ETFs in Insurance General Accounts – 2021

INTRODUCTION

After a chaotic start to the year, U.S. insurance companies added USD 4 billion to exchange-traded funds (ETFs) to their general account portfolios in 2020. By year-end 2020, U.S. insurers increased their ETF AUM by 18% from 2019. Life companies, in particular, returned to the market and purchased large amounts of ETFs. In spite of, or because of, the volatility in the bond market, insurance companies had strong flows into Fixed Income ETFs, adding USD 5 billion in 2020.

In our sixth annual study of ETF usage in U.S. insurance general accounts, for the first time we analyzed the trading of ETFs by insurance companies (see page 37) in addition to the holding analysis. In 2020, insurance companies traded USD 63 billion in ETFs, representing a 10% growth over 2019’s trade volume. On average, insurance companies traded twice as many ETFs during the year as they held at the beginning of the year. Certain categories have substantially higher trade ratios. We also noted interesting observations about the size of insurance company trades.

HOLDING ANALYSIS

Overview

As of year-end 2020, U.S. insurance companies invested USD 36.9 billion in ETFs. This represented only a tiny fraction of the USD 5.5 trillion in U.S. ETF AUM and an even smaller portion of the USD 7.2 trillion in invested assets of U.S. insurance companies. Exhibit 1 shows the use of ETFs by U.S. insurance companies over the past 17 years.

Exhibit 1: ETF AUM Growth

In 2020, ETF usage by insurance companies increased 18.4%; this is a slightly higher rate than the 16.0% increase in 2019. The growth rate has remained consistent since 2004, when insurance companies began investing in ETFs (see Exhibit 2). This growth rate implies a doubling of ETF AUM roughly every four to five years (see Exhibit 3).

Exhibit 2: CAGR of ETF AUM

<table>
<thead>
<tr>
<th>Period</th>
<th>CAGR (%)</th>
<th>Doubling Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Year</td>
<td>18.4</td>
<td>4.1</td>
</tr>
<tr>
<td>3-Year</td>
<td>10.6</td>
<td>6.9</td>
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<tr>
<td>5-Year</td>
<td>18.4</td>
<td>4.1</td>
</tr>
<tr>
<td>10-Year</td>
<td>14.6</td>
<td>5.1</td>
</tr>
<tr>
<td>Since Inception</td>
<td>14.4</td>
<td>5.2</td>
</tr>
</tbody>
</table>


Exhibit 3: ETF AUM Doubling Period

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>1-YEAR</th>
<th>3-YEAR</th>
<th>5-YEAR</th>
<th>10-YEAR</th>
<th>SINCE INCEPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAGR (%)</td>
<td>18.4</td>
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<td>14.6</td>
<td>14.4</td>
</tr>
<tr>
<td>Doubling Period</td>
<td>4.1</td>
<td>6.9</td>
<td>4.1</td>
<td>5.1</td>
<td>5.2</td>
</tr>
</tbody>
</table>


In 2019, the number of ETF shares held by insurance companies declined for the first time in 12 years, but in 2020, the number of shares held increased by 8.5% (see Exhibit 4).

Exhibit 4: ETF Share Growth

For the first time, we also extracted trading data filed by insurance companies. Consistent with the numbers above, the trading analysis showed U.S. insurance companies added USD 4.1 billion to U.S. ETFs (see Exhibit 5).

Exhibit 5: ETF Net Flows

We used linear regression to model the growth of ETF AUM and shares in insurance general accounts. These models accurately fit the historical growth of ETFs by insurance companies (see Exhibits 6 and 7).

Exhibit 6: Actual and Modeled ETF AUM

1 See Appendix 2.
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Exhibit 7: Actual and Modeled ETF Shares


If insurance companies continue to invest according to the trend, the use of ETFs by insurance companies could, once again, almost double in five years...

...which is substantially faster than the expected growth of invested assets.

We used these regression models to estimate the trended growth of ETFs. If insurance companies continue to invest according to the trend, the use of ETFs by insurance companies could, once again, almost double in five years. This growth is substantially faster than the expected growth of invested assets² (see Exhibit 8).

Exhibit 8: Projected Growth of Invested Assets, ETF AUM, and ETF Shares


In 2020, insurance companies invested in 478 different ETFs. As the number of operating insurance companies has declined, the number of insurance companies using ETFs has also declined. However, as a percentage of operating companies, the number of insurers using ETFs increased to a record 36% (see Exhibit 9).

Exhibit 9: ETF Usage


ANALYSIS BY COMPANY TYPE, SIZE, AND OWNERSHIP STRUCTURE

In this section, we analyzed the use of ETFs by different groupings of insurance companies. In particular, we looked at whether company size, type of insurance, or ownership structure affect the use of ETFs by insurance companies.³

Life companies had more invested assets, but P&C companies invested more in ETFs (see Exhibit 10).

Exhibit 10: ETF AUM and Invested Assets by Company Type


³ See Appendix 1.1 for definitions of size and ownership structure.
While all three types of insurance companies grew their ETF assets, Life companies grew their ETF holdings by almost 50% in 2020 (see Exhibit 11).

**Exhibit 11: ETF AUM Growth by Company Type**

An infusion of USD 2.9 billion by Life companies drove the increase in AUM (see Exhibit 12).

**Exhibit 12: Net Flows by Company Type**

An infusion of USD 2.9 billion by Life companies drove the increase in ETF AUM.
In terms of the change in ETF AUM and net flows, the increase in Life ETF usage was concentrated in Fixed Income ETFs (see Exhibit 13).

**Exhibit 13: Change in ETF AUM and ETF Net Flows by Life Companies**

In spite of this ETF usage increase by Life companies, Health companies still held the most ETFs as a percentage of invested assets (see Exhibit 14).
Mega insurance companies owned most of the insurance invested assets but held only about one-third of the ETF AUM held by insurance companies (see Exhibit 15).

**Exhibit 15: ETF AUM and Invested Assets by Company Size**


Since 2015, Mega insurance companies have steadily increased their allocation to ETFs. Over the past five years, they have increased ETF AUM by 30% each year (see Exhibits 16 and 17). While companies of all sizes have increased their use of ETFs, Medium companies added the least in 2020.

**Exhibit 16: ETF AUM Growth by Company Size**


While companies of all sizes have increased their use of ETFs, Medium companies added the least in 2020.
Over the past five years, Mega insurance companies have increased ETF AUM by 30% each year.

Large net flows into ETFs from Large and Mega insurance companies drove the growth in ETF usage (see Exhibit 18).

Large net flows into ETFs from Large and Mega insurance companies drove the growth in ETF usage.
In spite of the recent increase in ETF usage by Mega companies, Small companies held the most ETF AUM as a percentage of invested assets (see Exhibit 19).

Exhibit 19: ETF AUM and ETF AUM as Percentage of Invested Assets by Company Size

![Chart showing ETF AUM and ETF AUM as a percentage of invested assets by company size.]


Most of the insurance invested assets belonged to Stock companies; they also had about one-half of the ETF AUM held by insurance companies (see Exhibit 20).

Exhibit 20: ETF AUM and Invested Assets by Ownership Structure

![Pie charts showing ETF AUM and invested assets by ownership structure.]

After a two-year pause in ETF AUM growth, Stock companies increased their ETF usage by 23% in 2020. Mutual and Other companies have been more consistent in the growth of their ETF usage (see Exhibits 21 and 22).

Exhibit 21: ETF AUM Growth by Ownership Structure


Exhibit 22: CAGR for ETF AUM by Ownership Structure


Stock companies had the least ETF AUM as a percentage of invested assets (see Exhibit 23).

Exhibit 23: ETF AUM and ETF AUM as a Percentage of Invested Assets by Ownership Structure

To see if the use of ETFs varied by the type of underwriting done by an insurance company, we analyzed ETF investments by business focus.

P&C companies invested in ETFs roughly in proportion with invested assets (see Exhibit 24).

**Exhibit 24: ETF AUM and Invested Assets by P&C Business Focus**


While Personal and Commercial writers increased their ETF allocation, Reinsurance and Other P&C companies have reduced their ETF usage every year since 2017 (see Exhibit 25).

**Exhibit 25: ETF AUM Growth by P&C Business Focus**

The ETF net flows from P&C insurers was relatively flat in 2020. While Commercial and Personal companies added, Reinsurance companies took out almost as much from their ETF allocation (see Exhibit 26).

**Exhibit 26: ETF Net Flows by P&C Business Focus**

![Net Flows by P&C Business Focus](chart)


While Commercial and Personal companies added to ETFs, Commercial companies added to Fixed Income ETFs and sold off in Equity ETFs; Personal companies did the opposite (see Exhibit 27).

**Exhibit 27: Change in ETF AUM for Commercial and Personal Insurance Companies**

![Change in ETF AUM](chart)

Because of the sustained retreat from ETFs, Reinsurance companies had the lowest allocation as a percentage of invested assets (see Exhibit 28).

Exhibit 28: ETF AUM and ETF AUM as a Percentage of Invested Assets by P&C Business Focus

![Exhibit 28 diagram]


As shown in Exhibits 10 and 11, even though Life insurers had more invested assets, they invested less in ETFs than P&C companies; however, they increased ETF usage greatly in 2020. Life companies had more concentrated ETF investments. Where the average investment by a P&C company was USD 44 million, the average investment by a Life company (that invests in ETFs) was USD 124 million.

While Annuity companies had almost one-half of the invested assets of Life insurers, Life companies had more diversification in their ETF holdings (see Exhibit 29).

Exhibit 29: ETF AUM and Invested Assets by Life Business Focus

![Exhibit 29 diagram]

Annuity companies greatly increased their ETF usage from 2013 to 2017, but then pulled back. In 2020, they re-entered the ETF market and became once again the largest type of Life insurance company investing in ETFs. Life companies have been more consistent in their ETF AUM growth. The use of ETFs by other types of Life companies seems to have plateaued (see Exhibit 30).

Exhibit 30: ETF AUM Growth by Life Business Focus

![Chart showing ETF AUM growth by Life Business Focus.](image)


While all types of Life companies added to ETFs in 2020, they did so differently. All of them added to Fixed Income ETFs, but only two types sold Equity ETFs, while two added to Equity ETFs (see Exhibit 31).

Exhibit 31: Equity Net Flows by Life Business Focus

![Chart showing Equity Net Flows by Life Business Focus.](image)

Even after the substantial growth in ETF usage in 2020, Annuity companies still had the least amount invested as a percentage of invested assets (see Exhibit 32).

Exhibit 32: ETF AUM and ETF AUM as Percentage of Invested Assets by Life Business Focus


In Health insurance, all ETF usage has been concentrated in Comprehensive Health companies (see Exhibit 33).

Exhibit 33: ETF AUM Growth by Health Business Focus

ANALYSIS BY ASSET CLASS

In 2020, insurance companies pumped almost USD 5 billion into Fixed Income ETFs, increasing the allocation to an all-time high of USD 13 billion (see Exhibit 34).

Exhibit 34: ETF AUM by Asset Class

While adding to Fixed Income, companies also took a bit of money out of Equity. Nevertheless, Equity AUM increased by USD 1.2 billion (see Exhibit 35).

Exhibit 35: ETF Net Flows and Change in ETF AUM by Asset Class

4 See Appendix 1.2 for definitions of asset classes.
Fixed Income ETF AUM grew by 52% in 2020 and because of the sustained increase in Fixed Income ETF usage, the percentage of Fixed Income ETFs used by insurance companies exceeded that of the U.S. ETF market (see Exhibits 36 and 37).

Exhibit 36: CAGR for ETF AUM by Asset Class

The percentage of Fixed Income ETFs used by insurance companies exceeded that of the U.S. market.
After decreasing their ETF usage for two years, Life companies added USD 3 billion to Fixed Income ETFs and doubled allocation from USD 3.3 billion to USD 4.7 billion (see Exhibit 38).

**Exhibit 38: ETF AUM Growth by Asset Class for Life Companies**

Life companies added USD 3 billion to Fixed Income ETFs.

P&C companies added to Fixed Income ETFs but took away from Equity ETFs. However, due to market appreciation, their Equity and Fixed Income ETF AUM grew in 2020 (see Exhibit 39).

**Exhibit 39: ETF Net Flows and ETF AUM Growth by Asset Class for P&C Companies**

However, due to market appreciation, their Equity and Fixed Income ETF AUM grew in 2020.

Health companies added USD 1 billion to Fixed Income ETFs, and as of year-end 2020, held more in Fixed Income ETFs than in any other asset class (see Exhibit 40).

Exhibit 40: ETF AUM Growth by Asset Class for Health Companies


Asset allocation also varied by business focus. For P&C companies, Personal carriers were less likely to hold Fixed Income ETFs. In Life insurance, Annuity companies held almost exclusively Fixed income ETFs (see Exhibit 41).

Exhibit 41: Asset Allocation by Select Business Focus

In terms of company size, the flows to Fixed Income ETFs were primarily from Large and Mega companies, reflected by their relative asset allocation (see Exhibit 42).

Exhibit 42: Asset Allocation by Company Size

![Asset Allocation by Company Size](image)


By ownership structure, all types of companies added to Fixed Income ETFs in 2020 (see Exhibit 43).

Exhibit 43: ETF Net Flows by Ownership Structure

![ETF Net Flows by Ownership Structure](image)

ANALYSIS OF EQUITY ETFS

As of year-end 2020, Large Cap Equity ETFs comprised almost one-half of the insurance Equity ETF allocation. This was slightly larger than the Large Cap allocation for the overall U.S. ETF market. Insurance companies were less likely to invest in Small Cap than the overall market (see Exhibit 44).

Exhibit 44: Insurance and U.S. Market Equity ETF AUM by Market Capitalization

As of year-end 2020, Large Cap Equity ETFs comprised almost one-half of the insurance Equity ETF allocation.

Large Cap ETF AUM grew in 2020, despite flows out of the Equity allocation.

Proportionally, the largest growth was in Mid Cap, which also had the most inflows.


Large Cap ETF AUM grew in 2020, despite flows out of the Equity allocation. Small Cap had net outflows as well as a decline in ETF AUM. Proportionally, the largest growth was in Mid Cap, which also had the most inflows (see Exhibit 45).

Exhibit 45: Equity ETF Net Flows and ETF AUM by Market Capitalization

The Equity ETF allocation varied little by company type, company size, or ownership structure, but varied significantly by Life business focus (see Exhibits 46 and 47).

**Exhibit 46: Equity Market Capitalization by Company Type, Company Size, and Ownership Structure**


After two years of lower usage, insurance companies increased their allocation to Sector ETFs. However, the use of Sector ETFs by insurance companies was lower than that of the overall U.S. ETF market (see Exhibit 48).

**Exhibit 47: Equity Market Capitalization by Select Life Business Focus**


**Exhibit 48: Insurance and U.S. Market Equity ETF AUM by Sector Status**

The allocation to Sector ETFs by insurance companies varied from the U.S. ETF market, which in turn varied from the sector allocation of the equity market, as represented by the S&P Composite 1500® (see Exhibit 49).

Exhibit 49: Sector Allocation of the Insurance and U.S. Markets

Exhibit 50: Insurance and U.S. Market Fixed Income ETF AUM by Bond Type


ANALYSIS OF FIXED INCOME ETFS

While the USD 1 trillion allocated to Fixed Income ETFs by the overall U.S. market was broadly diversified across bond types, the insurance market mostly invested in Corporate ETFs (see Exhibit 50).

The overweight to Corporate ETFs increased in 2020, as 80% of the USD 4.8 billion in ETF net flows went to Corporate ETFs (see Exhibit 51).

Exhibit 51: Fixed Income ETF Net Flows by Bond Type

However, in 2020, all major bond types saw double-digit increases over 2019, with Corporate, Municipal, and Treasury ETFs showing increases over 50% (see Exhibit 52).

Exhibit 52: Fixed Income CAGR and ETF AUM by Bond Type

Life companies invested mostly in Corporate ETFs, while P&C and Health companies had a more diversified allocation (see Exhibit 53).

Exhibit 53: Bond Type Allocation by Company Type


Even among Life companies, there was dispersion in ETF usage. Annuity writers were almost exclusively Corporate ETF users, while other profiles had a broader usage (see Exhibit 54).

Exhibit 54: Bond Type Allocation for Select Business Focuses

Corporate ETF usage increased with company size, and Broad Market ETF usage decreased (see Exhibit 55).

Exhibit 55: Bond Type Allocation by Company Size

In terms of new investments, Life companies purchased USD 3 billion almost exclusively in Corporate ETFs in 2020, while Health companies, which added USD 1 billion in 2020, were more diversified in their purchases (see Exhibit 56).

Exhibit 56: Bond Type ETF Net Flows for Life and Health Companies

... while Health companies, which added USD 1 billion in 2020, were more diversified in their purchases.
Although insurance companies invested mostly in Investment Grade ETFs, they held a higher portion of High Yield ETFs than the overall U.S. market—at the expense of Blend ETFs that were a mix of High Yield and Investment Grade (see Exhibit 57).

Exhibit 57: Insurance and U.S. Market Fixed Income ETF AUM by Credit Quality

Exhibit 58: Fixed Income ETF AUM by Credit Quality


Although companies added to High Yield ETFs in 2020, the ETF AUM held by insurance companies declined slightly (see Exhibit 58).
P&C companies, with Personal carriers in particular, allocated about one-half of their Fixed Income ETF investments to High Yield ETFs. However, in 2020, P&C companies sold off High Yield ETFs and increased their allocation to Investment Grade ETFs (see Exhibit 59).

Exhibit 59: Fixed Income ETF AUM for P&C Companies by Credit Quality


Insurance company investment in Fixed Income ETFs, by average maturity, was similar to that of the overall U.S. market (see Exhibit 60).

Exhibit 60: Insurance and U.S. Market Fixed Income ETF AUM by Average Maturity

While Blend ETFs had the most assets, other maturity buckets, especially Short, grew faster. Long maturity ETF AUM has declined in recent years (see Exhibit 61).

**Exhibit 61: CAGR of Fixed Income ETF AUM by Average Maturity**

In terms of company size, Mega companies were more likely to use Blend ETFs. Life companies also used Blend ETFs, but Health companies tended to use Short ETFs (see Exhibit 62).

**Exhibit 62: Fixed Income Average Maturity ETF Allocation by Company Size, Type, and Ownership Structure**

In terms of company size, Mega companies were more likely to use Blend ETFs.
Annuity writers almost exclusively used Blend maturity ETFs (see Exhibit 63).

Exhibit 63: Fixed Income Average Maturity ETF Allocation by Select Business Focuses


SYSTEMATIC VALUATION

Systematic valuation (SV) is a book-value-like accounting treatment that has the potential to reduce income volatility in statutory filings. Of the USD 13 billion in Fixed Income ETFs, insurance companies designated 26.5% as SV. In the four years SV regulations have been in effect, the use of the designation has remained about 25% (see Exhibit 64).

Exhibit 64: SV Designation for Fixed Income Securities


Of the USD 13 billion in Fixed Income ETFs, insurance companies designated 26.5% as systematic valuation.

This analysis excludes USD 945,000 of Equity ETFs classified as SV.
Life companies designated more ETFs as SV than Health or P&C companies. Medium and Mega companies used the SV designation more than other company sizes; although Large companies increased the use of SV in 2020. The use of SV was predominantly by Stock companies (see Exhibit 65).

### Exhibit 65: SV Designation by Company Type, Ownership Structure, and Company Size

![SV Designation by Company Type, Ownership Structure, and Company Size](image)


The use of the SV designation for ETFs with a specific maturity year declined in 2020, while the use of SV for Long maturity ETFs increased. Investment Grade ETFs had a higher SV designation than High Yield or Blend ETFs. Finally, in 2020, there was a sharp increase in SV designations for Municipal ETFs; the use of SV for Treasury ETFs also increased in 2020 (see Exhibit 66).

### Exhibit 66: SV Designation by Bond Type, Credit Quality, and Average Maturity

![SV Designation by Bond Type, Credit Quality, and Average Maturity](image)

ANALYSIS OF SMART BETA ETFS

The majority of ETF investments by insurance companies were Traditional Beta ETFs. The insurance industry allocated to different beta types in a similar manner to the overall U.S. ETF market (see Exhibit 67).

Exhibit 67: Insurance and U.S. Market ETF AUM by Beta Type

The majority of ETF investments by insurance companies were Traditional Beta ETFs.

In 2020, the allocation to Smart Beta ETFs increased by 20%, and the allocation to Active Beta ETFs increased by 9.8%, albeit off a small base.

Exhibit 68: ETF AUM Growth by Beta Type

In 2020, the allocation to Smart Beta ETFs increased by 20%, and the allocation to Active Beta ETFs increased by 9.8%, albeit off a small base.
Within the Smart Beta allocation, 99% was in Equity ETFs. Of the different smart beta factors, the largest allocation has been to Dividend ETFs, and this strategy continued to increase in 2020 (see Exhibit 69).

Exhibit 69: Equity ETF AUM Growth by Smart Beta Factor


In contrast to Smart Beta, almost all of the Active Beta allocation was in Fixed Income ETFs. Within Fixed Income, almost all of the Active Beta was in Ultra Short ETFs (see Exhibit 70).

Exhibit 70: Active Beta ETF Allocation by Asset Class and Average Maturity

MISCELLANEOUS ANALYSIS

Insurance companies invested 84% of the assets in Colossal ETFs. This category of ETFs continued to attract assets in 2020 (see Exhibit 71). The only investments in Seeded ETFs were larger Life companies investing in ETFs from affiliates.

Exhibit 71: Equity ETF AUM by ETF Size


In terms of location, insurance companies invested mostly in Developed Market and Domestic ETFs (see Exhibit 72).

Exhibit 72: ETF Allocation by Location

Insurance companies invested 0.23% of ETF investments to ESG ETFs; this is lower than the 1.3% of the U.S. ETF market. The primary use of ESG ETF investments was by insurance companies in their asset management subsidiaries.

Looking at the geographic distribution of insurance ETF usage, companies located in Illinois, New York, New Jersey, Texas, and Wisconsin were the largest users of ETFs (see Exhibit 73). However, of the five states with the largest ETF usage, only New York had lower ETF allocation than its share of invested assets (see Exhibit 74). Of the top five states, all increased their ETF usage, except Illinois. New Jersey grew the fastest in 2020 to move into third place (see Exhibit 75).

Exhibit 73: ETF AUM by Domicile

Exhibit 74: ETF Overweight and Underweight Relative to Invested Assets by Domicile

However, of the five states with the largest ETF usage, only New York had lower ETF allocation than its share of invested assets.
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Trade Analysis

In addition to holdings data, insurance companies also filed information for all the trades they executed over the year. For this report, we analyzed trading data back to 2015. Over the past six years, the U.S. dollar amount of ETFs traded by insurance companies increased 234% from USD 23 billion to USD 63 billion. This equated to a five-year CAGR of 21%. In 2020, the amount traded increased 10% over the amount traded in 2019 (see Exhibits 76 and 77).

Exhibit 75: ETF AUM Growth by the Top Five Domiciles


Exhibit 76: ETF Trades

Over the past six years, the U.S. dollar amount of ETFs traded by insurance companies increased 234% from USD 23 billion to USD 63 billion.


Exhibit 77: CAGR for ETF Trades

Life and P&C companies accounted for approximately 85% of the trades. Life companies increased their trading volume by 35% in 2020 (see Exhibit 78).

Exhibit 78: ETF Trades by Company Type

Mega and Large companies accounted for the bulk of the trading. However, Mega companies reduced trading in 2020, while Large companies increased volume by 22%. At 48%, Medium companies increased trading the most (see Exhibit 79).

Exhibit 79: ETF Trades by Company Size

Stock companies traded the most ETFs, but in 2020, they did not increase their volume. Mutual companies, on the other hand, increased trading volume by 36% (see Exhibit 80).

Exhibit 80: ETF Trades by Ownership Structure

Among P&C companies, Commercial and Personal carriers dominated trading. These two types of companies accounted for 97% of all trades for P&C companies in 2020. Commercial companies increased trading by 25%, while trades by Personal companies declined slightly (see Exhibit 81).

Exhibit 81: ETF Trades by P&C Business Focus
Life & Health companies increased trading by 148% in 2020, and as of year-end 2020 they accounted for 29% of trading volume by Life companies. Annuity companies decreased their trading volume in 2020 by 29%. Life & Annuity companies increased trading the most, up 274% in 2020, but accounted for only 12% of trades. Life companies increased trading by 48% and became the largest trading block among Life companies (see Exhibit 82).

Exhibit 82: ETF Trades by Life Business Focus

[Graph showing ETF trades by Life Business Focus]


After a brief appearance by Medicare/Medicaid companies in 2019, Comprehensive Health again dominated trading by Health companies (see Exhibit 83).

Exhibit 83: ETF Trades by Health Business Focus

[Graph showing ETF trades by Health Business Focus]

In 2015, Fixed Income ETFs accounted for a little over 25% of all ETF trades by insurance companies. By 2020, Fixed Income ETFs accounted for over one-half of all ETF trades. Over this period, Fixed Income ETF trading grew at an annual rate of 39% per year (see Exhibit 84).

Exhibit 84: ETF Trades by Asset Class


Among Equity ETFs, Large Cap trades dominated; among Fixed Income ETFs, Corporate ETFs traded the most (see Exhibit 85).

Exhibit 85: Equity and Fixed Income ETF Trades


Among Equity ETFs, Large Cap trades dominated; among Fixed Income ETFs, Corporate ETFs traded the most.
Investment Grade ETFs traded the most, but High Yield ETFs have consistently increased in volume. In 2020, their volume increased 35% and they had a five-year CAGR of 33% (see Exhibit 86).

Exhibit 86: Fixed Income Trades by Credit Quality

In general, ETFs with Blend maturity traded the most. Short and Ultra Short ETFs have traded more in recent years, although their trade volumes declined in 2020 (see Exhibit 87).

Exhibit 87: Fixed Income ETF Trades by Average Maturity

Among Equity ETFs, Large Cap trades dominated; among Fixed Income ETFs, Corporate ETFs traded the most.
Insurance companies traded mostly using Traditional market cap-weighted ETFs (see Exhibit 88).

**Exhibit 88: Fixed Income ETF Trades by Beta Type**

Insurance companies traded mostly using Traditional market cap-weighted ETFs.

**Exhibit 89: ETF Trades by Smart Beta Factor and Average Maturity**

As with our holdings analysis, among Smart Beta Equity ETFs, Dividend ETFs traded the most, and Active Beta ETFs dominated Fixed Income ETF trades with Ultra Short average maturity (see Exhibit 89).

Also mirroring the holdings analysis, Colossal ETFs dominated trading (see Exhibit 90).

Exhibit 90: ETF Trades by ETF Size

![ETF Trades by ETF Size Chart]


ETF Trade Ratio and Trade Size

By combining the holding and trade data, we analyzed the amount of trading relative to holding. Dividing the amount traded in a given year by the number of ETFs held at the beginning of the same year gave us a trade ratio for the year. Insurance companies have consistently traded twice as many ETFs as they have held (see Exhibit 91).

Exhibit 91: ETF Trade Ratio

![ETF Trade Ratio Chart]

In 2020, Life companies traded 3.5 times the amount of their holdings; whereas, P&C companies have consistently traded at 1.5 times. As they have increased their ETF holdings, Mega companies’ trade ratio declined steadily and ended 2020 at 2.19 times. The trade ratio for Large companies varied more year to year and ended 2020 at 2.79 times. Stock companies had the highest trade ratio, but this has also declined as holdings have increased (see Exhibit 92).

**Exhibit 92: Trade Ratio by Company Type, Size, and Ownership Structure**


In terms of asset class, insurance companies traded Fixed Income ETFs much more frequently than Equity ETFs. The Equity trade ratio always remained under 2 times, while the Fixed Income trade ratio never dipped below 2 times (see Exhibit 93).

**Exhibit 93: ETF Trade Ratio by Asset Class**

Corporate ETFs, the most commonly held type of Fixed Income ETF, traded 4.5 times in 2020; it traded as high as 9.4 times in 2016. Even though insurance companies have held fewer assets in High Yield ETFs, they traded High Yield at a higher rate (see Exhibit 94).

**Exhibit 94: ETF Trade Ratio by Bond Type and Credit Quality**


Using NAIC schedules, we can also identify ETFs that were a) bought in a year, b) sold in a year, or c) bought and sold within a year. Consistently, one-half of the trades completed by insurance companies were these round-trip trades (see Exhibit 95).

**Exhibit 95: ETF Trades by NAIC Schedule**

The data also allowed us to look at the size of ETF trades. We noted a large disparity between the mean and median of trades. In 2020, the average trade was USD 8 million, while the median trade was USD 406,000 (see Exhibit 96).

For both the mean and median, Life companies had a higher mean trade size than P&C or Health Companies. However, Health companies had higher median trades (see Exhibit 97). A few dozen trades over USD 500 million executed by Large and Mega companies accounted for this skew.
Fixed Income trades has always had a higher mean trade size. Until 2019, all types of assets had roughly the same median trade size, but in 2019 and 2020, Fixed Income ETFs had a much higher median trade size (see Exhibit 96).

**Exhibit 98: Mean and Median ETF Trade Size by Asset Class**

APPENDIX 1: METHODOLOGY

The National Association of Insurance Commissioners (NAIC) requires all U.S. insurance companies to file an annual statement with state regulators. This filing includes a detailed holdings list of all securities held by insurance companies. S&P Global Market Intelligence (SPGMI) compiled this data from the NAIC and makes it available in a usable format. From this database, we extracted all insurance ETF holdings and trades, both current and historical. In addition, First Bridge, a CFRA Company, which is an ETF data and analytics company, provided us with a list of U.S. ETFs, as well as characteristics of each ETF—such as asset class, stock strategy, bond credit quality, etc. We combined First Bridge ETF classifications with SPGMI statutory filing data to gain insight into how insurance companies use ETFs.

Appendix 1.1: S&P Global Market Intelligence Data

For U.S. insurance companies, we used NAIC data as compiled by SPGMI. U.S. insurance companies filed the data with the NAIC at the end of February 2021. SPGMI retrieved the data and loaded it into its database. The completeness of the database depended on the timeliness of SPGMI receiving the data from the NAIC and the amount of quality control SPGMI performs. To get timely yet complete information, we retrieved the data for this analysis on April 7, 2021.

SPGMI classified companies in various ways. For companies that are members of a group, we classified all companies the same way as a group. For example, if a group contained individual companies of various ownership structures (Stock, Reciprocal Exchange, Lloyd’s Syndicate, etc.), but SPGMI classified the group as a Stock company. For this analysis, we assigned the ownership structure of the parent organization to all the subsidiaries. We do a similar assignment across all the features in this report.

In 2020, the SPGMI database contained 6,137 companies, both historical and operating. Most of these companies (3,867 or 63%) belonged to one of 626 insurance groups; this left 2,261 stand-alone insurance entities. For this analysis, we refer to “companies” as the combination of the 626 groups and 2,261 individual entities. This gave us 2,887 companies in our analysis (see Exhibit 99).

<table>
<thead>
<tr>
<th>TYPE OF COMPANY</th>
<th>INDIVIDUAL COMPANIES</th>
<th>STAND ALONE COMPANIES</th>
<th>COMPANIES PART OF A GROUP</th>
<th>NUMBER OF GROUPS</th>
<th>GROUPS PLUS STAND-ALONE COMPANIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>P&amp;C</td>
<td>3,468</td>
<td>1,374</td>
<td>2,094</td>
<td>325</td>
<td>1,699</td>
</tr>
<tr>
<td>Life</td>
<td>1,069</td>
<td>404</td>
<td>665</td>
<td>145</td>
<td>549</td>
</tr>
<tr>
<td>Health</td>
<td>1,600</td>
<td>483</td>
<td>1,117</td>
<td>156</td>
<td>639</td>
</tr>
<tr>
<td>Total</td>
<td>6,137</td>
<td>2,261</td>
<td>3,876</td>
<td>626</td>
<td>2,887</td>
</tr>
</tbody>
</table>


It is possible that some companies have not filed their financials, or that the NAIC has not reported these to SPGMI, or that the data had not made it into the SPGMI database by April 7, 2021. To test for completeness, we compared the reported invested assets\(^6\) of the 6,137 companies in 2020 versus 2019. Of the 6,137 entities, 293 had assets in 2019 but not in 2020. However, these companies represented only 1.38% of the total 2019 invested assets (see Exhibit 100). Conversely, we had

\(^6\) Invested assets refer to net admitted cash and invested assets, reported on page 2, line 12 of the annual statement.
98.62% of companies reporting in terms of invested assets. Of the companies not reporting, the largest number of late filers were Health companies at 9.95%. This may have had an impact on the analysis of ETF usage by Health companies.

<table>
<thead>
<tr>
<th>TYPE OF COMPANY</th>
<th>NUMBER OF COMPANIES</th>
<th>INVESTED ASSETS (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P&amp;C</td>
<td>106</td>
<td>1.57</td>
</tr>
<tr>
<td>Life</td>
<td>54</td>
<td>0.81</td>
</tr>
<tr>
<td>Health</td>
<td>133</td>
<td>9.95</td>
</tr>
<tr>
<td>Total</td>
<td>293</td>
<td>1.38</td>
</tr>
</tbody>
</table>


As of December 2020, the U.S. insurance industry had USD 7.2 trillion in invested assets (see Exhibit 101).

We segregated companies by size, based on their invested assets as of Dec. 31, 2020.

- Small: Invested assets < USD 500 million
- Medium: USD 500 million ≤ invested assets < USD 5 billion
- Large: USD 5 billion ≤ invested assets < USD 50 billion
- Mega: Invested assets ≥ 50 billion
Historically, invested assets were concentrated in Mega companies. As of 2020, Mega companies represented 64% of all the industry’s invested assets (see Exhibit 102).

**Exhibit 102: Invested Assets by Company Size**


Life companies represented approximately 66% of all invested assets in the insurance industry (see Exhibit 103).

**Exhibit 103: Invested Assets by Company Type**


SPGMI classified the ownership of each company in 12 different ways, which we condensed into three ownership structures.

- Stock: Stock companies
- Mutual: Mutual companies
- Other: BC/BS Not for Profit, BC/BS Stock, Limited Liability Corporation, Lloyd’s Organization, Non Profit, Reciprocal Exchange, Risk Retention Group, Syndicate, U.S. Branch of Alien Insurer, Other
Stock companies held the vast majority of invested assets, with Mutual companies holding just 21% of invested assets (see Exhibit 104).

Exhibit 104: Invested Assets by Company Ownership Structure

![Chart showing invested assets by company ownership structure](chart)


SPGMI data also allowed us to classify companies by business focus. For compactness, we grouped the data differently from SPGMI.

Exhibit 105: Business Focus Classifications

<table>
<thead>
<tr>
<th>P&amp;C COMPANIES</th>
<th>LIFE COMPANIES</th>
<th>HEALTH COMPANIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Financial Lines Focus</td>
<td>Annuity and A&amp;H Focus</td>
<td>Comprehensive Health</td>
</tr>
<tr>
<td>Commercial General Liability Focus</td>
<td>Annuity Focus</td>
<td>Dental/Vision</td>
</tr>
<tr>
<td>Commercial Lines Focus</td>
<td>Individual Life Focus</td>
<td>Medicaid Provider</td>
</tr>
<tr>
<td>Commercial Medical Malpractice Focus</td>
<td>Life Insurance Focus</td>
<td>Medicare Provider</td>
</tr>
<tr>
<td>Commercial Property Focus</td>
<td>Life Minimum NPW</td>
<td>Health - Other Focus</td>
</tr>
<tr>
<td>Commercial Workers Compensation Focus</td>
<td>Life and Annuities Focus</td>
<td>Health Minimum NPW</td>
</tr>
<tr>
<td>Accident &amp; Health Lines Focus</td>
<td>Group Accident &amp; Health Focus</td>
<td>Other Health</td>
</tr>
<tr>
<td>Other P&amp;C</td>
<td>Individual Life and A&amp;H Focus</td>
<td></td>
</tr>
<tr>
<td>P&amp;C Minimum NPW</td>
<td>Life and A&amp;H Focus</td>
<td></td>
</tr>
<tr>
<td>Personal Lines Focus</td>
<td>Specialty A&amp;H Focus</td>
<td></td>
</tr>
<tr>
<td>Personal Property Focus</td>
<td>Credit Insurance Focus</td>
<td></td>
</tr>
<tr>
<td>Large Reinsurance Focus</td>
<td>Other Life</td>
<td></td>
</tr>
<tr>
<td>Reinsurance Focus</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


SPGMI has 13 classifications for P&C companies (see Exhibit 105). We collapsed these into the following four groups.

- Commercial: Commercial Financial Lines Focus, Commercial General Liability Focus, Commercial Lines Focus, Commercial Medical Malpractice Focus, Commercial Property Focus, Commercial Workers Compensation Focus,
- Personal: Personal Lines Focus, Personal Property Focus
- Reinsurance: Large Reinsurance Focus, Reinsurance Focus
- Other: Accident & Health Lines Focus, P&C Minimum NPW, Other P&C
Personal carriers had the most assets, with Commercial carriers taking up most of the rest (see Exhibit 106).

**Exhibit 106: Invested Assets by P&C Business Focus**

![Pie chart showing invested assets by P&C business focus]


As Exhibit 105 shows, Life companies have 12 business focus classifications, which we collapsed into the following five groups.

- **Annuity**: Annuity and A&H Focus, Annuity Focus
- **Life**: Individual Life Focus, Life Insurance Focus, Life Minimum NPW
- **Life & Health**: Group Accident & Health Focus, Individual Life and A&H Focus, Life and A&H Focus, Specialty A&H Focus
- **Life & Annuity**: Life and Annuities Focus
- **Other**: Credit Insurance Focus, Other Life

For Life insurance companies, Annuity companies had approximately one-half of the invested assets (see Exhibit 107).

**Exhibit 107: Invested Assets by Life Business Focus**

![Pie chart showing invested assets by Life business focus]

As Exhibit 105 shows, Health companies have seven business focus classifications, which we collapsed into the following four groups.

- Comprehensive Health: Comprehensive Health
- Dental/Vision: Dental/Vision
- Medicaid/Medicare: Medicaid Provider, Medicare Provider
- Other: Health - Other Focus, Health Minimum NPW, Other Health

Comprehensive Health companies had the clear majority of invested assets (see Exhibit 108).

**Exhibit 108: Invested Assets by Health Business Focus**


From the SPGMI database, we extracted a list of all ETFs held by insurance companies. We did this by matching both the tickers and CUSIP numbers of the insurance holdings against a master ETF list. Where the CUSIP and tickers did not both match exactly, we employed a manual method to identify the correct ETF. In spite of the error-checking, insurance companies did not always file complete or correct information. In as much as the underlying data had errors, this analysis contains errors.

**Appendix 1.2: First Bridge Data**

We used First Bridge as the source of ETF data in this analysis. We used the categorization labels developed by First Bridge in this analysis. For example, we used First Bridge’s definition of Smart Beta. We also relied on First Bridge to classify every Smart Beta ETF. We assume consistency and completeness of the data provided by First Bridge.

For year-end 2020, First Bridge provided us with a list of 2,336 funds. We note that insurance companies do not invest in a vast majority of these funds. While we refer to these funds as ETFs, the funds have varying legal structures. The vast majority of the funds in the list are open-ended ETFs. However, a few large funds have a Unit Investment Trust or Grantor Trust. The remaining legal structures, including semi-transparent ETFs, do not represent a material amount of Assets (see Exhibit 109). For this reason, we do not analyze ETF usage by legal structure and refer to all these funds as ETFs.7

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7 Our analysis excludes exchange-traded notes.
Exhibit 109: ETF AUM by Legal Structure


First Bridge provided the AUM and price for each ETF. By dividing the AUM by price, we approximated the number of shares outstanding at any period. Share analysis is not perfect, as share splits could affect these values. Also, ETFs trading at a discount or premium could affect the share calculation. However, at an aggregate level, share analysis is directionally useful.

In 2020, ETF AUM exceeded USD 5 trillion (see Exhibit 110). Over the past 10 years, ETF AUM increased at an annualized rate of 19%. This increase was not just because of the extended rally in equity markets, as the number of share outstanding also increased over the same period at an annual basis of 12% (see Exhibit 111).

Exhibit 110: ETF AUM and Shares Growth


Exhibit 111: CAGR of ETF AUM and Shares

Often First Bridge classified ETFs in more granular detail than was needed for this analysis. In these instances, we combined fields to make our analysis more meaningful.

For example, the First Bridge field of asset class contained six different categories. We collapsed these into three.

- Equity: Equities
- Fixed Income: Bonds
- Other: Commodities & Metals, Currency, Target Date/Multi Asset, and Other Asset types.

The vast majority of U.S. ETFs are Equity ETFs. Fixed Income ETFs grew considerably in recent years and comprised 19% of the ETF market as of year-end 2020 (see Exhibit 112).

**Exhibit 112: ETF AUM by Asset Class**


First Bridge segregated Equity ETFs into eight buckets by market capitalization. We consolidated these into four buckets.

- Blend: Broad Market/Multi Cap
- Large Cap: Large Cap and Mega Cap
- Mid Cap: Mid Cap, Large & Mid Cap, and Small & Mid Cap
- Small Cap: Small Cap and Micro Cap
Large Cap ETFs had the most assets, with Blend ETFs closely behind. In terms of style, Blend ETFs had the highest allocation (see Exhibit 113).

**Exhibit 113: Equity ETF AUM by Market Capitalization and Style**


First Bridge classified individual sector fields for Equity ETFs. First Bridge also identifies whether an ETF is not sector specific or rotates through different sectors. Using this field, we identify whether an Equity ETF is a Sector ETF or not.

- Not Sector: Not Applicable, Sector Rotation/Combination
- Sector: All Other

While the AUM in Sector ETFs increased in 2020, as a percentage of all Equity ETFs, Sector ETF shares have remained consistent for nearly a decade (see Exhibit 114).

**Exhibit 114: Equity ETF AUM by Sector Status**

We compared the ETF market allocation to various sectors relative to the sector allocation within the S&P Composite 1500 and noted that ETF investors did not replicate the sector weights of the broader market (see Exhibit 115).

**Exhibit 115: Equity ETF Sector Allocation versus S&P Composite 1500 Sector Allocation**

![Sector Allocation Chart]


First Bridge classified Fixed Income ETFs into eight types. We narrowed this to the following six bond types.

- Broad Market: Broad Market
- Corporate: Corporate
- Treasury: Treasury & Government
- Municipal: Municipal
- Inflation Protected: Inflation Protected
- Other: Convertible, Mortgages, and Not Applicable

Broad Market ETFs had the largest allocation. However, all types showed double-digit increases in ETF AUM in 2020, with Corporate ETFs increasing by 42% (see Exhibit 116).

**Exhibit 116: Fixed Income ETF AUM by Bond Type**

![ETF AUM Chart]

In terms of credit quality, First Bridge classified Fixed Income ETFs as Investment Grade, High Yield, Blend, or Not Applicable. Investment Grade ETFs comprised the majority of Fixed Income ETFs. In terms of average maturity, First Bridge classified Fixed Income ETFs into six buckets: < 1 Year, 1-3 Years, 3-10 Years, 10+ Years, Blend, and Specific Year. We labeled these duration buckets Ultra Short, Short, Intermediate, and Long, respectively. The majority of Fixed Income ETFs had a Blend maturity (see Exhibit 117).

**Exhibit 117: Fixed Income ETF AUM by Credit Quality and Average Maturity**

![Credit Quality and Average Maturity Chart]


Most ETF AUM and shares had market capitalization weights. Index providers and ETF sponsors have created new indices and ETFs that have different weighting methodologies. First Bridge classified portfolio weighting in six ways: Traditional Beta, Smart Beta, Active Beta, Leveraged/Inverse, and Proprietary Model. The vast majority of U.S. ETFs used Traditional Beta, or market capitalization weighting. Investors allocated a little over 11% to Smart Beta ETFs (see Exhibit 118). We also note the increased use of Active Beta ETFs.

**Exhibit 118: ETF AUM by Beta Type**

![Beta Type Chart]


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8 See detailed descriptions of Smart Beta at First Bridge: [https://www.firstbridgedata.com/smartbetadefinitions/Smart%20Beta%20Definition%20Framework.pdf](https://www.firstbridgedata.com/smartbetadefinitions/Smart%20Beta%20Definition%20Framework.pdf).
Of those ETFs classified as Smart Beta, 97% were Equity ETFs. For these ETFs, First Bridge had 15 classifications of smart beta factor. We condensed these into the following seven factors.

- Dividend
- Low Volatility
- Multi-Factor
- Thematic
- Low Volatility: VIX/Risk Control
- Growth/Value: Factor Weighted Growth/Value, Cap Weighted Growth/Value,
- Other: Hedge Fund Replication, High/Low Beta, Options Overlay, Revenue Weighted, Strategy, Quality, Momentum, and Equal Weighted

Dividend ETFs were the most prevalent. However, since its introduction in 2011, allocation to Low Volatility ETFs has increased substantially (see Exhibit 119).

Exhibit 119: Equity ETF AUM by Smart Beta Factor


Approximately 3.2% of all U.S. ETFs were Active Beta ETFs; this is an increase of nearly 100 bps since 2019. Most of the Active Beta ETFs were Fixed Income. However, use of Active Beta Equity ETFs increased in 2020 (see Exhibit 120).

Exhibit 120: Active ETFs by Asset Class

We classified the size of the ETF in four different ways, by amount of AUM.

- **Seeded**: AUM < USD 100 million
- **Mature**: USD 100 million ≤ AUM < USD 1 billion
- **Institutional**: USD 1 billion ≤ AUM < USD 10 billion
- **Colossal**: AUM ≥ USD 10 billion

Investors invested nearly 75% of the AUM in Colossal ETFs (see Exhibit 121).

**Exhibit 121: ETF AUM by ETF Size**

![ETF AUM by ETF Size](image)


The U.S. ETF market invested mostly in the Domestic ETF market (see Exhibit 122). Equity investments resembled overall ETF market, but Fixed Income ETFs contained a domestic bias. International funds were mostly Equity, while Global funds had a large Other component.

**Exhibit 122: ETF AUM by Region**

![ETF AUM by Region](image)


By development status, most ETF investment was in Developed countries. Investors were twice as likely to invest in Blend funds than strictly in Emerging market funds (see Exhibit 123).
While the amount invested in ESG ETFs more than tripled in 2020, these funds represented only 1.3% of all ETFs (see Exhibit 124).

Exhibit 124: ESG ETFs

APPENDIX 2: LINEAR REGRESSION

To model the growth of ETF AUM, we applied a linear regression to the data (see Exhibit 125).

Exhibit 125: Linear Regression of ln(ETF AUM)

Based on the data, the following equation described the trend of ETF AUM as a function of the year.

\[ \ln(ETF\ AUM) = 0.4131 \times Year - 264.7369 \]

This model has a coefficient of determination of 96.94%. The coefficient of determination explains how well the model represents the actual results. The value can range from 0% to 100%. A value of 0% implies that the independent variable (year) cannot explain the dependent variable. A value of 100% implies the model explains the dependent variable exactly. Using this model, we estimated future AUM, assuming the growth continues according to historical trend.

We performed a similar exercise with the number of shares held by insurance companies (see Exhibit 126).

Exhibit 126: Linear Regression of ln(ETF Shares)

Based on the data, the following equation shows the trend of ETF shares as a function of the year.

\[ \ln(ETF\ Shares) = 0.1138 \times Year - 209.8957 \]

This model has a coefficient of determination of 94.86%. We used this model to estimate future share growth.
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