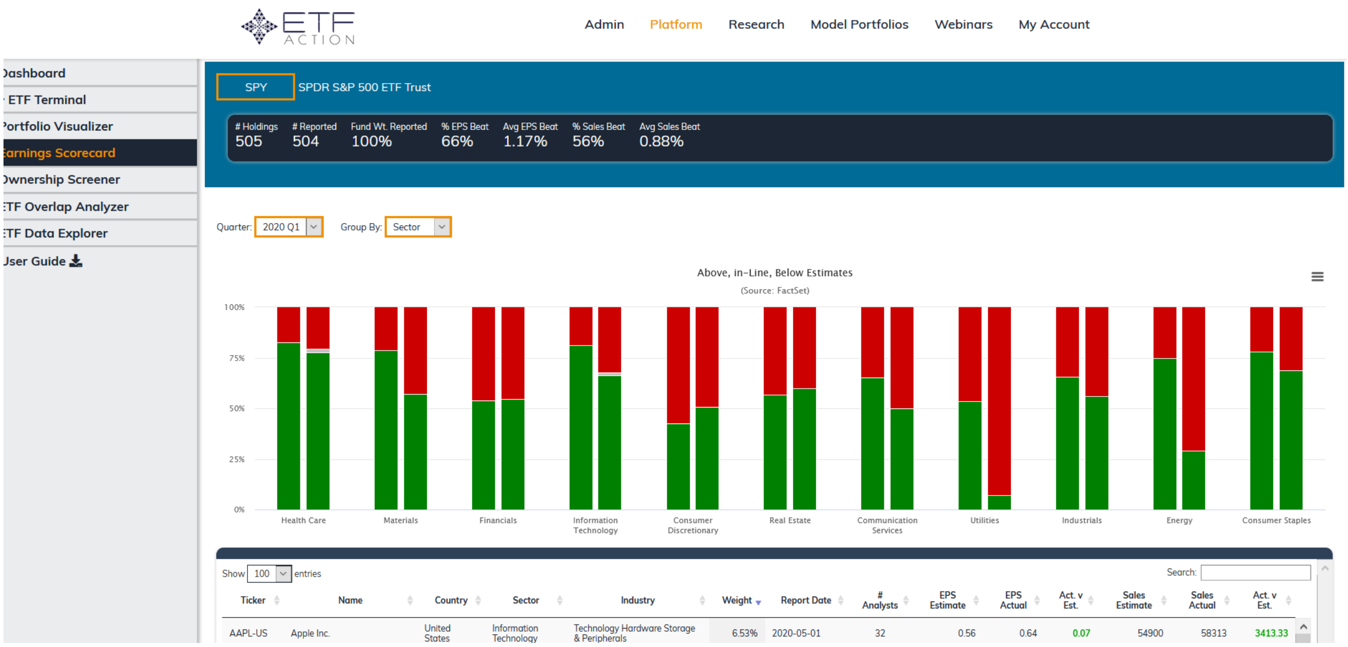
When an ETF is entered in the **Ticker Selection Box,** the Earnings Scorecard returns:

- An **Earnings Scorecard Summary Bar,** which lists several relevant statistics about the specified ETF;
- The **Earnings Scorecard Bar Chart,** which illustrates results from the companies that have reported their earnings for the specified time period;
- The **Earnings Scorecard Data Table**, which lists all securities within the specified ETF's portfolio, as well as information about each security's earnings estimates and reports (See: "**The Earnings Scorecard Data Table**.")

How To Use The Earnings Scorecard

To use the Earnings Scorecard, input the ticker of any U.S.-listed equity ETF into the Ticker Selection Box at the top of the screen. Results will automatically populate in the modules below.

Back to Table of Contents



Results are displayed in a bar chart that is segmented into three categories: **Above** estimates**, Below** estimates, and **In Line** with estimates. Hovering over each category reveals the percentage of companies within the ETF's portfolio in that category.

By default, earnings estimates are displayed for the current quarter, but future estimates and historical data can be loaded by selecting a different time frame in the *Quarter* drop down menu. Next quarter's estimates can be searched, as well as up to one year's worth of quarterly historical data.

The results of the Earnings Scorecard are detailed in the sections that follow.

The Earnings Scorecard Summary Bar

The **Earnings Scorecard Summary Bar** lists several statistics about the specified ETF, including:

- *# Holdings:* The total number of securities held by the ETF.
- *# Reported:* The total number of companies held by the ETF that have reported their earnings & sales for the specified time period.
- *Fund Wt. Reported:* The percentage of the ETF portfolio (by weight, not by number of names) that have reported their earnings.
- *% EPS Beat:* The percentage of securities in the ETF's portfolio whose reported earnings per share have exceeded analyst estimates.
- *Avg EPS Beat:* The (simple) average amount by which those securities in the ETF's portfolio that have exceeded estimates have done so.
- *% Sales Beat:* The percentage of securities in the ETF's portfolio whose reported sales have exceeded analyst estimates.

Back to Table of Contents

- *Avg Sales Beat:* The (simple) average amount by which those securities in the ETF's portfolio that have exceeded estimates have done so.

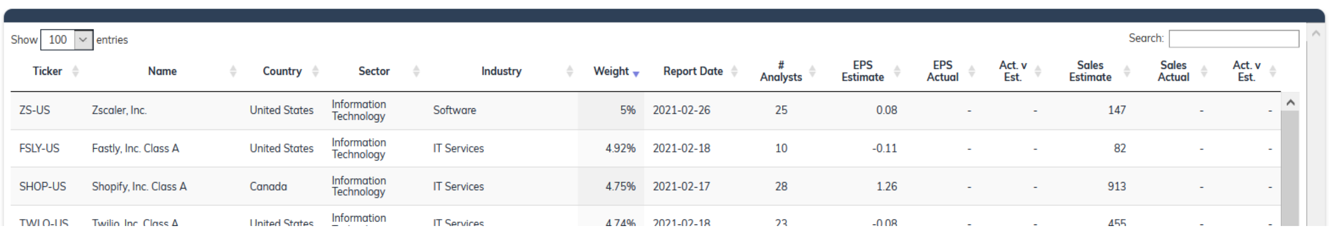
The Earnings Scorecard Bar Chart

Earnings results are visualized in the **Earnings Scorecard Bar Chart.** Each bar is segmented into three categories: **Above** estimates (green)**, Below** estimates (red), and **In Line** with estimates (grey). Hovering over each category reveals the percentage of companies within the ETF's portfolio in that category. (NOTE: Few securities report figures exactly in line with their estimates, so this segment will likely appear small or non-existent on most charts.)

By default, earnings estimates are displayed for the current quarter, but future estimates and historical data can be loaded by selecting a different time frame in the *Quarter* drop down menu*.* Next quarter's estimates can be searched, as well as up to one year's worth of quarterly historical data.

By default, earnings estimates are grouped by sector. To change the grouping, select **Sector, Industry** or **Country** from the *Group By* drop down menu.

The Earnings Scorecard Data Table


Show 100 entries Search:

Ticker	Name	Country	Sector	Industry	Weight	Report Date	# Analysts	EPS Estimate	EPS Actual	Act. v Est.	Sales Estimate	Sales Actual	Act. v Est.
ZS-US	Zscaler, Inc.	United States	Information Technology	Software	5%	2021-02-26	25	0.08	-	-	147	-	-
FSLY-US	Fastly, Inc. Class A	United States	Information Technology	IT Services	4.92%	2021-02-18	10	-0.11	-	-	82	-	-
SHOP-US	Shopify, Inc. Class A	Canada	Information Technology	IT Services	4.75%	2021-02-17	28	1.26	-	-	913	-	-
TWLO-US	Twilio, Inc. Class A	United States	Information	IT Services	4.74%	2021-02-18	23	-0.08	-	-	455	-	-

The **Earnings Scorecard Data Table**, which lists all securities in the specified ETF portfolio, as well as data about each security's classification and its earnings estimates and reports.

Data in the Earnings Scorecard Data Table includes:

- *Ticker:* Security ticker, including listing exchange code.
- *Name:* Security name, including whether the security is an ADR
- *Country:* Country of domicile for the security
- *Sector:* GICS sector classification for the security
- *Industry:* GICS industry classification for the security.
- *Weight:* The security's weight in the ETF portfolio*.*
- *Report Date:* Date on which the security is scheduled to report earnings for the current specified quarter.
- *# Analysts:* Number of individual analyst calls aggregated into "Estimates."
- *EPS Estimate:* Average estimated earnings per share for the security over the current specified quarter.
- *EPS Actual:* The actual reported earnings per share that the security reported for the current specified quarter.
- *Act. v Est.:* The difference between the reported and estimated earnings per share for the security for the current specified quarter.

- *Sales Estimate:* Average estimated sales for the security over the current specified quarter.
- *Sales Actual:* The actual reported sales that the security reported for the current specified quarter.
- *Act. v Est.:* The difference between the reported and estimated sales for the security for the current specified quarter.

By default, 100 securities listed in all ETFs in the set are displayed in the **Earnings Scorecard Data Table.** To select a different figure, select 10, 25, 50, or 100 from the *Show Entries* drop down menu.

Searching The Earnings Scorecard Data Table

To search for a specific keyword, such as a company name or sector type, type a keyword into the **Search Bar** in the top right of the **Earnings Scorecard Data Table** (as indicated above), then click Enter. Search results will automatically populate in the Earnings Scorecard Data Table.

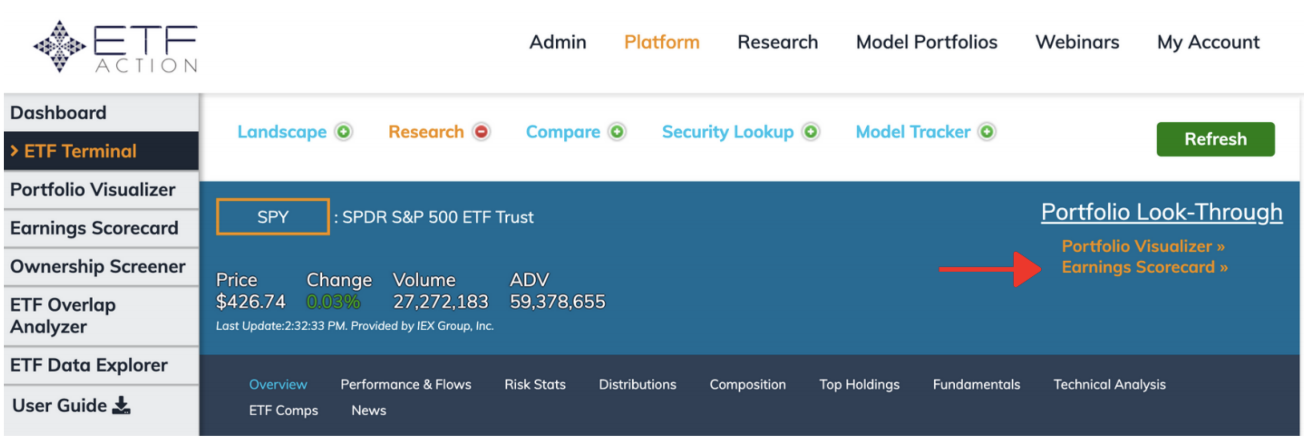
To organize the **Earnings Scorecard Data Table** results in ascending or descending order, click the small up and down arrows at next to the heading of each column.

How To Load The Earnings Scorecard From The Research Lens

It is also possible to directly access the Earnings Scorecard from the pages of individual ETFs in the **Research Lens** (see: "**Research Lens**"). To do so, first call up an ETF's individual page in the **ETF Terminal: Research Lens.** This can be done in a variety of ways:

- Typing a ticker into the orange Ticker Box at the top of the page in the **ETF Terminal: Research Lens**
- Clicking on an ETF from the Navigator Table in the **ETF Terminal: Research Lens**
- Clicking on an ETF's ticker/box in the Landscape Heatmap

Once the ETF's individual page has been accessed, click on the orange text that reads "Earnings Scorecard >>" in the upper right corner of the page, under "Portfolio Look-Through":



Back to Table of Contents

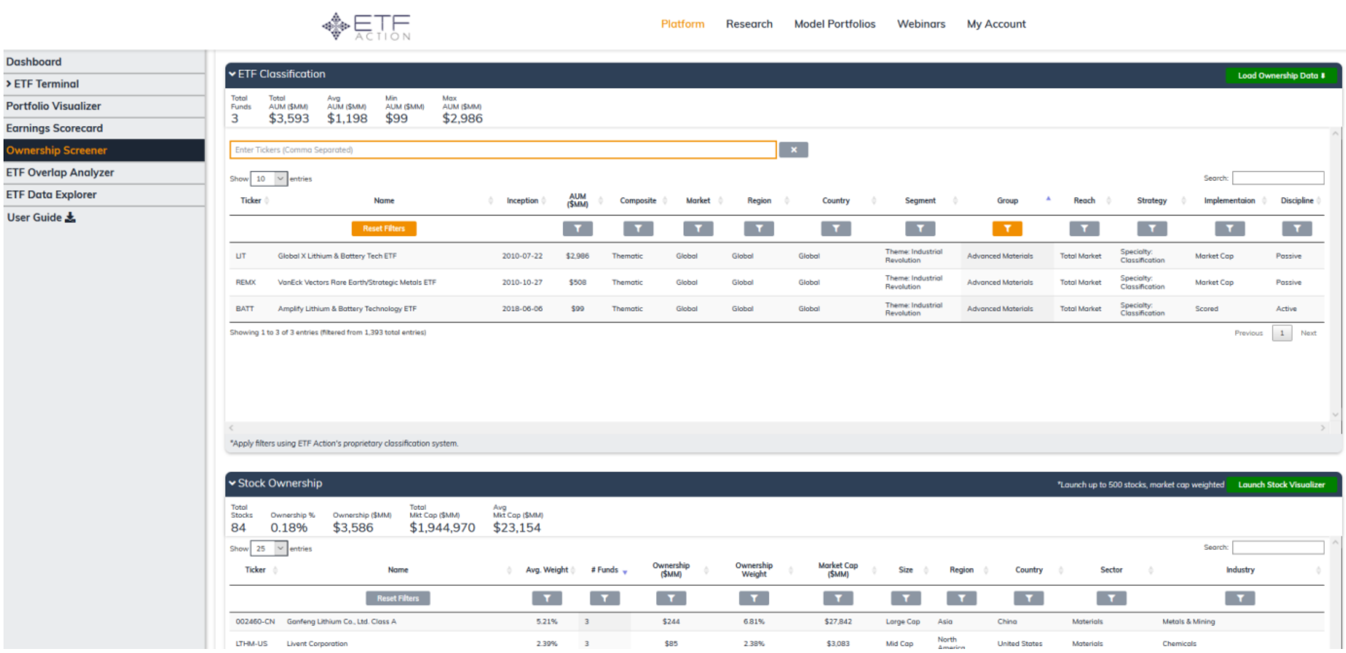
This will load the selected ETF into the **Earnings Scorecard,** automatically populating the **Earnings Scorecard Summary Bar, Bar Chart,** and **Data Table**, with the relevant information.

To return to the Research Lens, click on **ETF Terminal** in the left-hand sidebar.

Ownership Screener

The **Ownership Screener** allows you to find which stocks are most commonly owned by a set of ETFs, and/or across specific market segments. Parameters are set in the **ETF Classification** module, and ownership results are returned in the **Stock Ownership** module.

These results then can be analyzed further in the **Stock Visualizer** tool, by pressing the green "**Launch Stock Visualizer"** button on the right corner of the **Stock Ownership** module. Please refer to the "[Portfolio Visualizer](#)" section for more information.



How To Use The Ownership Screener

The Ownership Screener is a two-step process.

1. Set your ETF universe in the ETF Classification module. (See "**Setting Your ETF Universe**" below.)
2. Click the green **"Load Ownership Data"** button in the top right corner of the ETF Classification module.

This will return a table of commonly held securities across the ETF universe specified in the ETF Classification module. These results can be narrowed down further by setting filters. (See "**Interpreting Ownership Screener Results"** below.)

Back to Table of Contents

The results may also be loaded into the **Stock Visualizer** tool by clicking the green **"Launch Stock Visualizer"** button on the right corner of the Stock Ownership module. Doing so will launch the Stock Ownership Table entries as a market-cap weight portfolio (display is limited to 500 stocks or fewer).

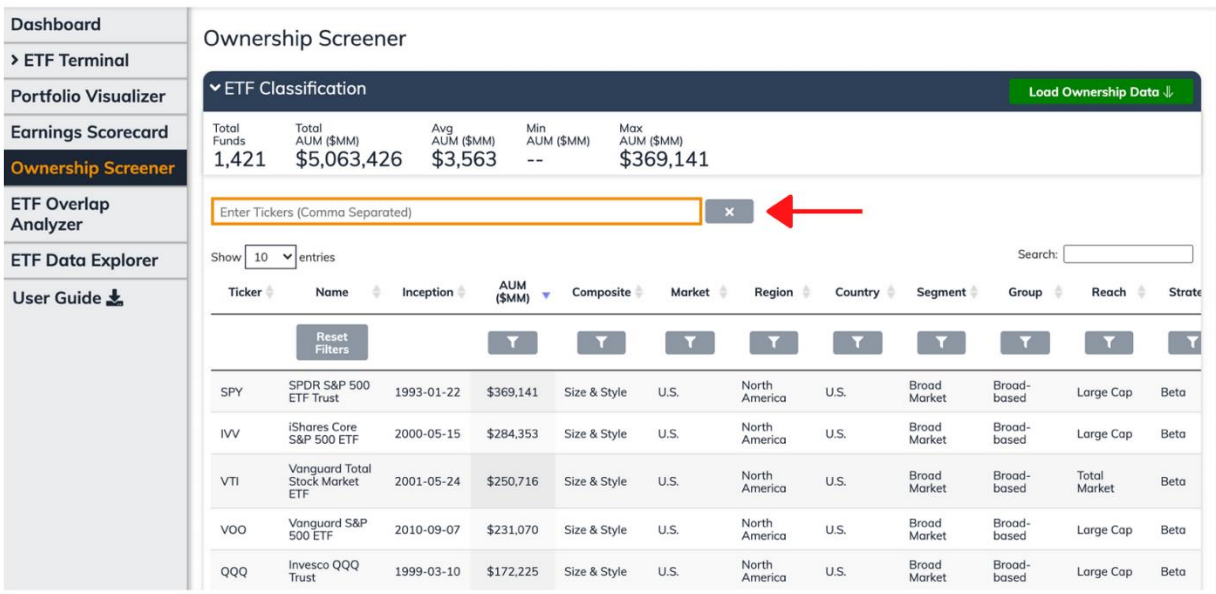
Setting Your ETF Universe

There are three ways to set a list of ETFs to feed into the Ownership Screener:

1) Enter a list of individual tickers.
2) Use the filters to narrow by classification.
3) Use the Search Bar.

These three options are described in more detail in the sections below.

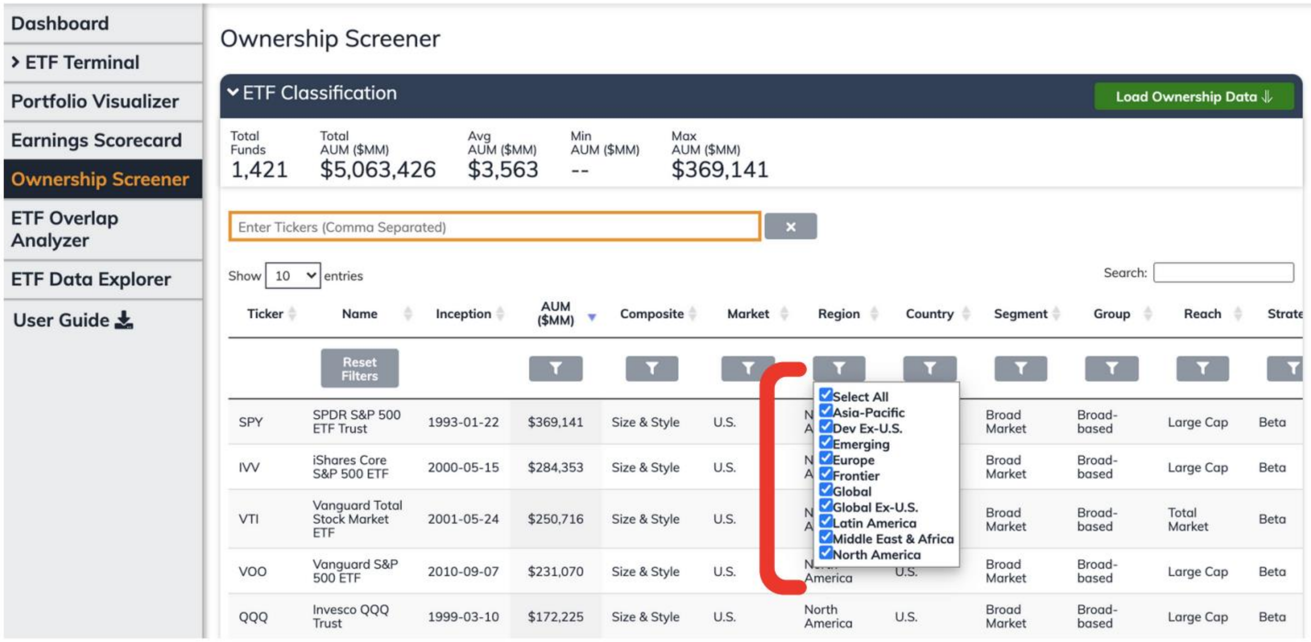
How To Enter Individual ETF Tickers



To search a list of known ETFs, enter their tickers into the **ETF Ticker Search Bar** (the orange navigational field pictured above). As you type the ticker, the funds will automatically populate the **ETF Summary Table** in the ETF Classification module. Be sure to separate each entry with a comma.

When your list is complete, click the green "Load Ownership Data" button at the top right corner of the screen.

How To Use Filters To Narrow By Classification.



The powerful ETF Action filters can be used to narrow down entries, as well. Filters can be set by clicking the grey **Filter button**, located above each column in the **ETF Summary Table** in the ETF Classification module. This will open a Filter menu, where you can then select checkboxes to specify classification categories or set a specific numerical range for the data, as appropriate. Click the Filter button again to close and apply the specified settings. Results will automatically populate in the **ETF Summary Table** as Filters are applied.

To reset filters, click the **Reset Filters** button at the top of the table under the "Name" heading.

Filter categories include:

- *AUM ($MM):* Assets under management, in millions of dollars.
- *Composite:* Sorts ETFs by one of three categories: **Sector & Industry, Size & Style,** or **Thematic.**
- *Market:* Sorts ETFs by their broad regional exposure: **Dev Ex-U.S., Emerging, Frontier, Global, Global Ex-U.S.,** or **U.S.**
- *Region:* Sorts ETFs by more discrete regional exposures, introducing the **Asia-Pacific, Europe, Latin America, Middle East & Africa**, and **North America** categories, in addition to the above broad regional categories.
- *Country:* Sorts ETFs by single country exposure (e.g.: **Argentina** or **China**) or by narrower groupings of countries than *Region* (e.g.: **Asia-Pacific ex-Japan** or **China & India**).
- *Segment:* Sorts ETFs by their ETF Action Classification* Sector or Thematic exposure, as appropriate.
- *Group:* Sorts ETFs by their ETF Action Classification* Industry or Thematic Sub-category exposure, as appropriate.
- *Reach:* Sorts ETFs by market capitalization exposure: **Extended Market, Large Cap, Mid Cap, Small Cap, Micro Cap** and **Total Market.**

Back to Table of Contents

- *Strategy:* Sorts ETFs by their ETF Action Classification* Strategy, including sub-categories for **Beta, ESG, Factor, Specialty, Tactical** and **Custom** strategies.
- *Implementation:* Sorts ETFs by weighting methodology, including categories and sub-categories for **Alt-Weighted, Equal Weighted, Market Cap, Scored,** and **Tiered** methodologies.
- *Discipline:* Sorts ETFs by whether they are **Active** or **Passive.**

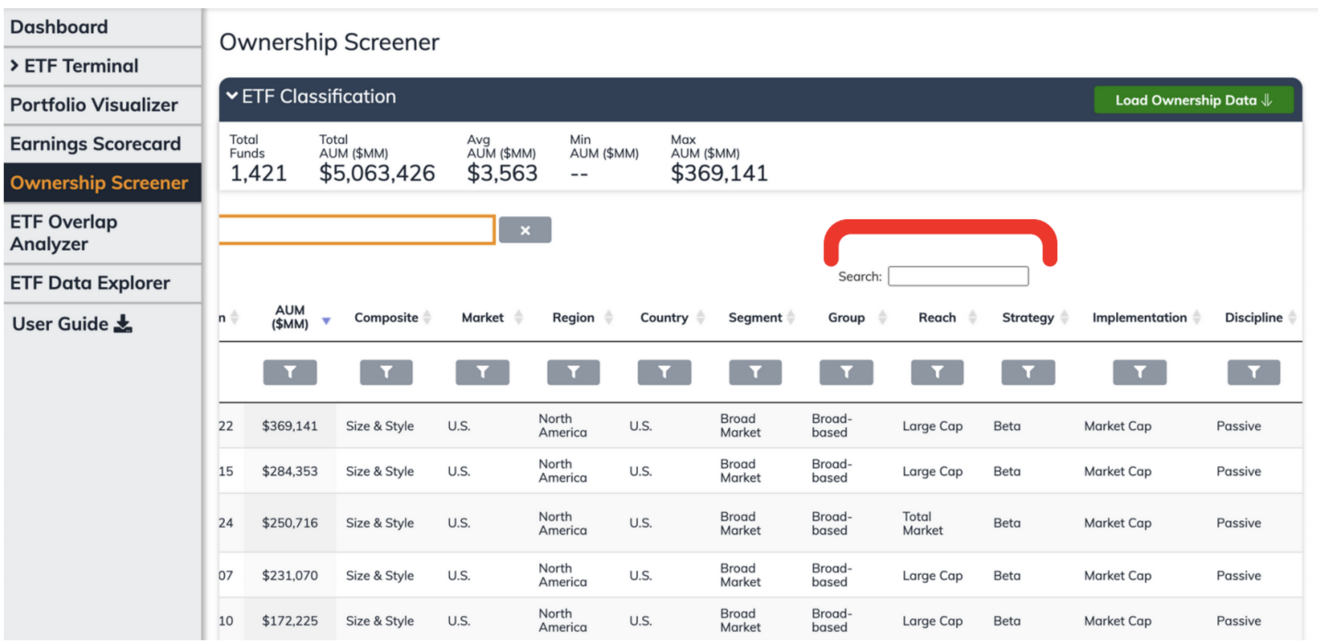
To learn more about the ETF Action Classification system, please refer to the **ETF Action Classification System Guide (forthcoming).*

To organize the **ETF Summary Table** results in ascending or descending order, click the small up and down arrows at next to the heading of each column.

By default, the ETF Summary Table is set to display 10 entries at once. To display more, select 10, 25, 50, 100, or All from the *Show Entries* drop down menu.

When your list is complete, click the green "Load Ownership Data" button at the top right corner of the screen.

How To Use The Search Bar



To search for a specific keyword, such as an investment theme or brand name, type a keyword into the **Search Bar** (as indicated above), then click Enter. Search results will automatically populate in the **ETF Summary Table** in the ETF Classification module.

To organize the **ETF Summary Table** results in ascending or descending order, click the small up and down arrows at next to the heading of each column.

Back to Table of Contents

By default, the ETF Summary Table is set to display 10 entries at once. To display more, select 10, 25, 50, 100, or All from the Show Entries drop down menu.

When your list is complete, click the green "Load Ownership Data" button at the top right corner of the screen.

Why Some ETFs Do Not Appear In The Ownership Screener

Currently, the Ownership Screener is limited to all **U.S.-listed equity ETFs** (specifically, those with the ETF Action Classification system marked "Sub-Asset: Equity"). That is to say, equity ownership can only be determined for pure equity ETFs.

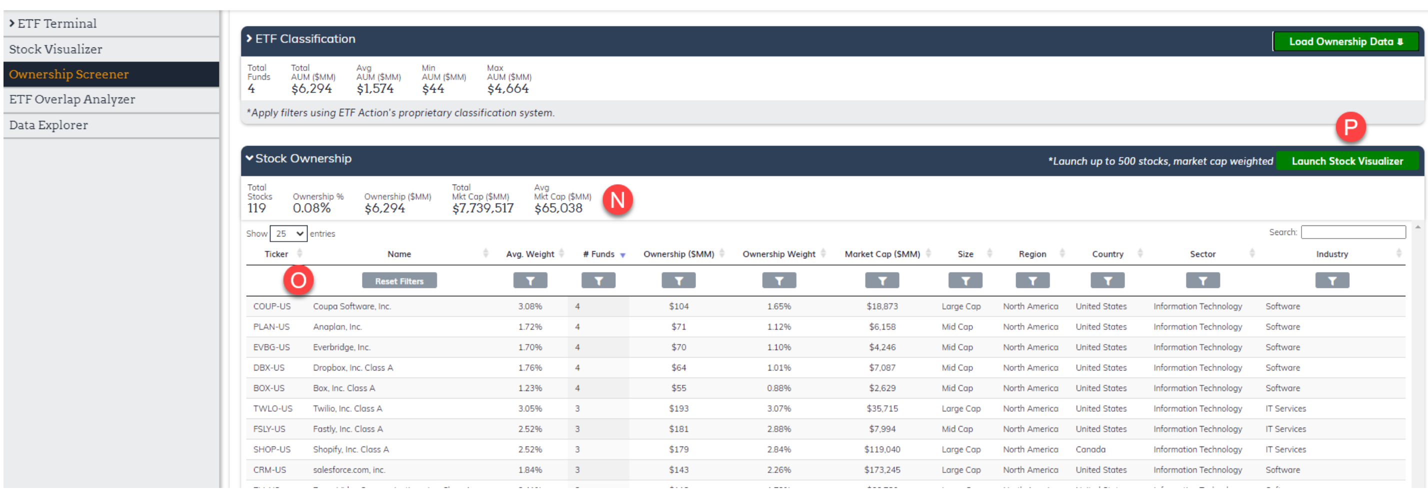
As a result, several exchange-traded product categories lacking 100% equity portfolios are excluded from the Screener, including leveraged/inverse ETFs, fixed income and multi-asset ETFs, physical commodity ETFs, and ETNs.

The ETF Universe Summary Statistics Bar

After an ETF Universe is set, summary information about the ETF Universe will appear in the **ETF Universe Summary Statistics Bar,** including:

- *Total Funds:* Total number of ETFs specified in the ETF Universe.
- *Total AUM ($MM):* Total assets under management invested in the ETFs in the ETF Universe.
- *Avg AUM ($MM):* Simple average of the assets under management per ETF in the ETF Universe.
- *Min AUM ($MM):* The current assets under management of the smallest ETF in the ETF Universe.
- *Max AUM ($MM):* The current assets under management of the largest ETF in the ETF Universe.

Interpreting Ownership Screener Results



Once the ETF Universe has been set and the **Load Ownership Data** button has been pressed, the results of the Ownership Screener query will appear in the **Stock Ownership**module. This includes:

1. The **Stock Universe Summary Statistics Bar (N)**, which describes the results at a glance.
2. Individual entries in the **Stock Ownership Table (O).**

Back to Table of Contents

Stock Universe Summary Statistics Bar

The **Stock Universe Summary Statistics Bar** summarizes several metrics about the stock ownership of the set of funds specified in the ETF Universe, including:

- *Total Stocks:* Number of unique stocks held among all ETFs in the ETF Universe.
- *Ownership %:* Percentage of the total market of the included companies that are owned by the ETF Universe. This is equal to: **Total Market Value of Stocks Owned/Total Market Capitalization of the Stocks.**
- *Ownership ($MM):* Total aggregated market value for the stocks owned. Equal to the assets under management of the ETF Universe (within rounding error).
- *Total Mkt Cap ($MM):* Sum of all the market capitalizations of the underlying companies (in millions of dollars).
- *Avg. Mkt Cap ($MM):* Simple average of all the market capitalizations of the underlying companies (in millions of dollars).

Stock Ownership Table

The **Stock Ownership Table** lists all the securities held by the ET Universe, as well as information about each security's classification and the amounts in which they are held. (See: "**Expanding Entries In The Stock Ownership Table.**")

Similar to other data tables on the ETF Action Platform, users can navigate and screen the underlying stocks by searching using the Search Bar at the top right corner of the Stock Ownership Table; or by using the Filter buttons. Filter Buttons only display categories relevant to the query results (i.e.: "Asia Pacific" would not appear as an eligible *Region* for an ETF Universe of S&P 500 index ETFs.)

Data in the Stock Ownership Table includes:

- *Ticker:* Security ticker, including listing exchange code.
- *Name:* Security name, including whether the security is an ADR.
- *Avg. Weight:* **Not the same as Ownership Weight.** Equal to the total security weight in the ETFs divided by the total number of ETFs in the set (not just the ETFs in which the security appears).
- *# Funds:* Number ETFs in the ETF Universe in which the security appears.
- *Ownership ($MM):* Total market value of the security owned by the ETF Universe.
- *Ownership Weight:* **Not the same as Avg. Weight.** Equal to the total market value of the security owned by the ETF Universe divided by the total assets invested in the ETFs in the ETF Universe.
- *Mkt Cap ($MM):* Market capitalization of the security
- *Size:* The size classification for the security.
- *Region:* Region of domicile for the security.
- *Country:* Country of domicile for the security.
- *Sector:* GICS sector classification for the security.
- *Industry:* GICS industry classification for the security.

By default, the Stock Ownership Table is set to display 25 entries at once. To display a different amount, select 10, 25, 50, 100, or All from the Show Entries drop down menu.

Searching the Stock Ownership Table

To search for a specific keyword, such as an investment theme or brand name, type a keyword into the **Search Bar** in the top right of the **Stock Ownership Table** (as indicated above), then click Enter. Search results will automatically populate in the Stock Ownership Table in the Stock Ownership module.

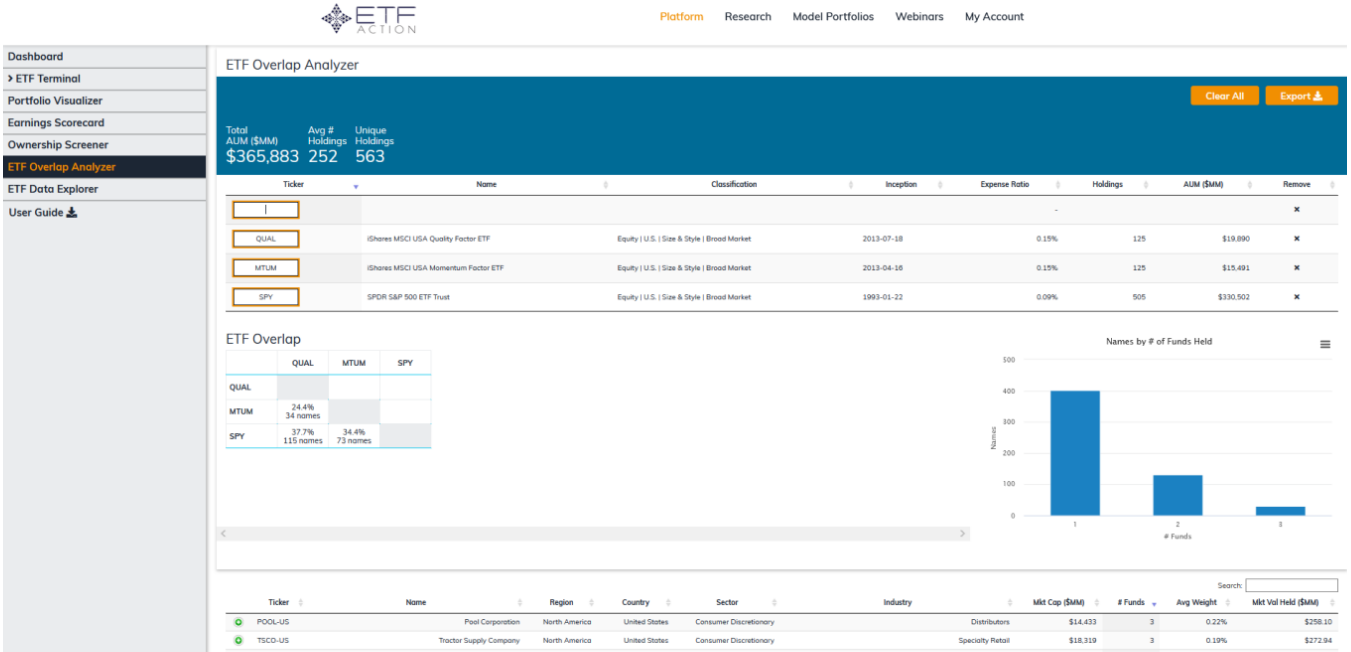
To organize the **Stock Ownership Table** results in ascending or descending order, click the small up and down arrows at next to the heading of each column.

Launching The Stock Ownership Table In The Stock Visualizer

The results displayed in the **Stock Ownership Table** may also be loaded into the **Stock Visualizer (P)** tool by clicking the green **"Launch Stock Visualizer"** button on the right corner of the Stock Ownership module. Doing so will launch the Stock Ownership Table entries as a market-cap weight portfolio (display is limited to 500 stocks or fewer). (See "**Portfolio Visualizer**" section for more information.)

To return to the Ownership Screener from the Stock Visualizer, simply click "Ownership Screener" on the grey (static) sidebar of the left side ETF Action platform.

ETF Overlap Analyzer



The **ETF Overlap Analyzer** allows users to understand how much portfolio overlap exists at the security level within a set of ETFs.

"Portfolio overlap" is determined by both the percentage weights of securities held in both ETFs, as well as the market value held. That is to say: ETF ABC, DEF, and GHI may all share the same 10 stocks in common across their portfolios; but the portfolio overlap among the three funds may differ, depending on how much weight those 10 stocks have been allotted inside each portfolio, and how much in market value of each stock each ETF holds.

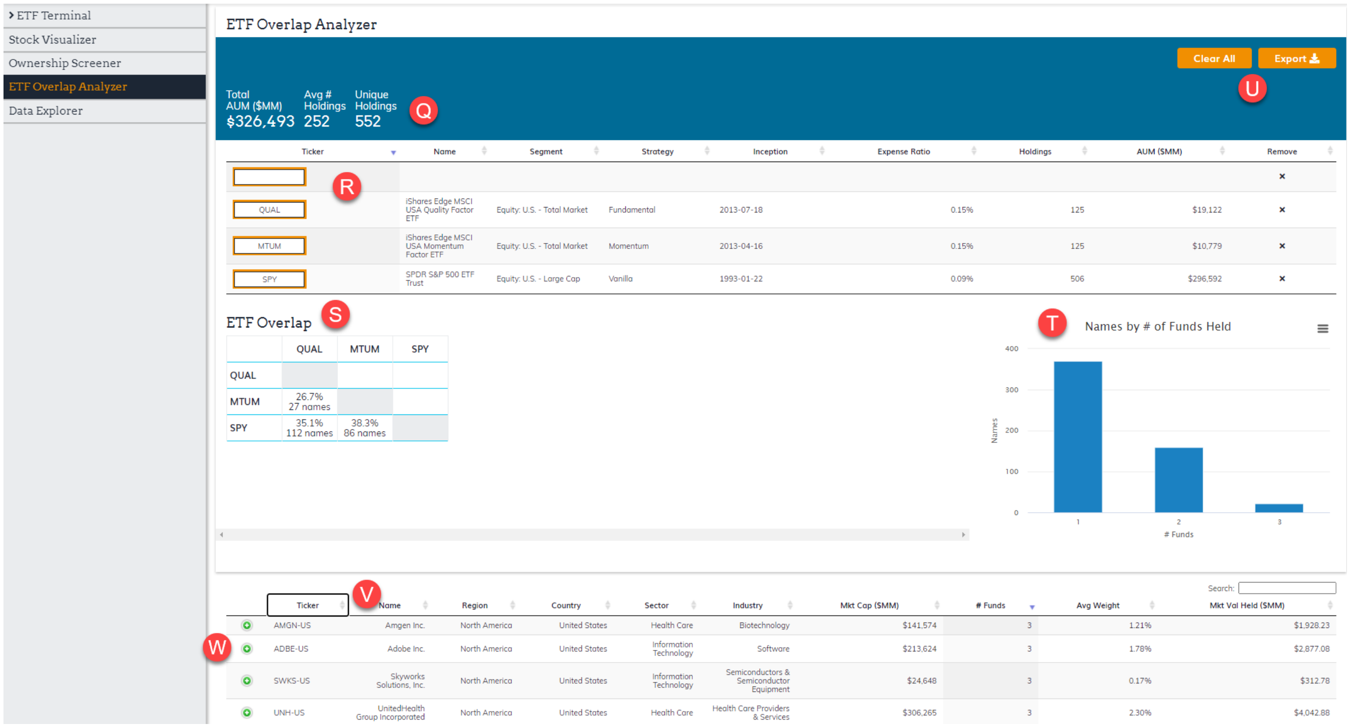
When tickers are entered, the ETF Overlap Analyzer returns:

- A **Summary Bar,** which lists total assets invested in the set of ETFs (in millions), the average number of holdings per ETF, and the number of unique securities in the set.
- An **ETF Overlap Matrix** that depicts how much portfolio overlap exists between any two ETFs in the set;
- The **Common Stocks Bar Chart,** which illustrates how many securities are held in common among the set of ETFs. "1" represents unique names held by only one ETF; "2" represents securities held by two ETFs; and so on. It is possible that there will be no securities held in common by all the ETFs in the set.
- The **Stock Navigator Data Table**, which lists all securities held by the set of ETFs, as well as information about the amounts in which they are held (See: "**Expanding Entries In The Stock Navigator Data Table.**")

How To Use The ETF Overlap Analyzer

To find the portfolio overlap between a set of ETFs, type each ETF's ticker into the orange **Ticker Boxes (R).**

Back to Table of Contents



You must type in at least 2 ETFs, but you may add up to 10 ETFs. When ETFs are added, several data points will populate the **Ticker Box Table,** including each ETF's ticker, full fund name, ETF Action classification, inception date, expense ratio, number of holdings, and current assets under management (in millions of dollars).

NOTE: The ETF Overlap Analyzer can handle up to 10 ETFs at once. If you attempt to add more than 10 ETFs, the ETF Overlap Analyzer will overwrite the ETF in the selected box with the additional ticker, so that the total number of funds remains at 10.

To remove an ETF from the list, click the "X" in the **Remove** column in the Ticker Box Table.

To remove all ETFs and start over, click the orange **Clear All** button in the right-hand corner of the screen.

Interpreting ETF Overlap Analyzer Results

A query in the ETF Overlap Analyzer returns several results, including:

> The **ETF Overlap Matrix (S),** which quantifies portfolio overlap between any two ETFs in the set, in terms of percentage overlap and total number of in common between the two funds.
>
> The **Common Stocks Bar Chart (T),** which illustrates how many securities are held in common among the set of ETFs. "1" represents the securities held by only one ETF; "2" represents securities held by two ETFs; and so on. It is possible that there will be no securities held in common by all the ETFs in the set. Hover over the bars to see the total number of securities in each category.

Back to Table of Contents

The **Stock Navigator Data Table (V)**, which lists all securities held by the set of ETFs, as well as data about the security's classification and the amounts in which they are held (See: "**Expanding Entries In The Stock Navigator Data Table**.")

Data in the Stock Navigator Data Table includes:

- *Ticker:* Security ticker, including listing exchange code.
- *Name:* Security name, including whether the security is an ADR
- *Region:* Region of domicile for the security
- *Country:* Country of domicile for the security
- *Sector:* GICS sector classification for the security
- *Industry:* GICS industry classification for the security
- *Mkt Cap ($MM):* Market capitalization of the security
- *# Funds:* Number of ETFs in the set in which the security appears
- *Avg. Weight:* Total security weight in the ETFs divided by the **total number** of ETFs in the set (not just the ETFs in which the security appears)
- *Mkt Val Held ($MM):* Total market value of the ETF held by ETFs in the set.

Expanding Entries In The Stock Navigator Data Table

Each security listed in the **Stock Navigator Data Table** has a **green** plus sign "+" next to its ticker. Clicking that button expands the row, so that you can see in which ETFs the security appears, including the weight it is given and total market value held.

To close the expanded row, click the **green** plus sign "+" again.

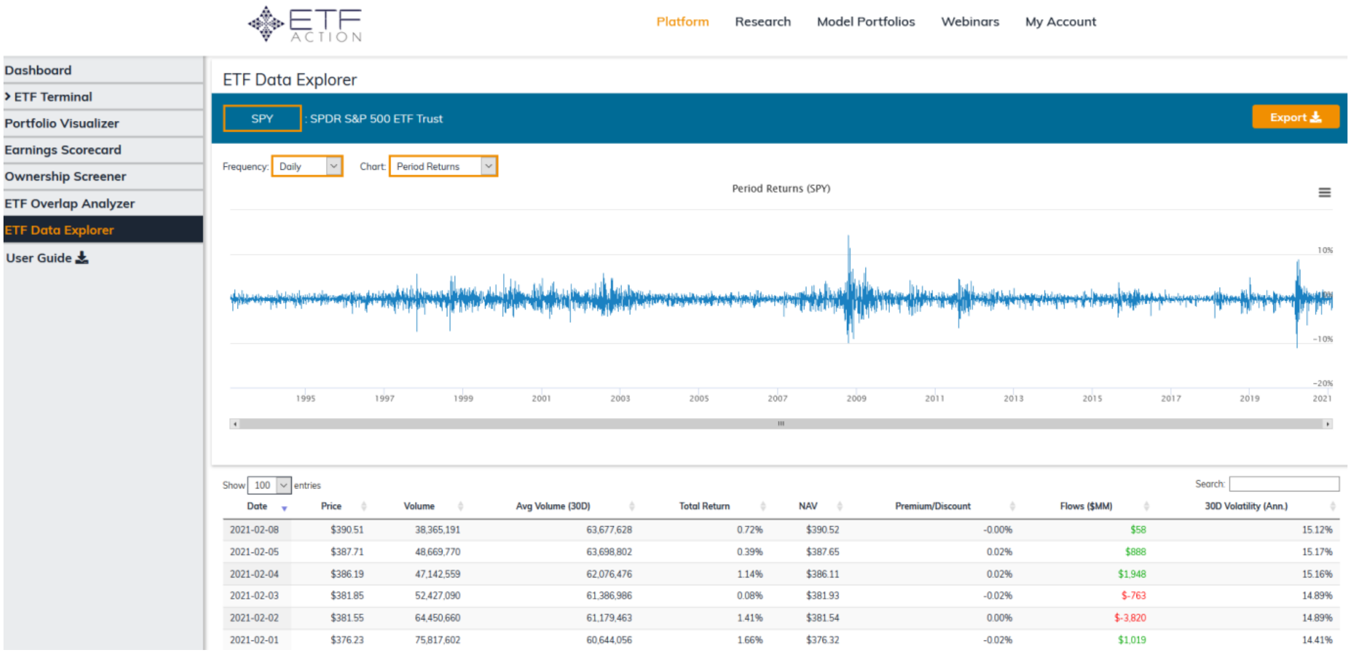
Searching the Stock Navigator Data Table

By default, all securities listed in all ETFs in the set are displayed in the **Stock Navigator Data Table.** To search for a particular security's entry, or for a particular known data point, type a search field into the **Search Bar** at the top right corner of the Stock Navigator Data table.

Exporting the Stock Navigator Data Table

The Data Table may be exported to a .csv file by clicking on the orange "Export" button in the right-hand corner of the **Summary Bar (U)**. A download window will pop up, indicating your data is ready to open or save.

ETF Data Explorer



The **ETF Data Explorer** provides a deep dive into historical data for a single ETF, including its returns, premium/discount information, and flows over several pre-set timeframes.

When a ticker is entered, the ETF Data Explorer provides:

- The **Bar Graph,** which visualizes the data set specified by the *Chart* drop down menu, at the frequency set by the *Frequency* drop down menu. By default, the x axis spans the lifetime of the fund.

- The **Data Table,** which consists of several elements:
  - *Date:* Date on which the data was recorded.
  - *Price:* Last closing price recorded on that date.
  - *Volume:* Volume in shares traded on that date.
  - *Avg Volume (30D):* Average 30-day volume in shares traded, as calculated for that date.
  - *Total Return:* Total return of the ETF, as recorded for that frequency and on that date.
  - *NAV:* Net asset value of the ETF as of the close of trading on that date.
  - *Premium/Discount:* The premium or discount to NAV at which the ETF traded as of the close of trading on that date.
  - *Flows ($MM):* The amount of new assets entering the ETF on that date.
  - *30D Volatility (Ann.):* 30-day annualized volatility, as calculated for that date.

Note About *Frequency's* Impact On The Data Table

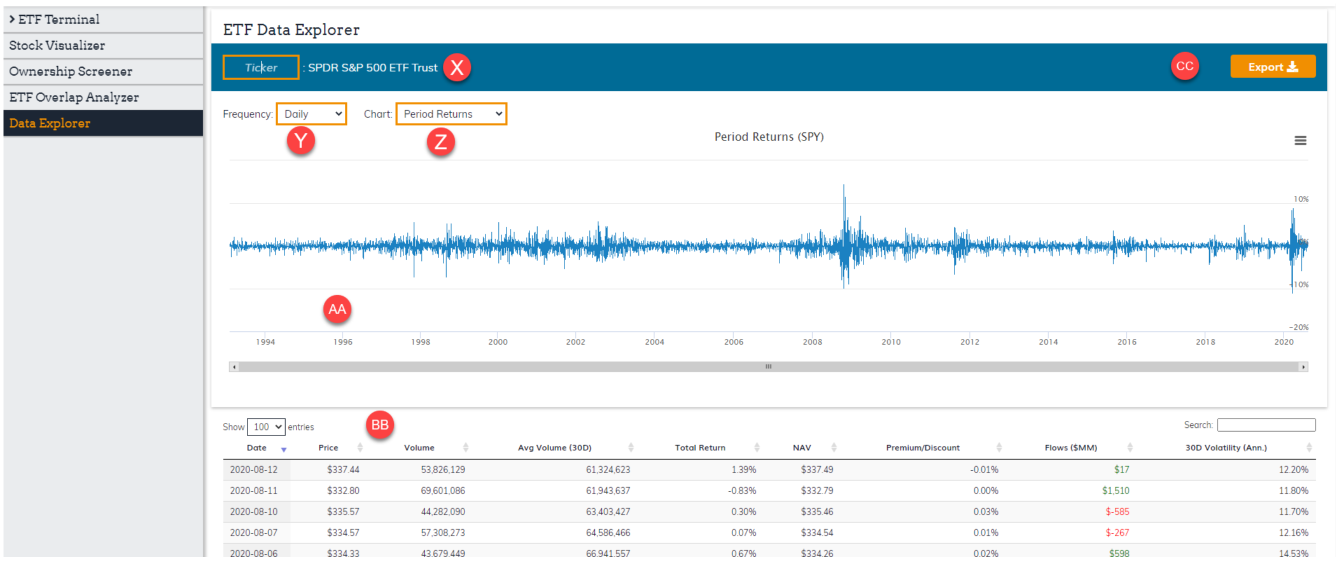
Data Table entries also change depending on the *Frequency* specified for the Bar Graph. By default, *Frequency* is set to Daily, meaning the data depicted in the Data Table span one day. Data Table entries for frequencies longer than

Back to Table of Contents

one day are calculated by averaging daily values across that time frame: Weekly entries are averaged across the past week; monthly across the past month; and so on.

Interpreting ETF Data Explorer Results

There are several interactive elements in the ETF Data Explorer, which are labeled below:



Date	Price	Volume	Avg Volume (30D)	Total Return	NAV	Premium/Discount	Flows ($MM)	30D Volatility (Ann.)
2020-08-12	$337.44	53,826,129	61,324,623	1.39%	$337.49	-0.01%	$17	12.20%
2020-08-11	$332.80	69,601,086	61,943,637	-0.83%	$332.79	0.00%	$1,510	11.80%
2020-08-10	$335.57	44,282,090	63,403,427	0.30%	$335.46	0.03%	$-585	11.70%
2020-08-07	$334.57	57,308,273	64,586,466	0.07%	$334.54	0.01%	$-267	12.16%
2020-08-06	$334.33	43,679,449	66,941,557	0.67%	$334.26	0.02%	$598	14.53%

Ticker box (X): Type in the ticker of any U.S.-listed ETF to call up its entry in the ETF Data Explorer, and/or select the ticker from the list of suggested tickers.

Frequency (Y): The frequency over which individual data points in the Bar Graph and Data Table are represented. Frequency can be set to Daily, Weekly, Monthly, Quarterly, and Annually.

Chart (Z): The metric visualized in the Bar Graph. Chart can be set to Period Returns, Premium/Discount, and Period Flows.

X-Axis (AA): The timeframe on which the Bar Graph is displayed. By default, it is set to the total lifetime of the fund. Custom time frames may be specified. (See: "Changing the X-Axis of the Bar Chart.")

Show X entries (BB): By default, the Data Table displays 100 entries. This can be set to 10, 25, 50, or 100.

Sort By Arrows (BB): Allows users to sort Data Table entries in ascending or descending order, by the selected column.

Search: Allows users to search the Data Table for a particular entry.

Viewing the Bar Chart in Full Screen

To view the Bar Chart in full screen, click on the graphic of three lines in the upper right corner of the chart: Select "View in Full Screen." The Bar Chart will then move into Full Screen mode, which may be exited by pushing the Esc button.

Changing the X-Axis of the Bar Chart

y default, the x axis is set to the full lifetime of the ETF. This can be changed by clicking and dragging across the Bar Chart. The gray area will set the new time range.

Exporting the Bar Graph

The Bar Graph may be exported to several file formats, including .png, .jpeg, .pdf, and .svg. The data underlying the chart may also be exported to either .csv or .xls format.

To export the Bar Chart, click on the graphic of three lines in the upper right corner of the chart: Select the desired file format. A download window will pop up, indicating your data is ready to open or save.

Exporting the Data Table

The Data Table may be exported to a .csv file by clicking on the orange "Export" button in the right hand corner of the screen. A download window will pop up, indicating your data is ready to open or save.

Back to Table of Contents

Disclaimers

ETF Action model portfolios are made available to subscribers for informational purposes only and do not represent actual investments.

The ETF Action model portfolios are not intended and should not be construed as financial or investment advice, a recommendation or promotion. Neither ETF Action nor its licensors shall be responsible for investment decisions, damages, or other losses resulting from use of this model and/or accompanying data. Past performance does not guarantee future performance. Neither ETF Action nor its licensors shall be considered an “expert” under the securities act of 1933. Neither ETF Action nor its licensors warrant that the services comply with the requirements of the NASD or any similar organization or with the securities laws of any jurisdiction. Any information contained in in the services should not be acted upon without obtaining specific legal, tax, and investment advice from a licensed professional.

Distribution prohibited without prior permission. Full terms of service, including terms of use, copyrights, and disclaimers are available at https://www.etfaction.com/termsofuse