

ETFs in Insurance General Accounts – 2023

Contributor

Raghu Ramachandran
Head of Insurance Asset
Channel
raghu.ramachandran@spglobal.com

Introduction

In 2022, the amount of exchange-traded funds (ETFs) held by U.S. insurance companies in their general accounts dropped 23.5% (or USD 11.2 billion) to USD 36.6 billion. This represents the first substantial drop in ETF assets since insurance companies started buying ETFs in 2004. However, two factors complicate analyzing the drop in ETF assets. The first is the unusual bear market we had in 2022, with both equity and fixed income markets showing sharp declines—the [S&P 500®](#) dropped 19.4% and the [S&P U.S. Investment Grade Corporate Bond Index](#) dropped 14.3%. In 2022, insurers withdrew USD 4.1 billion from ETFs, so valuation declines explain approximately two-thirds of the drop in AUM. Also in 2022, two Mega insurers decided to exit all public equities, including ETFs. This represented USD 3.5 billion of all the withdrawals. Excluding these two companies from the analysis, insurer ETF AUM declined by 16.5%—or in line with market results.

Even though most U.S. insurer assets are in Fixed Income, insurers typically invested in Equity ETFs. This continued to be the case, even with the large amount of Equity ETFs sold by the two Mega companies. Outside of these two companies, we saw flows into Equity ETFs and away from Fixed Income ETFs.

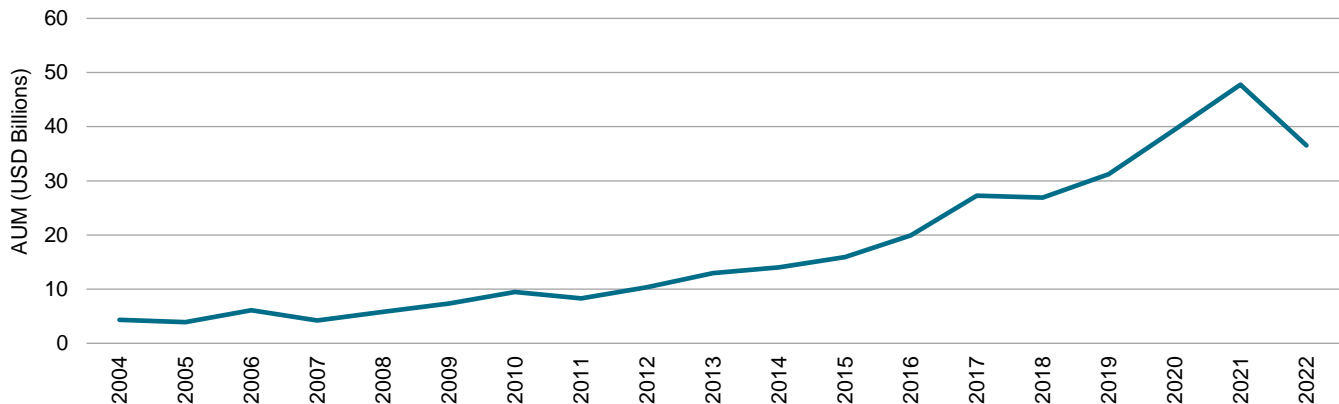
In our eighth annual study of ETF usage in U.S. insurance general accounts, we also analyzed the trading of ETFs by insurance companies. For the second consecutive year, trade volume declined; however, the overall trend remains positive, with 2022 trade volume increasing 350% over 2015 trade volume.

Holding Analysis

Overview

As of year-end 2022, U.S. insurance companies invested USD 36.6 billion in ETFs. This represented only a fraction of the USD 6.5 trillion in U.S. ETF AUM and the USD 7.9 trillion in invested assets of U.S. insurance companies.¹ Exhibit 1 shows the growth of ETFs by U.S. insurance companies over the past 18 years.

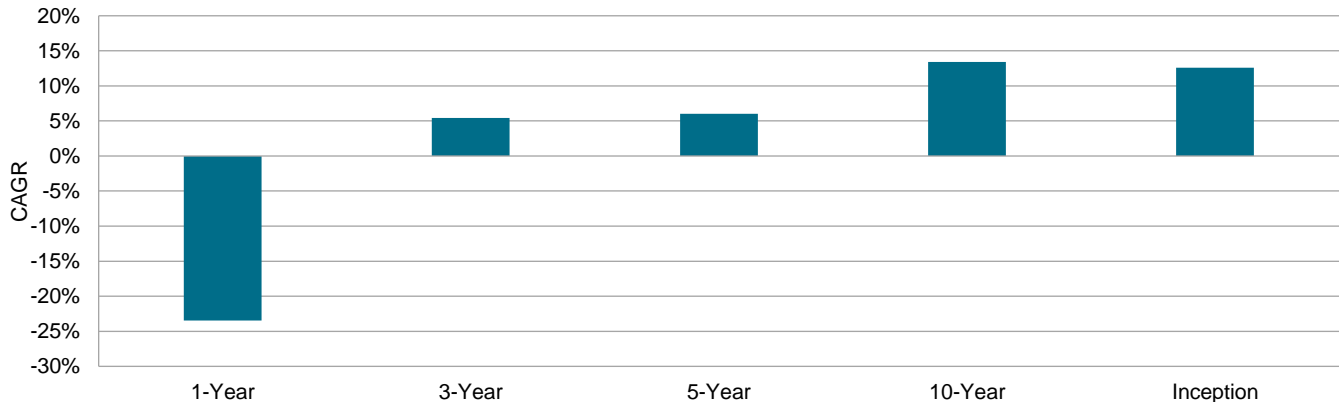
Exhibit 1: ETF AUM Growth



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

In 2022, ETF usage by insurance companies decreased 23.5%; this is the first significant drop in ETF AUM in insurer ETF usage since companies started using ETFs. Insurer ETF usage was minimal during the Global Financial Crisis, and during the COVID-19 crisis in 2020, insurance ETF usage actually increased. Outside of 2022, the growth rate has remained consistent (see Exhibit 2). Using a five-year growth rate implies a doubling of ETF AUM roughly every 12 years (see Exhibit 3).

Exhibit 2: CAGR of ETF AUM



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

¹ See Appendix 1.3 on Methodology.

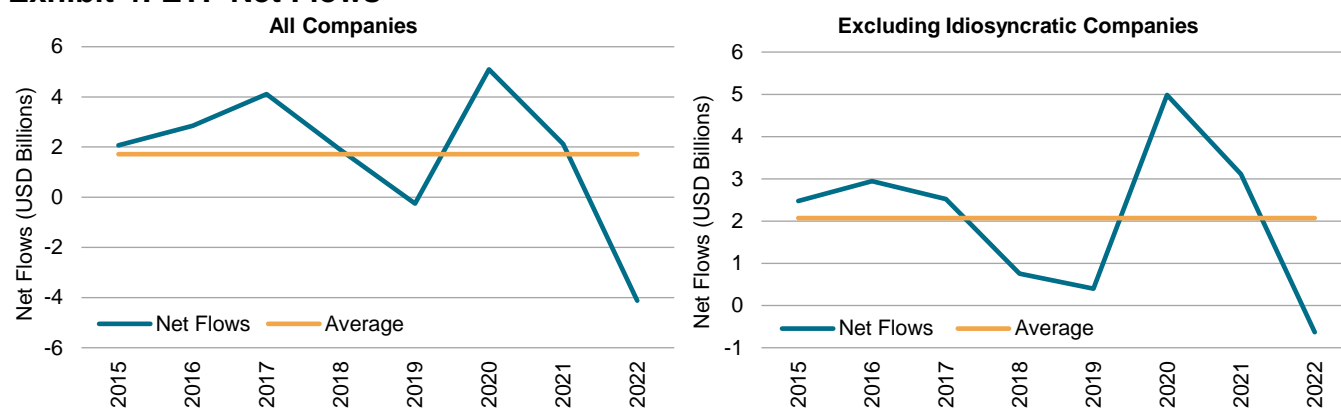
Exhibit 3: ETF AUM Doubling Period

Characteristic	1-Year	3-Year	5-Year	10-Year	Since 2004
CAGR (%)	-23.5	5.4	6.0	13.4	12.6
Doubling Period (Years)	N/A	13.1	11.8	5.5	5.8

Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Table is provided for illustrative purposes.

In 2022, insurers withdrew USD 4.1 billion from ETFs. However, two companies withdrew 85% of this amount. Excluding these two idiosyncratic companies, insurers withdrew only USD 631 million from their ETF portfolios (see Exhibit 4).

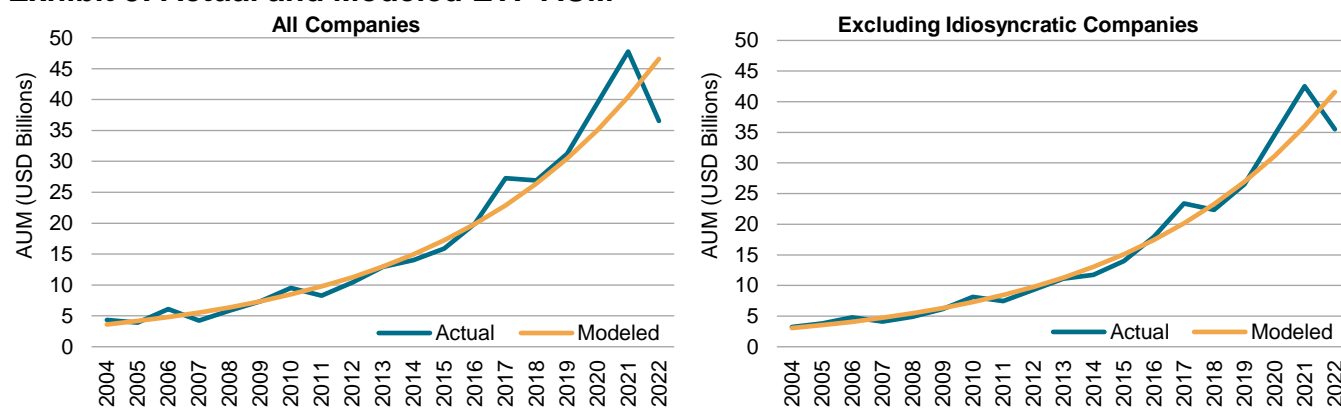
Exhibit 4: ETF Net Flows



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

We used linear regression to model the growth of ETF AUM in insurance general accounts.² These models accurately fit the historical growth of the use of ETFs by insurance companies. With all companies included, the model had a coefficient of determination of 97.0%, and with the two idiosyncratic companies excluded, it was 98.4% (see Exhibit 5).

Exhibit 5: Actual and Modeled ETF AUM

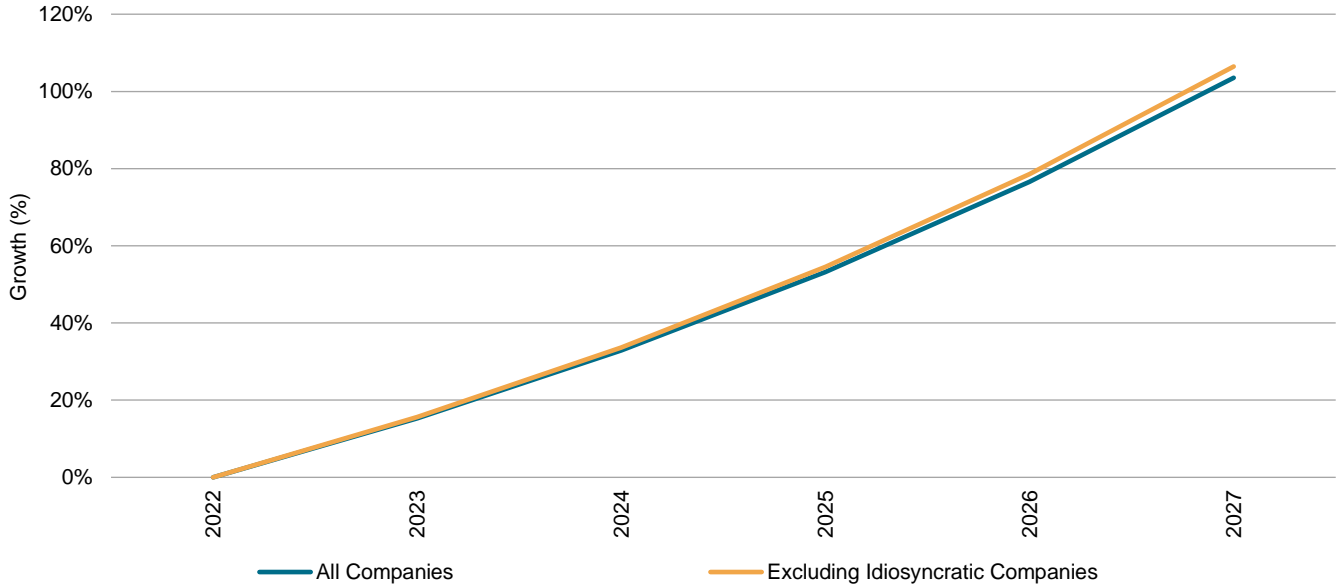


Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

² See Appendix 2.

We used these regression models to estimate the trended growth of ETFs. If insurance companies return to investing according to the trend, the use of ETFs by insurance companies could, once again, double in five years.

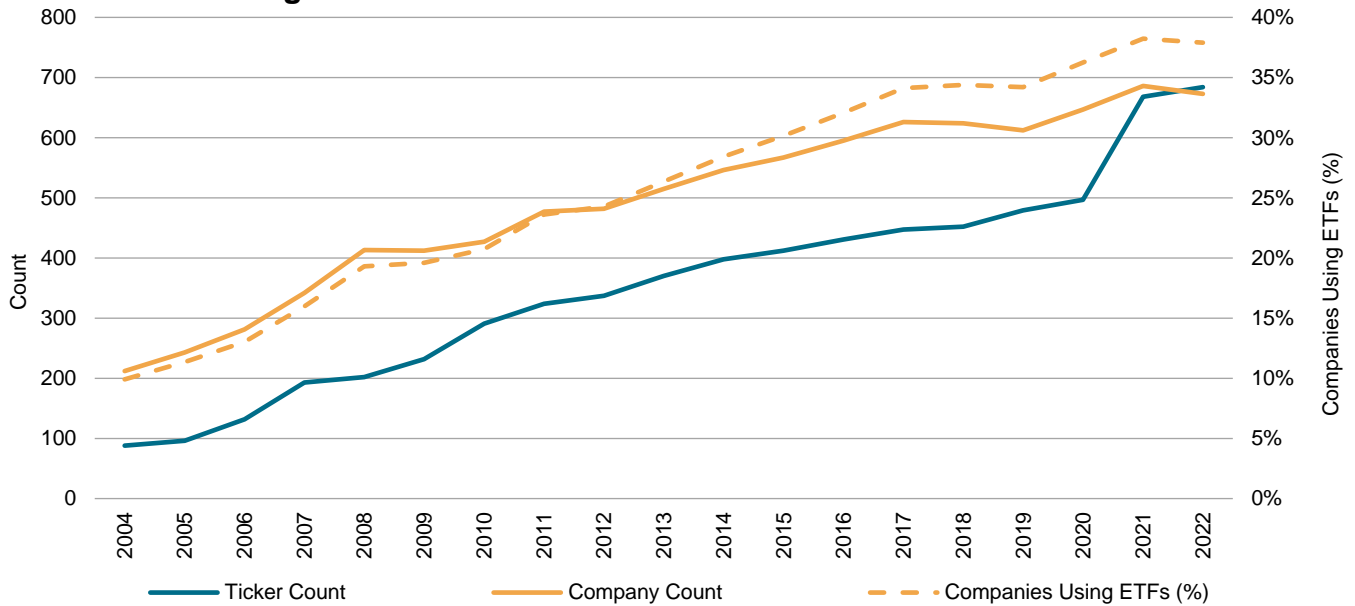
Exhibit 6: Projected Growth of ETF AUM



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

In 2022, insurance companies invested in 684 different ETFs. The number of companies investing in ETFs decreased slightly to 671 and the percentage of companies investing in ETFs remained about the same, at 38% (see Exhibit 7).

Exhibit 7: ETF Usage



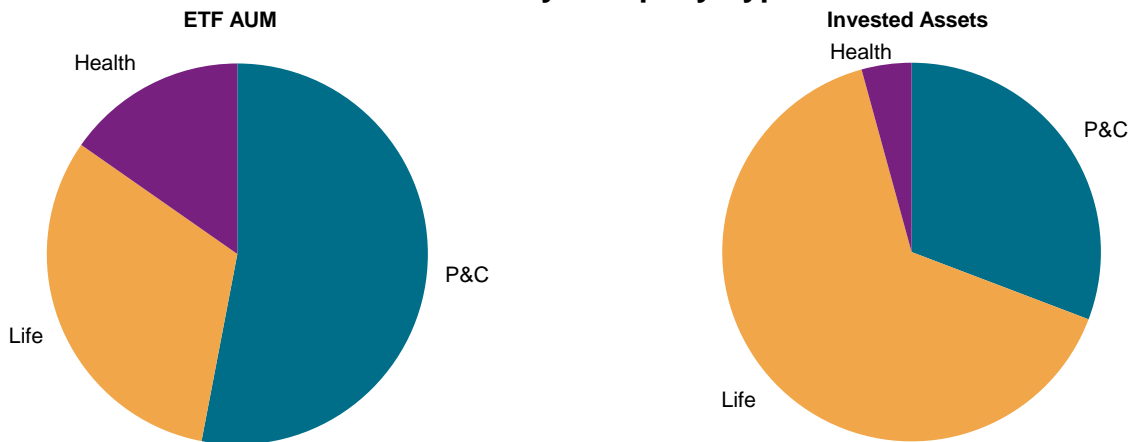
Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Analysis by Company Type, Size and Organizational Structure

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

Life companies had more invested assets, but P&C companies invested more in ETFs (see Exhibit 8).

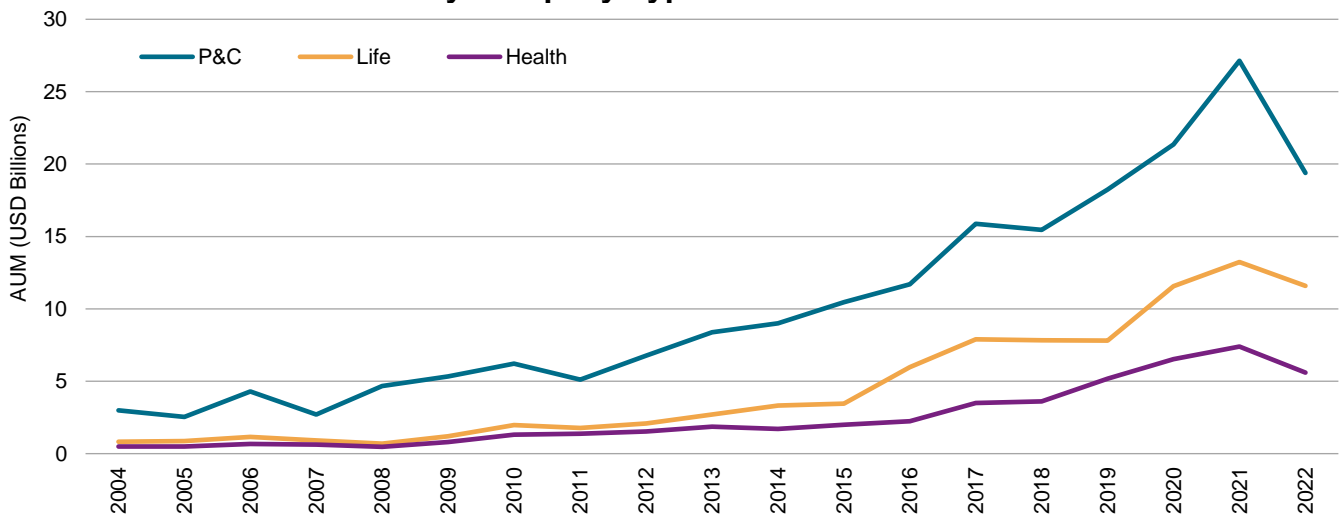
Exhibit 8: ETF AUM and Invested Assets by Company Type



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes

All three types of insurance companies saw a decline in ETF usage in 2022. Because the two idiosyncratic companies are both P&C companies, P&C saw the largest notional and relative decline in ETF usage (see Exhibit 9).

Exhibit 9: ETF AUM Growth by Company Type

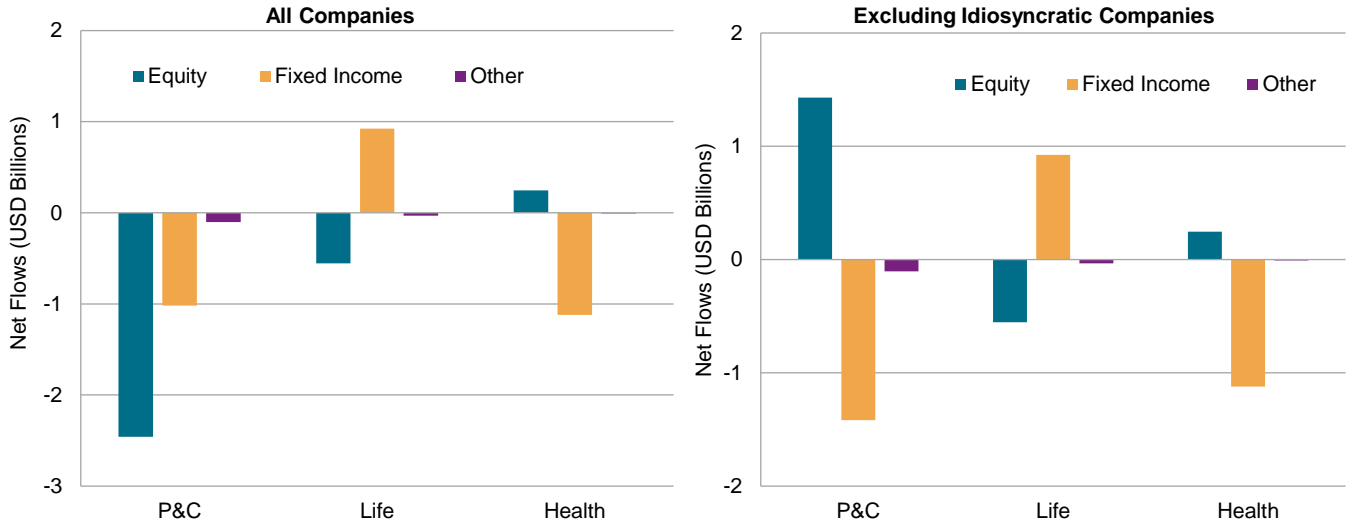


Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

³ See Appendix 1.1 for definition of size and ownership structure.

Excluding the two idiosyncratic companies, P&C companies withdrew USD 89 million from ETFs. They added to Equity ETFs while selling Fixed Income ETFs. Meanwhile, Life companies added USD 338 million to their ETF usage. Unlike P&C companies, Life companies added to Fixed Income ETFs while selling Equity ETFs. Health companies added slightly to Equity ETFs but sold Fixed Income ETFs; in total, they sold USD 880 million of ETFs in 2022 (see Exhibit 10).

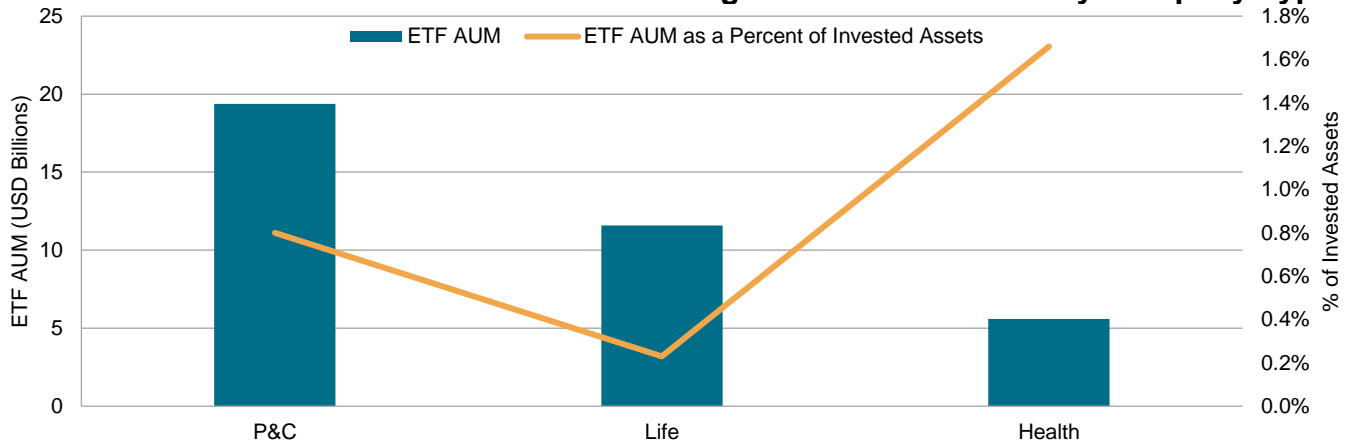
Exhibit 10: ETF Net Flows by Company Type and Asset Class



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

Although Health companies owned the fewest ETFs and sold the most in 2022, they had the highest percentage of ETFs in their general accounts (see Exhibit 11).

Exhibit 11: ETF AUM and ETF AUM as Percentage of Invested Assets by Company Type



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Over the past five years, ETF AUM has grown by USD 12 billion, mostly from P&C companies. However, Life companies have added slightly more to ETFs over the same period (see Exhibit 12).

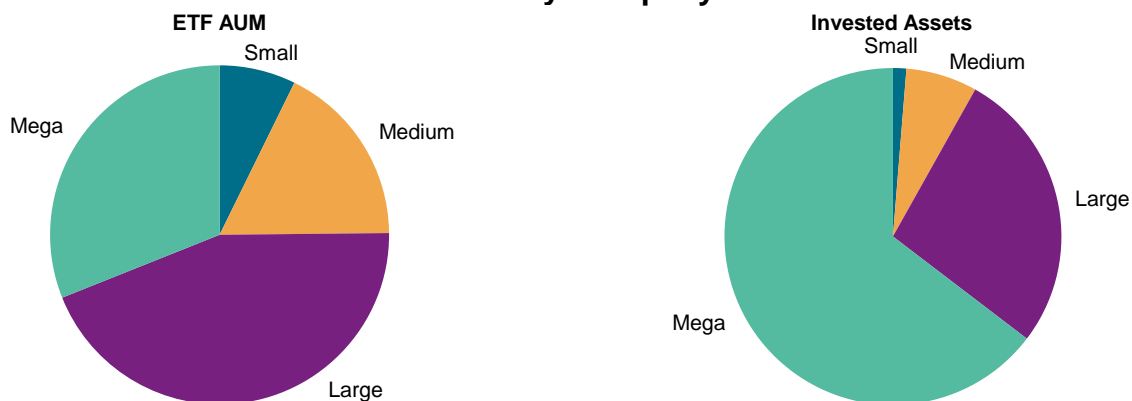
Exhibit 12: Five-Year ETF AUM Growth and Net Flows by Company Type

All Companies					Excluding Two Idiosyncratic Companies				
Type	Five-Year ETF AUM Growth		Five-Year Net Flows		Type	Five-Year ETF AUM Growth		Five-Year Net Flows	
	Growth (USD Billions)	% of Total	Net Flows (USD Billions)	% of Total		Growth (USD Billions)	% of Total	Net Flows (USD Billions)	% of Total
P&C	3.5	37.6	-0.9	-18.1	P&C	6.4	52.4	3.0	35.3
Life	3.7	40.0	3.5	73.3	Life	3.7	30.3	3.5	40.2
Health	2.1	22.7	2.1	44.8	Health	2.1	17.3	2.1	24.5
Total	9.3	100.0	4.7	100.0	Total	12.2	100.0	8.6	100.0

Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Table is provided for illustrative purposes.

Mega insurance companies owned most of the insurance invested assets, but held under one-third of the ETF AUM held by insurance companies (see Exhibit 13).

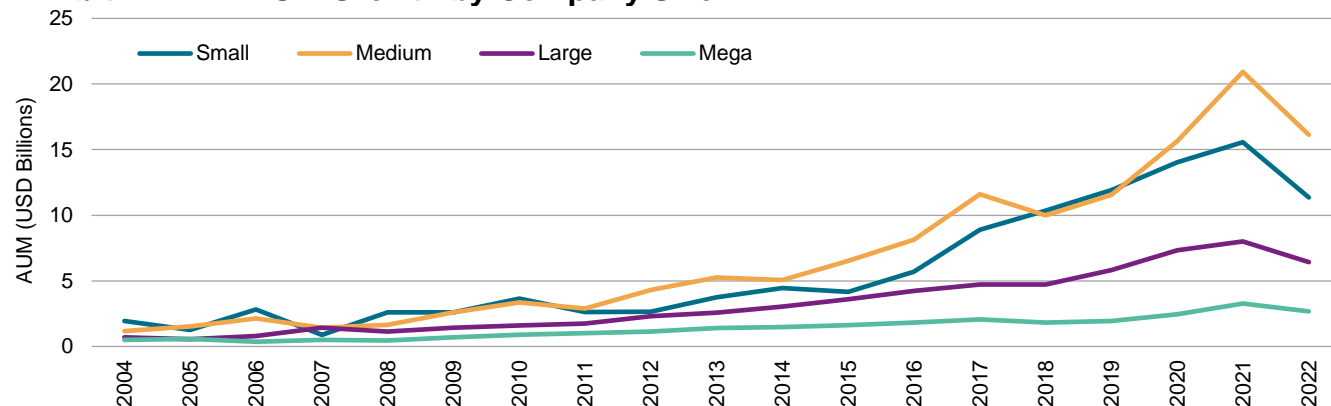
Exhibit 13: ETF AUM and Invested Assets by Company Size



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes

Excluding the two idiosyncratic companies, the amount of ETFs held by Mega companies was flat relative to 2021. However, companies of all other sizes sold ETFs (see Exhibit 14).

Exhibit 14: ETF AUM Growth by Company Size



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Other than the two idiosyncratic companies, Mega companies actually added USD 1.5 billion to ETFs, adding mostly to Fixed Income ETFs and slightly to Equity ETFs. However, Large companies sold USD 3.0 billion of Fixed Income ETFs while adding USD 1.5 billion to Equity ETFs (see Exhibit 15).

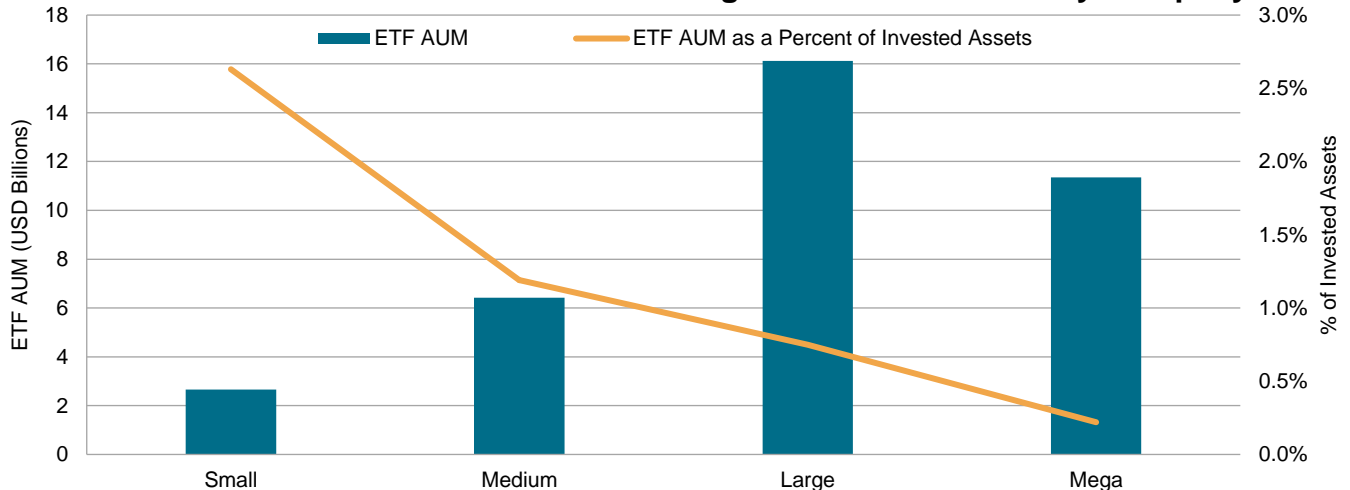
Exhibit 15: ETF Net Flows by Company Size



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

In spite of the growth by Large and Mega companies, Small companies still had the largest ETF usage as a percentage of invested assets (see Exhibit 16).

Exhibit 16: ETF AUM and ETF AUM as Percentage of Invested Assets by Company Size



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Over the past five years, an overwhelming amount of AUM growth and Net Flows have come from Large and Mega insurance companies (see Exhibit 17).

Exhibit 17: Five-Year ETF AUM Growth and Net Flows by Company Size

All Companies					Excluding Two Idiosyncratic Companies				
Type	Five-Year ETF AUM Growth		Five-Year Net Flows		Type	Five-Year ETF AUM Growth		Five-Year Net Flows	
	Growth (USD Billions)	% of Total	Net Flows (USD Billions)	% of Total		Growth (USD Billions)	% of Total	Net Flows (USD Billions)	% of Total
Mega	2.5	26.4	1.3	28.3	Mega	5.3	43.8	5.2	60.7
Large	4.5	48.8	2.5	52.1	Large	4.5	37.2	2.5	28.5
Medium	1.7	18.3	0.5	10.2	Medium	1.7	14.0	0.5	5.6
Small	0.6	6.6	0.4	9.4	Small	0.6	5.0	0.4	5.1
Total	9.3	100.0	4.7	100.0	Total	12.2	100.0	8.6	100.0

Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Table is provided for illustrative purposes.

Stock companies had the most invested assets; they also had the most investments in ETFs (see Exhibit 18).

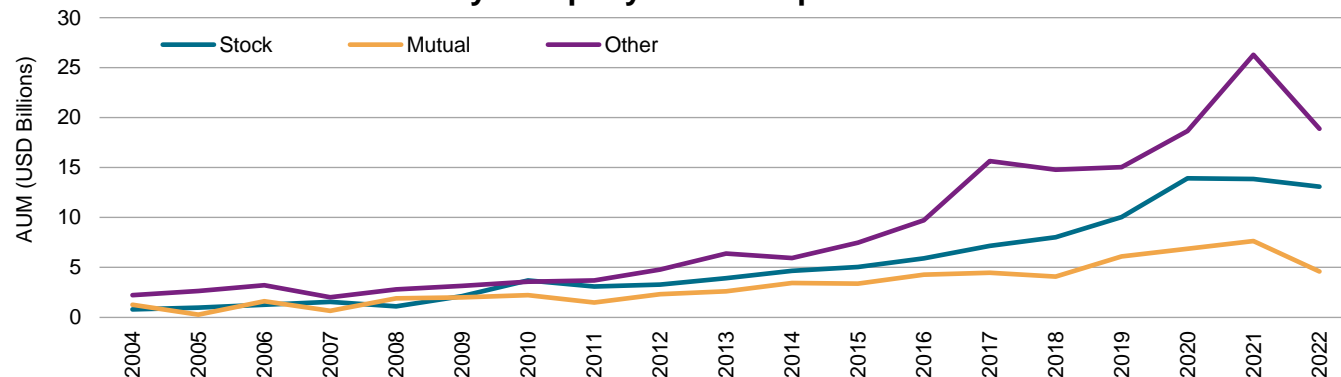
Exhibit 18: ETF AUM and Invested Assets by Company Size Ownership



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

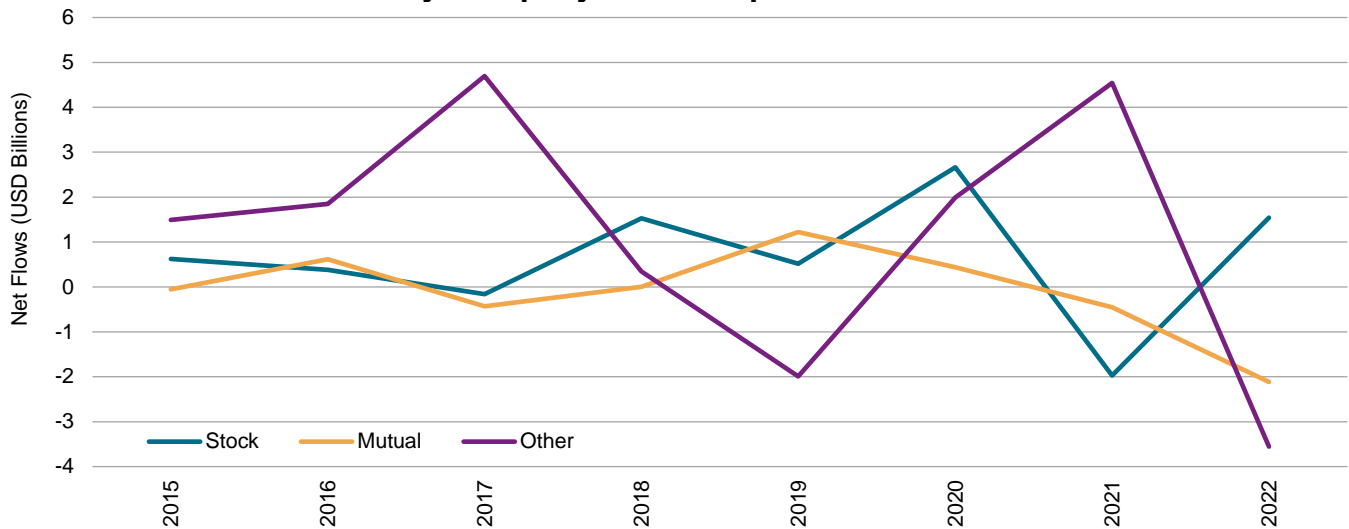
While all companies reduced their ETF AUM, Stock companies had the largest drop, while Other companies had the largest proportional decline. Mutual companies’ AUM declined, due to valuation, even though they added to ETFs in 2022 (see Exhibits 19 and 20).

Exhibit 19: ETF AUM Growth by Company Ownership



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

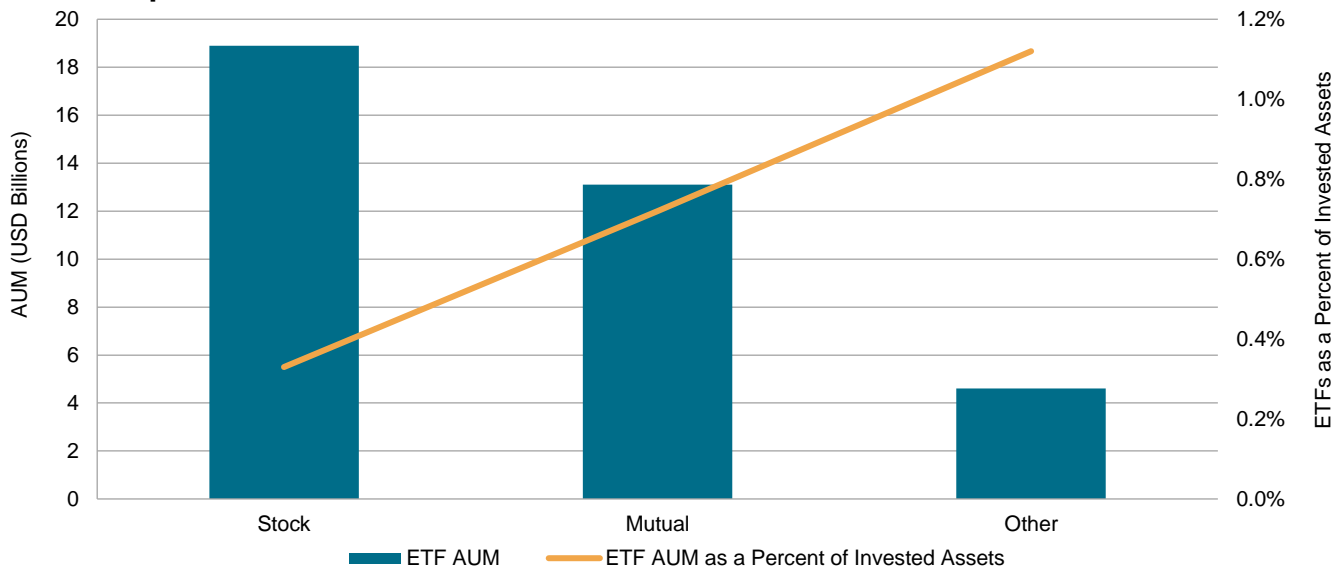
Exhibit 20: ETF Net Flows by Company Ownership



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Stock companies had the most ETF assets but the least as a percentage of invested assets; conversely, Other companies had the fewest ETFs but the most as a percentage of invested assets (see Exhibit 21).

Exhibit 21: ETF AUM and ETF AUM as Percentage of Invested Assets by Company Ownership



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Over the past five years, both Stock and Mutual companies, excluding the two idiosyncratic companies, grew their AUM by almost 50%, but Mutual companies had more net flows (see Exhibit 22).

Exhibit 22: Five-Year ETF AUM Growth and Net Flows by Company Ownership

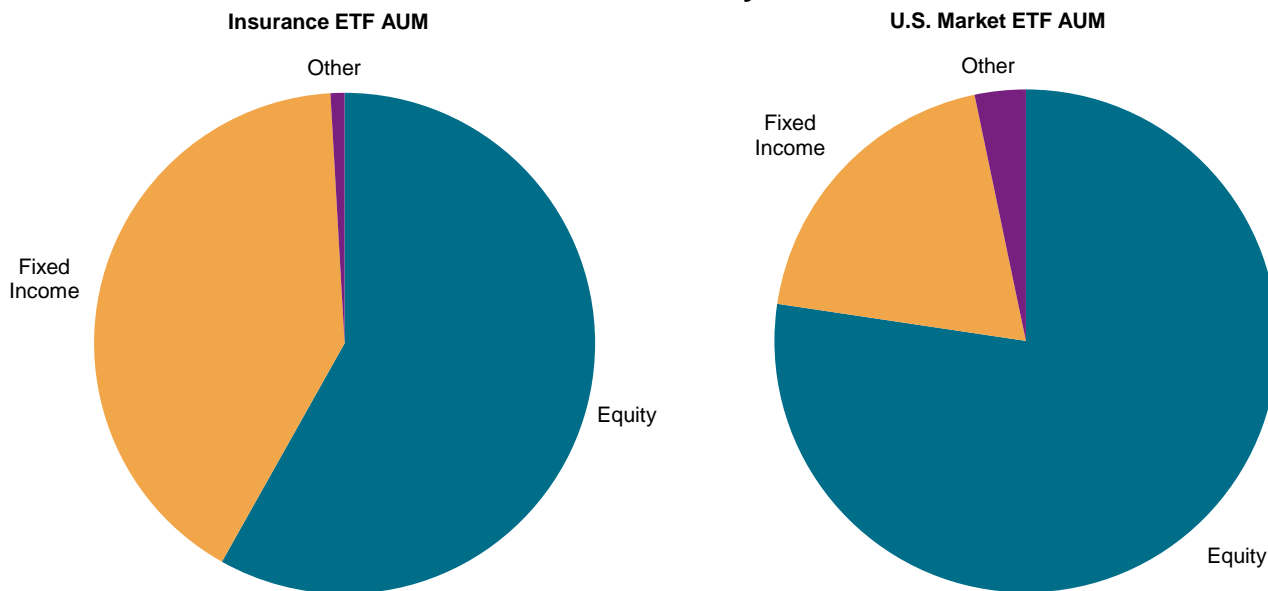
All Companies					Excluding Two Idiosyncratic Companies				
Type	Five-Year ETF AUM Growth		Five-Year Net Flows		Type	Five-Year ETF AUM Growth		Five-Year Net Flows	
	Growth (USD Billions)	% of Total	Net Flows (USD Billions)	% of Total		Growth (USD Billions)	% of Total	Net Flows (USD Billions)	% of Total
Stock	3.3	34.9	4.3	90.7	Stock	5.1	42.3	3.2	37.7
Mutual	6.0	63.8	1.3	28.3	Mutual	5.9	48.8	4.3	49.7
Other	0.1	1.4	-0.9	-19.0	Other	1.1	8.9	1.1	12.7
Total	9.3	100.0	4.7	100.0	Total	12.2	100.0	8.6	100.0

Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Table is provided for illustrative purposes.

Analysis by Asset Class

In the U.S. ETF market, Equity ETFs make up 77% of the market by AUM. However, in the insurance general accounts, Equity ETFs are only 58% of the investments, with Fixed Income ETFs accounting for the remainder. This contrasts with 85% invested in Equity ETFs in 2015, when the first study was published (see Exhibit 23).⁴

Exhibit 23: Insurance and U.S. Market ETF AUM by Asset Class

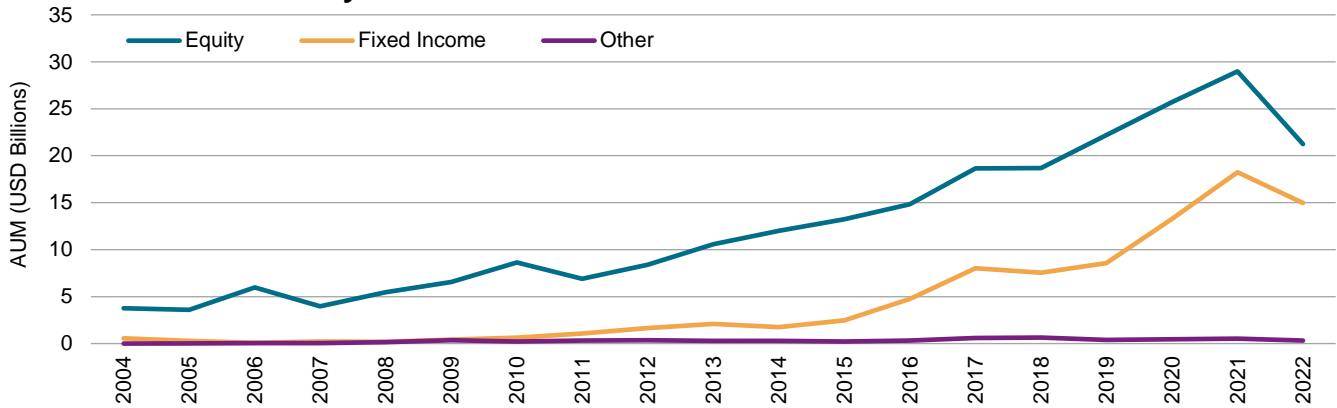


Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

As noted above, two companies withdrew from U.S. public equities in 2022. Excluding these companies, we saw positive flow into Equity ETFs from insurers. This contrasts with these companies withdrawing funds from Fixed Income ETFs (see Exhibits 24 and 25).

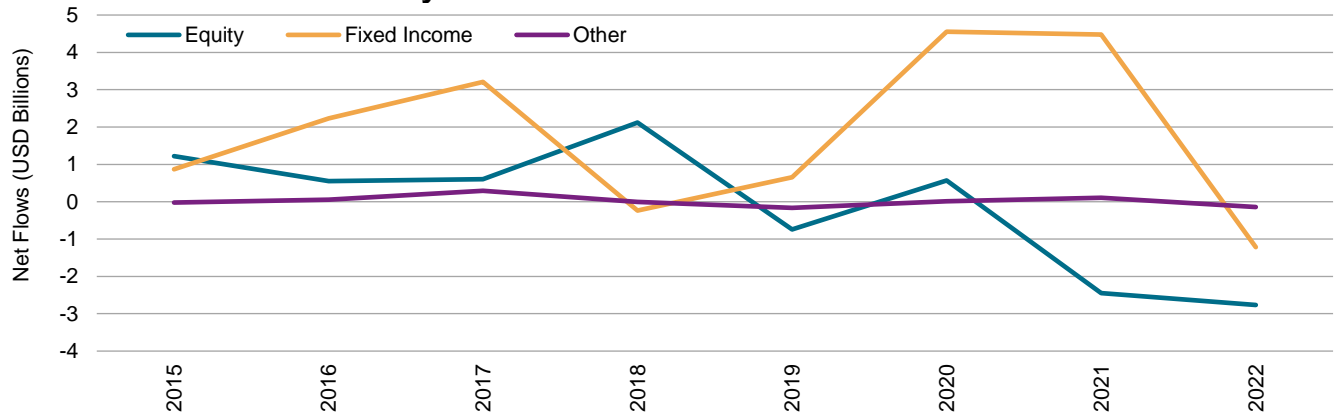
⁴ See Appendix 1.2 for definitions of asset classes.

Exhibit 24: ETF AUM by Asset Class



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

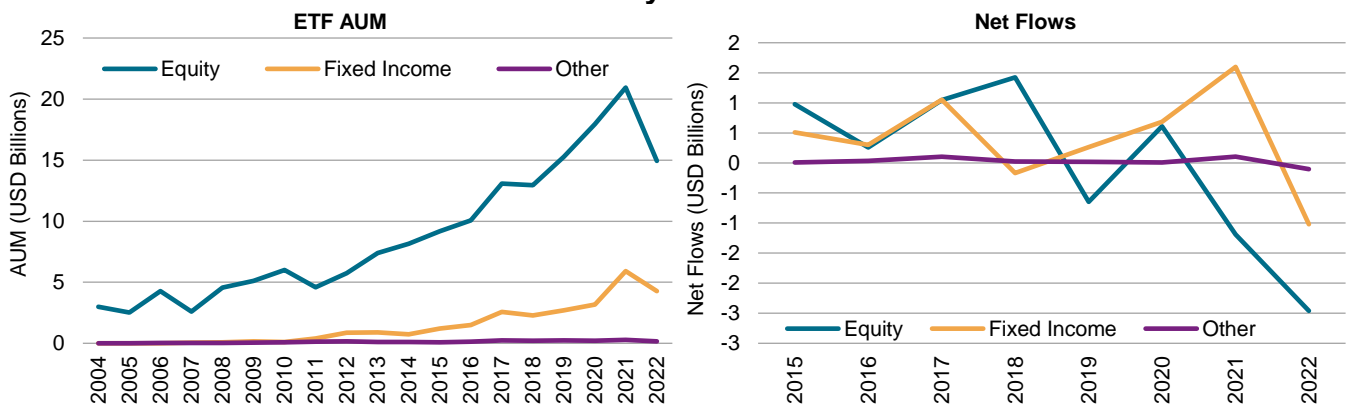
Exhibit 25: ETF Net Flows by Asset Class



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

P&C companies, excluding the idiosyncratic companies, took out USD 89 million from ETFs; however, they added USD 1.4 billion in Equity ETFs and took out roughly the same in Fixed Income ETFs. Yet AUM declined 8% and 35%, respectively, for these holdings (see Exhibit 26).

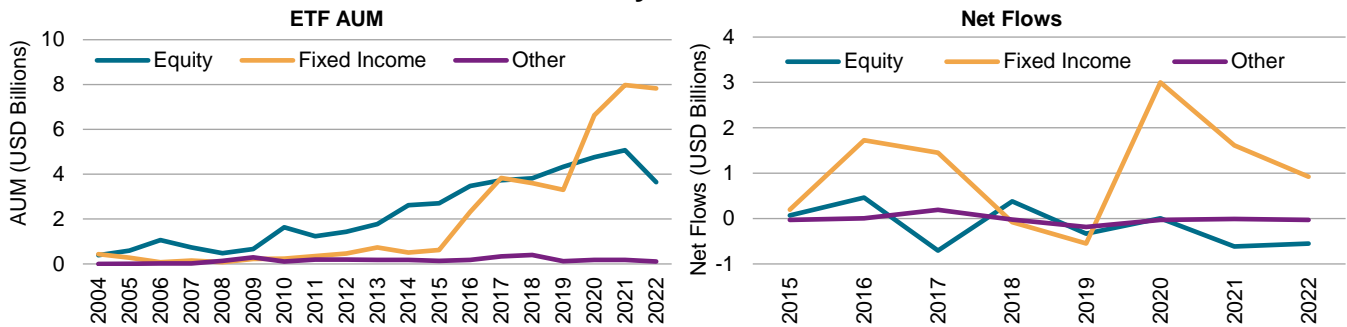
Exhibit 26: P&C ETF AUM and Net Flows by Asset Class



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

In contrast, Life companies added USD 923 million to Fixed Income while taking out USD 533 from Equity ETFs. Because of this, there was minimal decline in ETF AUM for Fixed Income ETFs, but a 28% decline for Equity ETFs (see Exhibit 27).

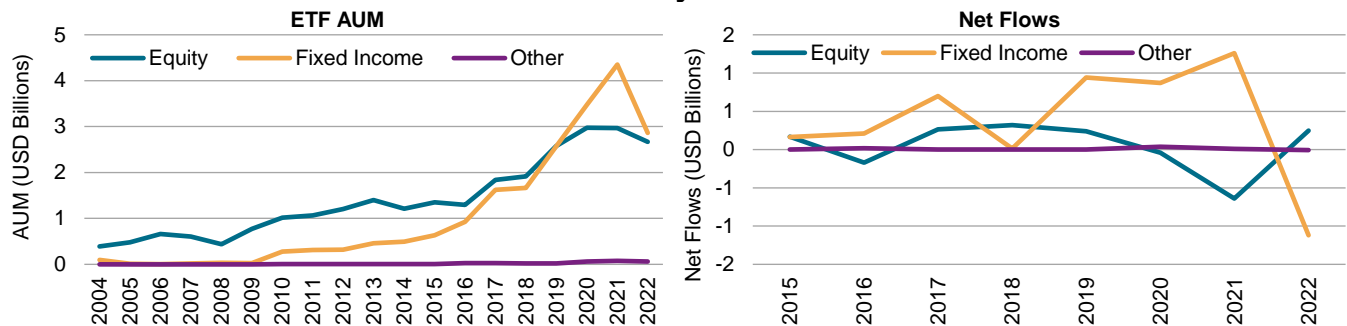
Exhibit 27: Life ETF AUM and Net Flows by Asset Class



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

Health companies took out USD 1.1 billion from Fixed Income ETFs while adding USD 247 into Equity ETFs. This caused a significant decline in their Equity AUM (see Exhibit 28).

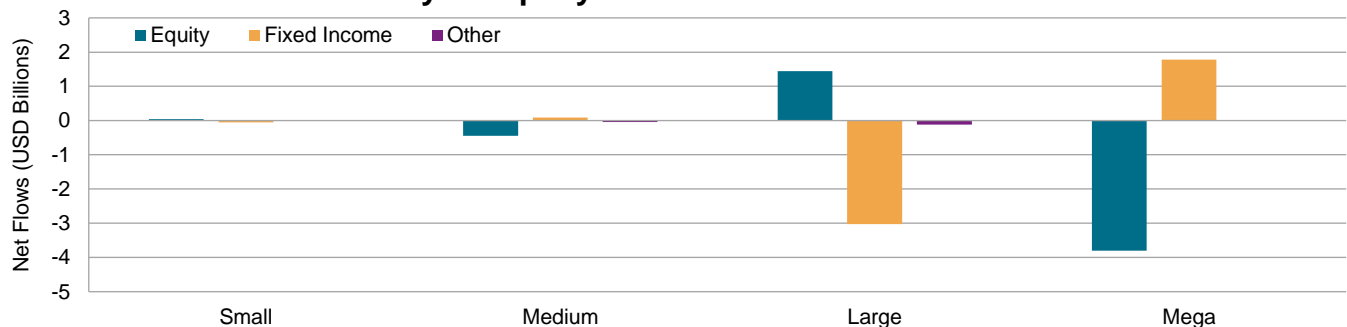
Exhibit 28: Health ETF AUM and Net Flows by Asset Class



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

In terms of size, Large companies took out USD 1.7 billion in assets, and Mega companies (excluding the two idiosyncratic companies) added USD 1.5 billion in assets—both of these in Fixed Income ETFs (see Exhibit 28).

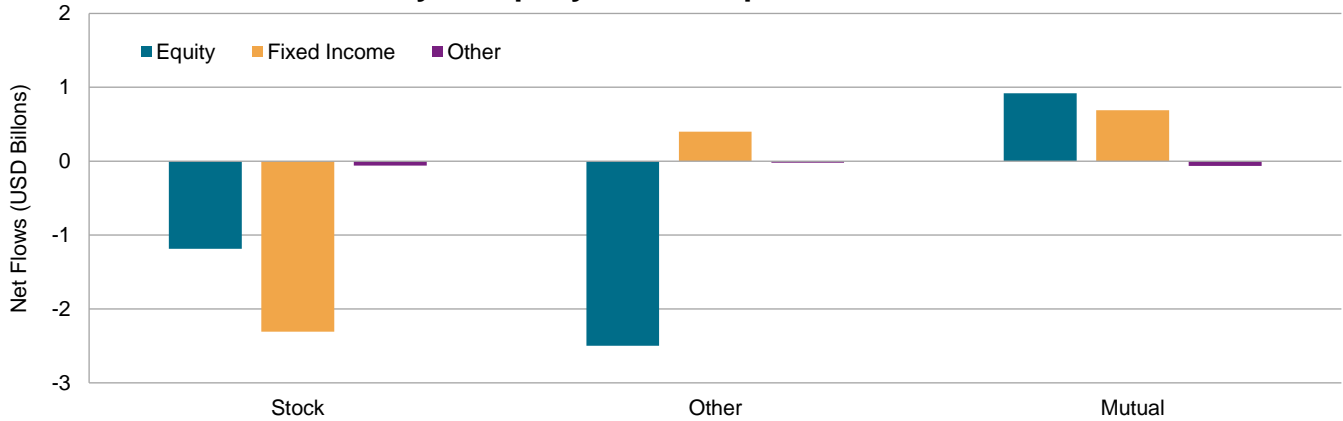
Exhibit 29: ETF Net Flows by Company Size and Asset Class



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Mutual companies added USD 1.5 Billion to ETFs while Stock companies took out USD 2.1 billion (see Exhibit 30).

Exhibit 30: ETF Net Flows by Company Ownership and Asset Class

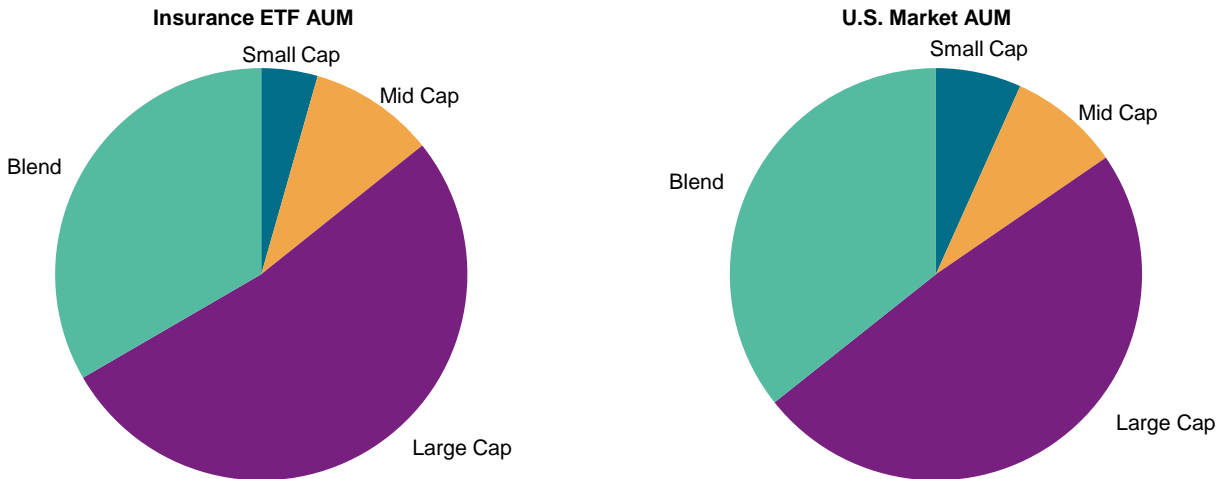


Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Analysis of Equity ETFs

As of year-end 2022, U.S. insurance companies invested in Equity ETFs roughly in the same proportion as the U.S. ETF market. Large Cap and Blended ETFs dominated the allocation. However, insurers were less likely to invest in Small Cap ETFs than the larger market (see Exhibit 31).

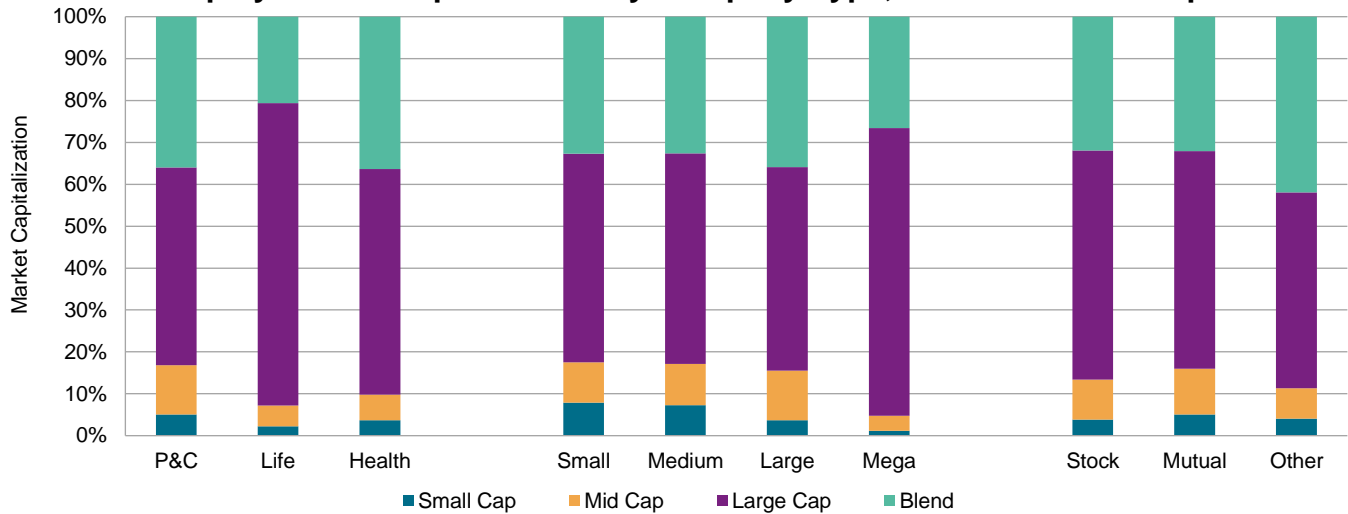
Exhibit 31: Insurance and U.S. Market Equity ETF AUM by Capitalization



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

P&C and Health companies had similar allocations, but Life companies had a higher allocation to Large Cap Equity ETFs. Small, Medium and Large companies had roughly the same allocations, but Mega companies invested more in Large Cap Equity ETFs. Equity ETF ownership did not vary by company ownership structure (see Exhibit 32).

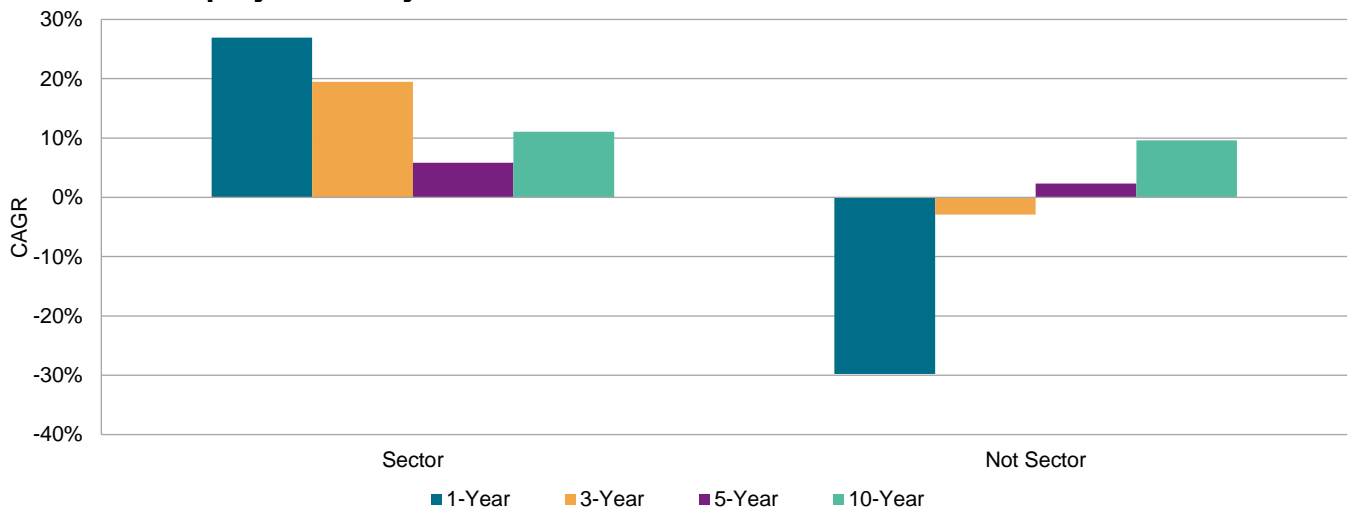
Exhibit 32: Equity Market Capitalization by Company Type, Size and Ownership



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Insurers increased their allocation to Sector ETFs by USD 745 million. While the allocation is slightly smaller than the U.S. ETF market (9.6% versus 12.7%), this inflow resulted in a 27% increase in sector ETF AUM (see Exhibit 33).

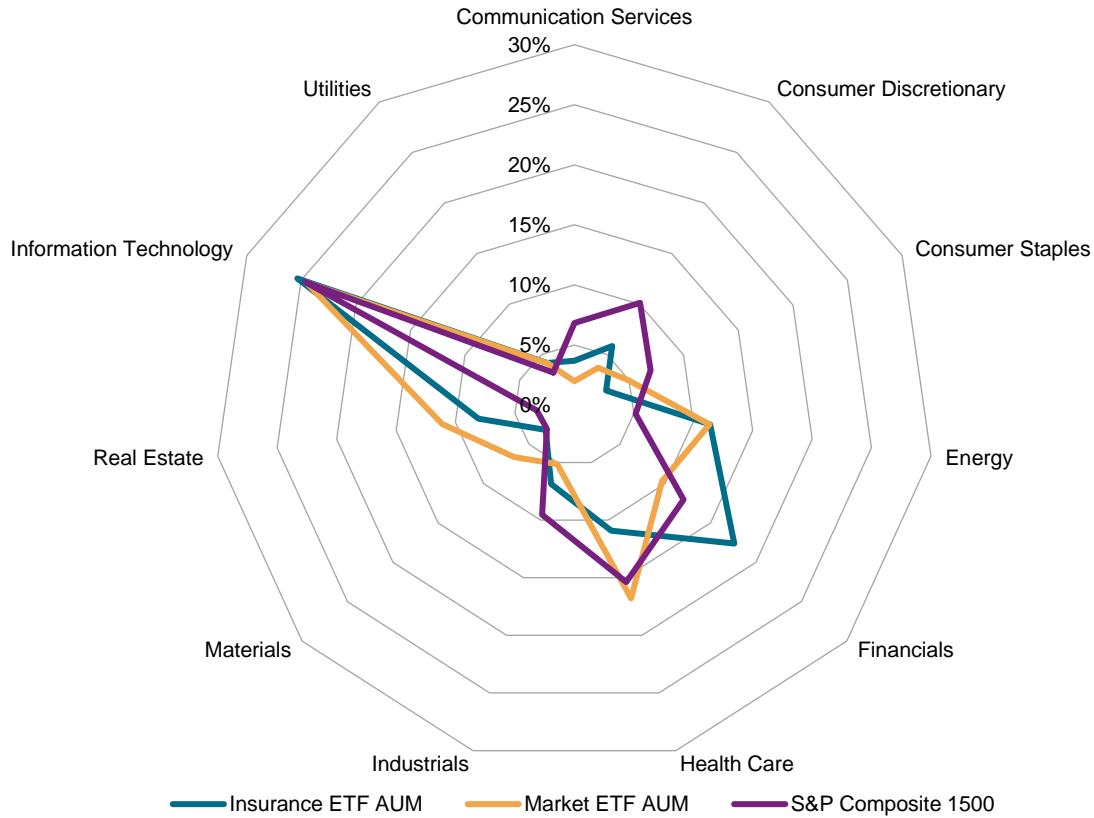
Exhibit 33: Equity CAGR by Sector Status



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Most of the new flows were into Information Technology ETFs. The insurance industry remains overweighted in Financials and underweighted in Health Care relative to the U.S. ETF market. The ETF market is, itself, overweighted in Energy, Real Estate and Materials, while underweighted in Materials and Consumer Discretionary relative to the overall market, as represented by the [S&P Composite 1500®](#).

Exhibit 34: Sector Allocation for Insurance, U.S. and Equity Markets

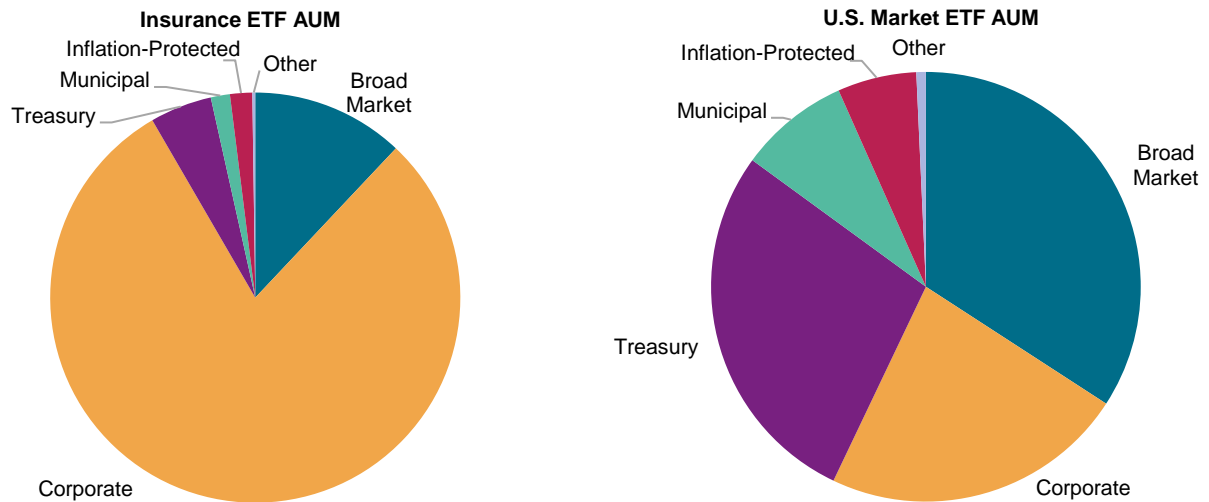


Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Analysis of Fixed Income ETFs

The use of Fixed Income ETFs by insurance companies continued to be dominated by Corporate ETFs and was less diversified than the U.S. ETF market (see Exhibit 35).

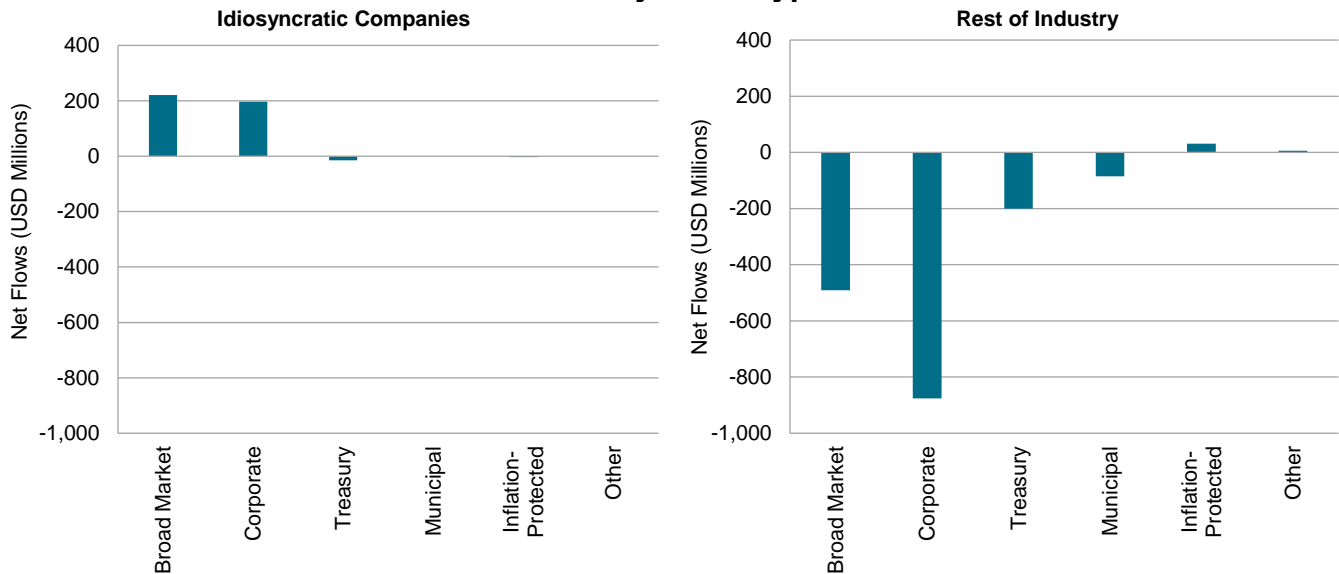
Exhibit 35: Insurance and U.S. Market Fixed Income ETF AUM by Bond Type



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

The two idiosyncratic Mega P&C companies added USD 399 million to Fixed Income ETFs, in Broad Market and Corporate ETFs. However, the rest of the market took out USD 1.6 billion from Fixed Income ETFs. This resulted in net outflow of USD 1.3 billion from the insurance portfolios (see Exhibit 36).

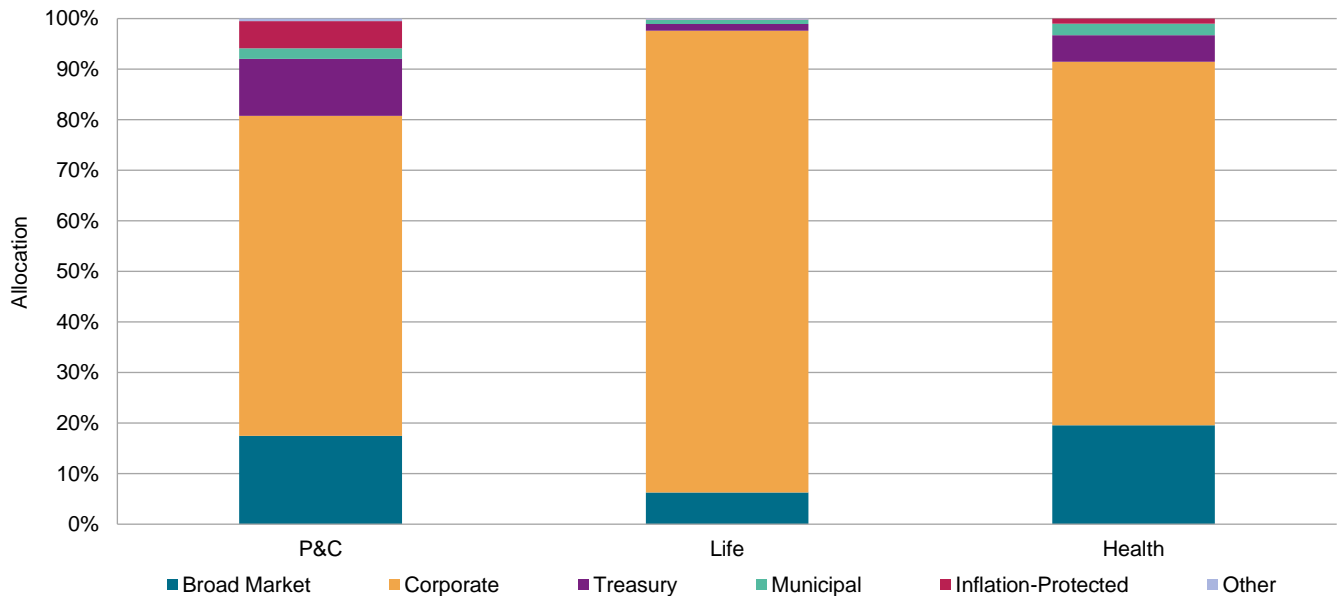
Exhibit 36: Fixed Income ETF Net Flows by Bond Type



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

Life companies invested almost exclusively in Corporate ETFs, while P&C and Health companies had a more diversified allocation (see Exhibit 37).

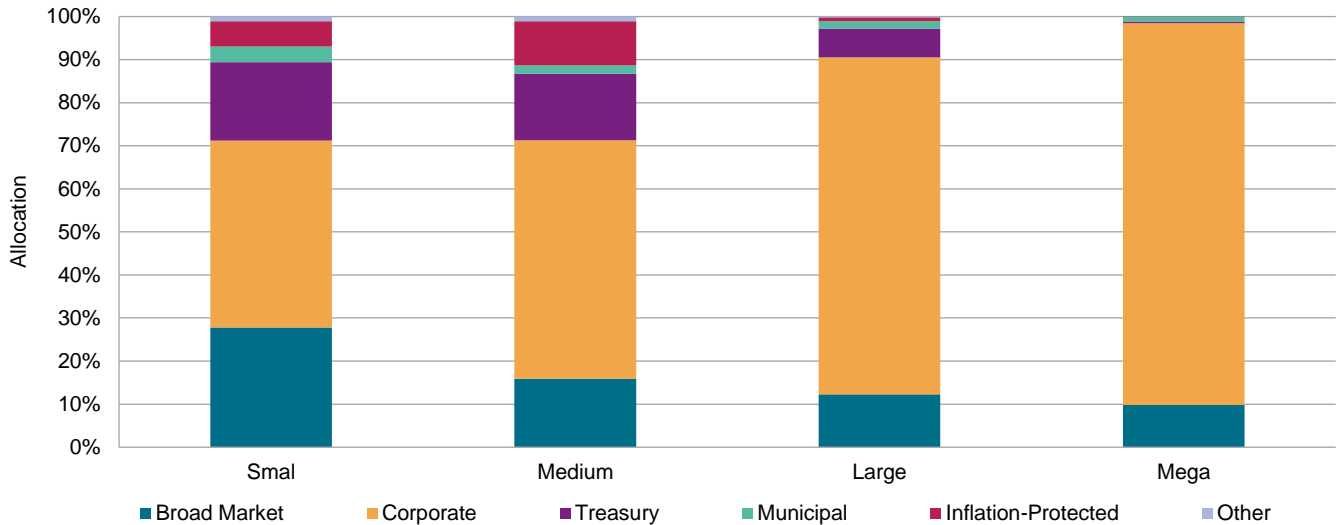
Exhibit 37: Bond Type Allocation by Company Type



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Corporate ETF usage increased with company size, while Broad Market ETF usage decreased (see Exhibit 38).

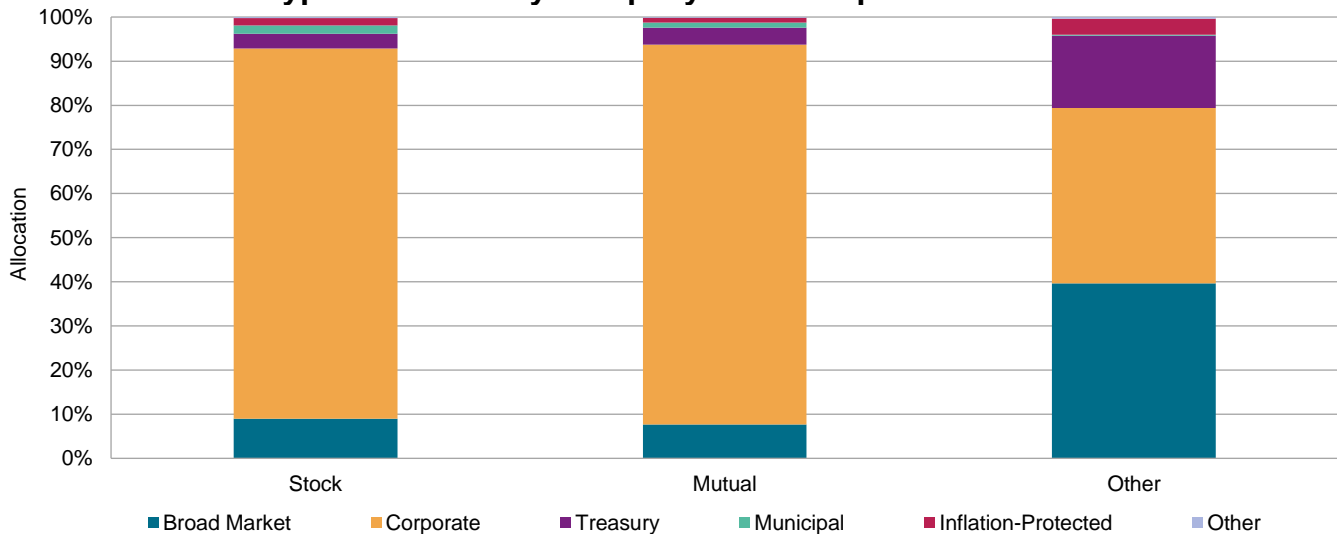
Exhibit 38: Bond Type Allocation by Company Size



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Stock and Mutual companies invested mostly in Corporate ETFs. Investments in other types of Fixed Income ETFs came from other companies (see Exhibit 39).

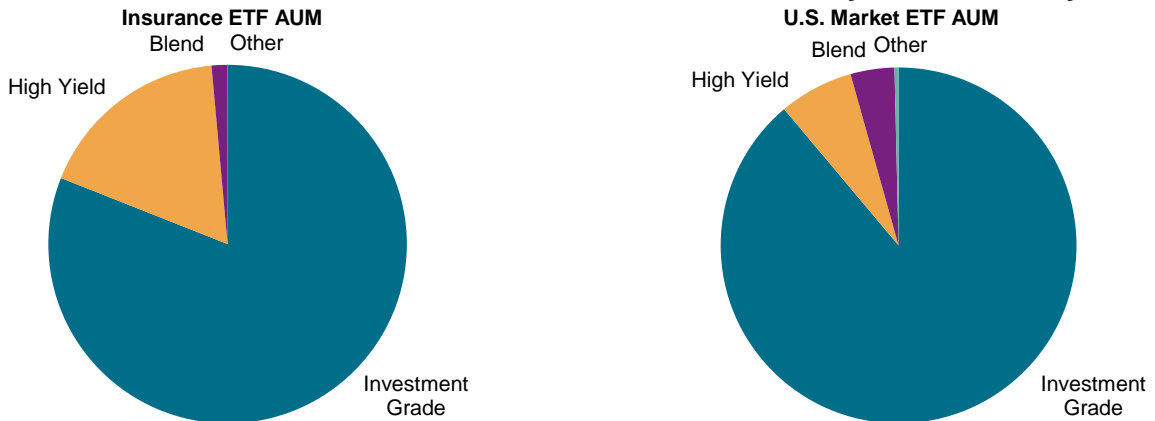
Exhibit 39: Bond Type Allocation by Company Ownership



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

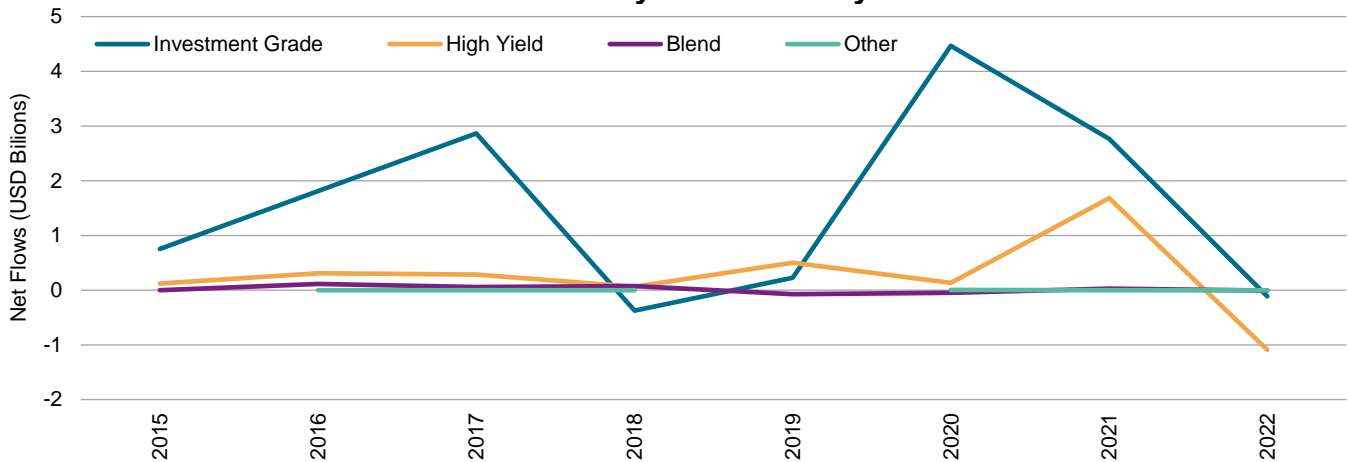
Although insurance portfolios are generally conservative, insurers invested more in High Yield ETFs than the overall market. But insurers can move out of this as quickly as they entered. In 2021, insurers added USD 1.6 billion to High Yield ETFs, but in 2022, they took out USD 1.1 billion from these same ETFs. Indeed, most of the Fixed Income outflows in 2022 came from High Yield (see Exhibits 40 and 41).

Exhibit 40: Insurance and U.S. Market Fixed Income ETF AUM by Credit Quality



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

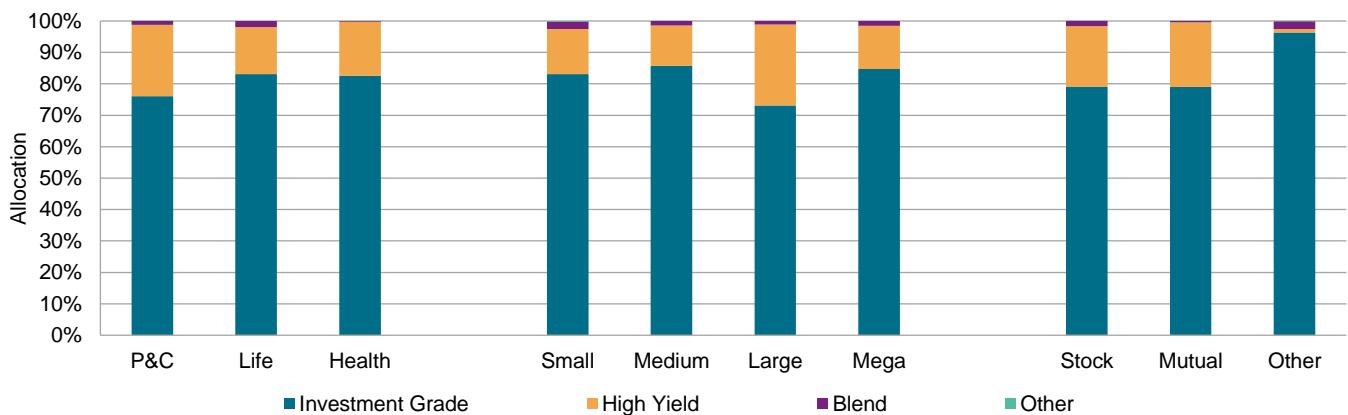
Exhibit 41: Fixed Income ETF Net Flows by Credit Quality



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

High Yield allocation varied by size but remained fairly consistent across company types (see Exhibit 42).

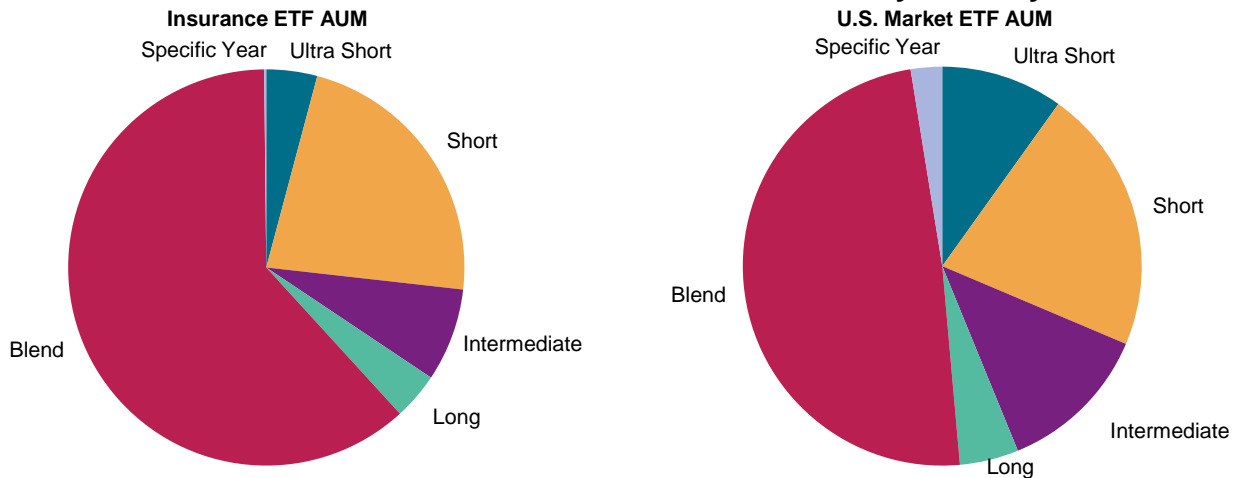
Exhibit 42: Credit Quality Allocation by Company Type, Size and Ownership



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Insurance company investment in Fixed Income ETFs by average maturity varied slightly from the overall U.S. market. Allocation to Blended and Short maturity was higher and allocation to Ultra Short was much lower (see Exhibit 43).

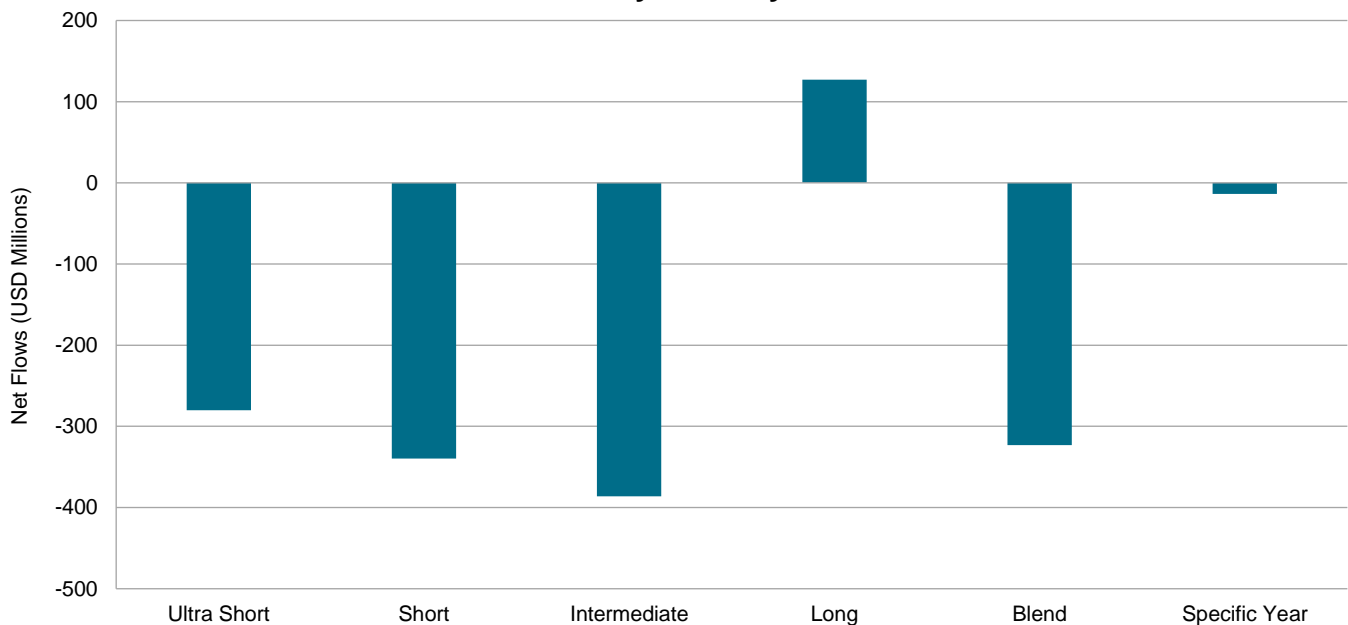
Exhibit 43: Insurance and U.S. Market Fixed Income ETF AUM by Maturity



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

In 2022, U.S. insurers added to Long maturity ETFs but sold out of every other maturity bucket (see Exhibit 44).

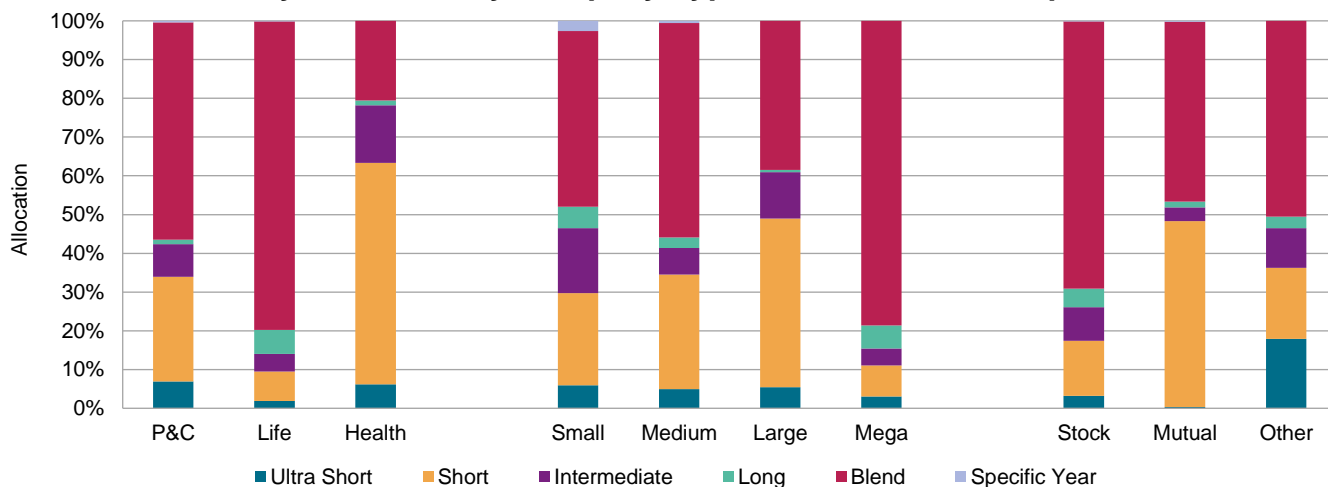
Exhibit 44: Fixed Income ETF Net Flows by Maturity



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

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 45).

Exhibit 45: Maturity Allocation by Company Type, Size and Ownership

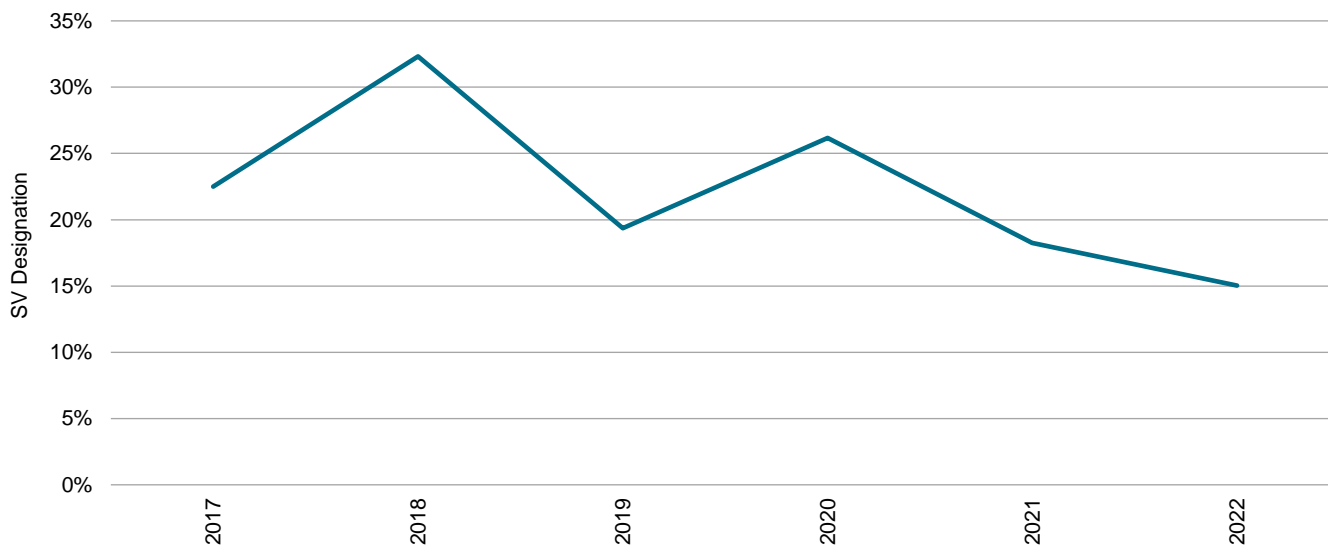


Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Systematic Valuation

Systematic valuation (SV) is a book-value-like accounting treatment that has the potential to reduce income volatility in statutory filings. In spite of the increase in Fixed Income ETF usage, the use of SV did not increase. Of the USD 15 billion in Fixed Income ETFs, insurance companies designated 15% as SV. In the years since the SV regulation was adopted, the use has declined (see Exhibit 46).

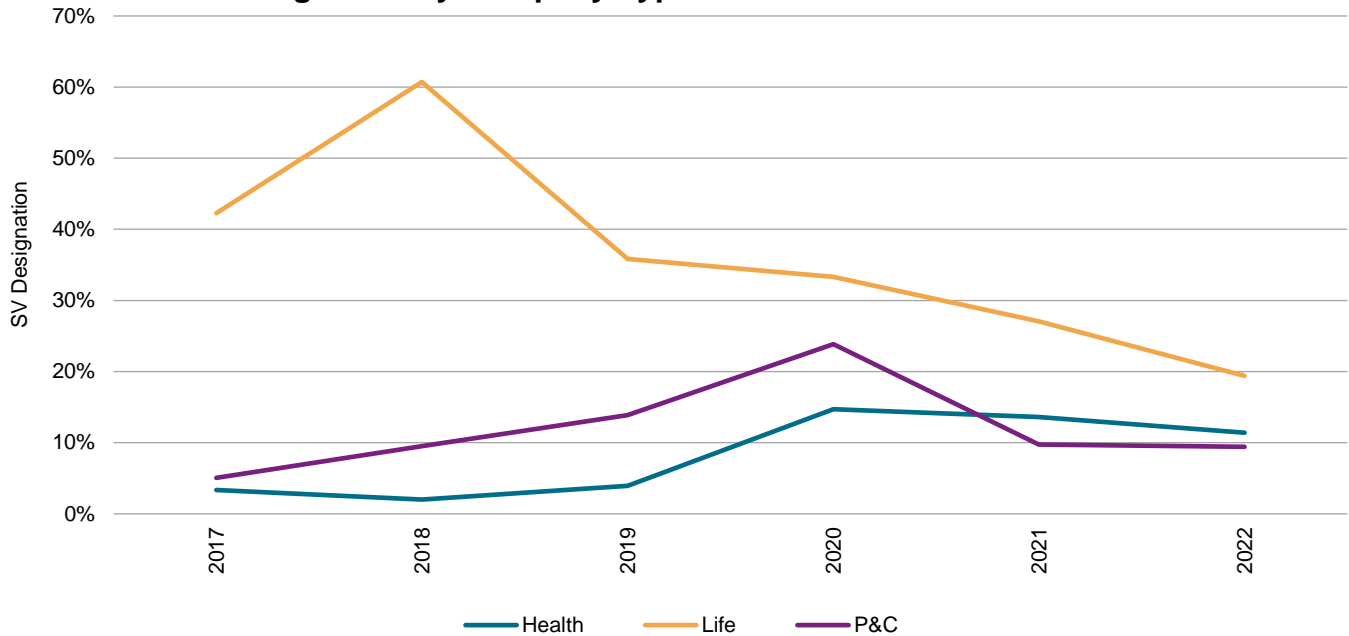
Exhibit 46: SV Designation for Fixed Income Securities



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Life companies have historically designated more ETFs as SV, but they have been systematically reducing this usage. However, in recent years, Health companies have increased their SV designation (see Exhibit 47).

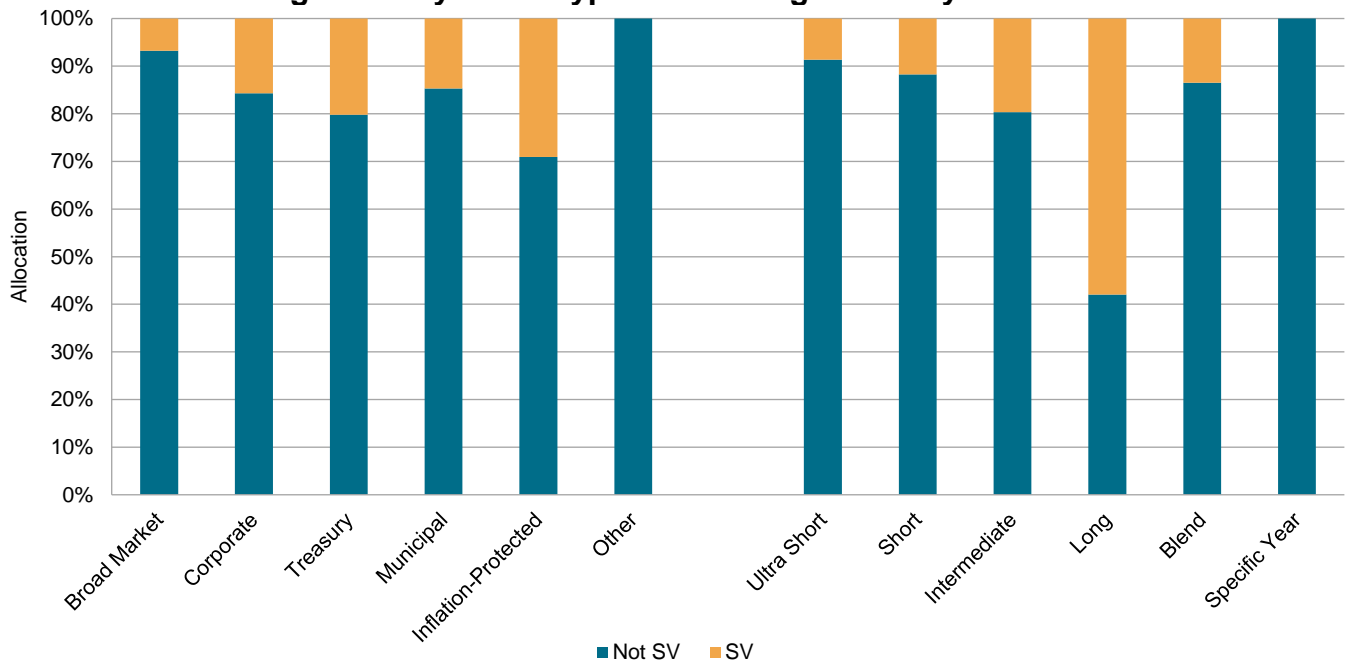
Exhibit 47: SV Designation by Company Type



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

In terms of bond characteristics, companies used SV most in Long bonds; Inflation-Protected ETFs had almost 30% designated as SV, but for a small allocation. For all other characteristics, the use was below 20% (see Exhibit 48).

Exhibit 48: SV Designation by Bond Type and Average Maturity

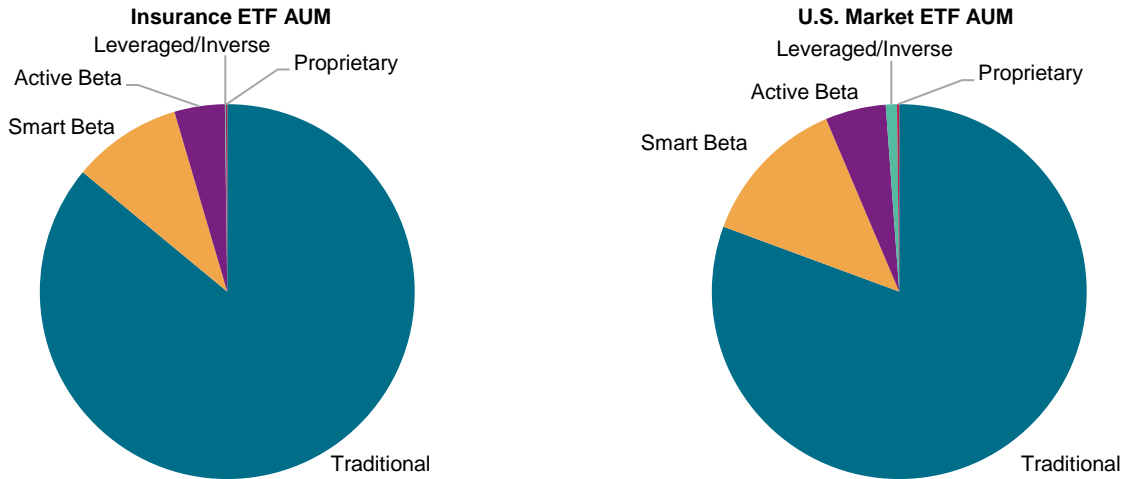


Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Analysis of Smart Beta and Active ETFs

The majority of ETF investments by insurance companies were Traditional Beta ETFs. The insurance industry allocated slightly less to Smart Beta and Active Beta than the overall U.S. ETF market (see Exhibit 49).

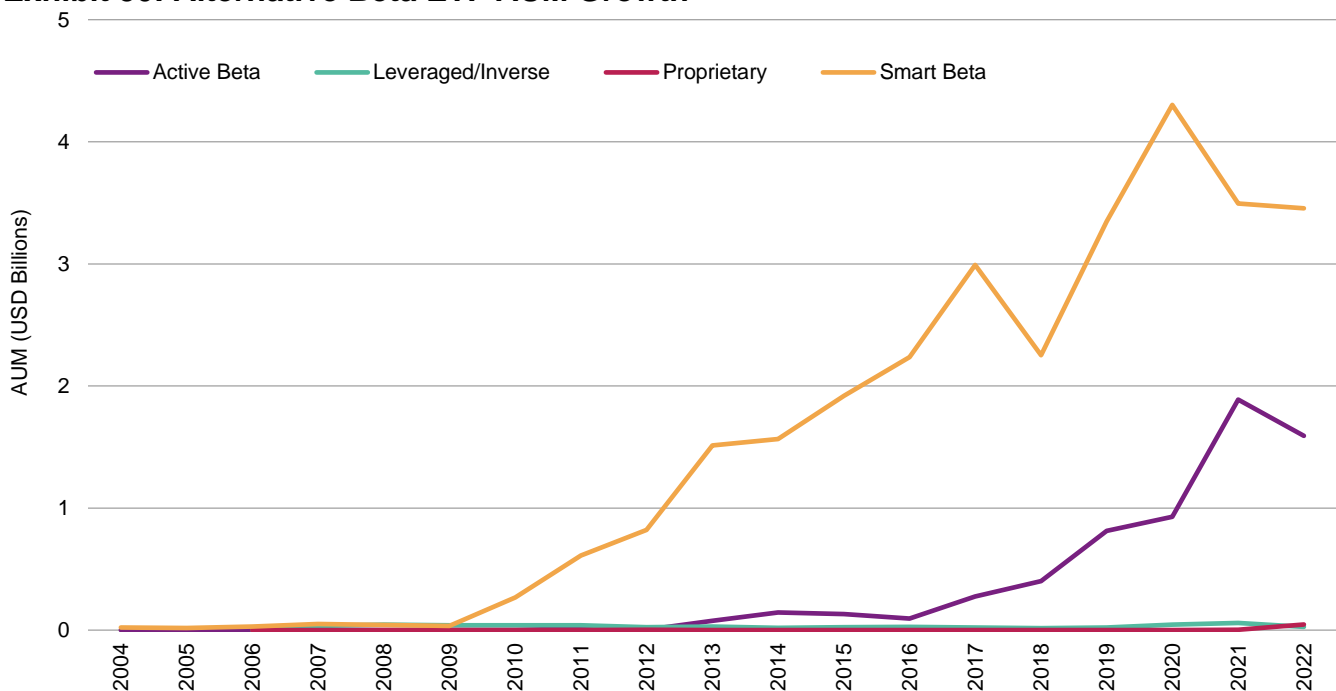
Exhibit 49: Insurance and U.S. Market ETF AUM by Beta Type



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

While the use of Smart Beta has stabilized, Active Beta ETF usage declined in 2022 (see Exhibit 50).

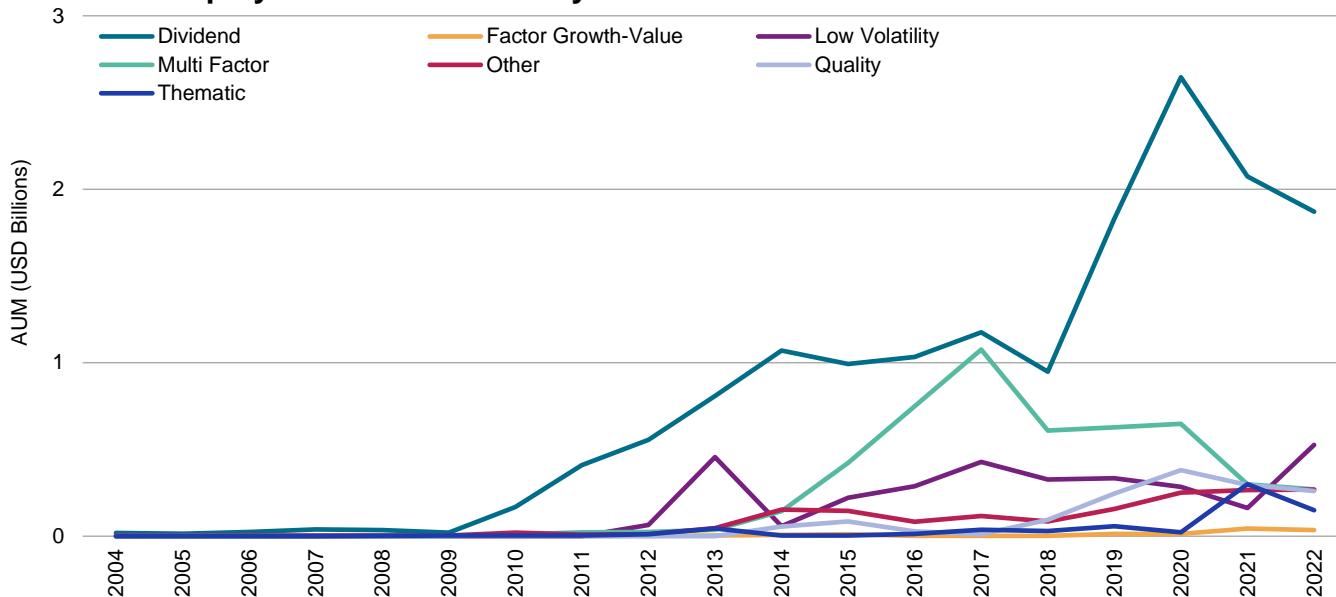
Exhibit 50: Alternative Beta ETF AUM Growth



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Insurance companies almost exclusively used Smart Beta ETFs with Equity ETFs. Companies primarily used Smart Beta ETFs for Dividend ETFs. 2022 did see a significant rise in the use of Low Volatility ETFs (see Exhibit 51).

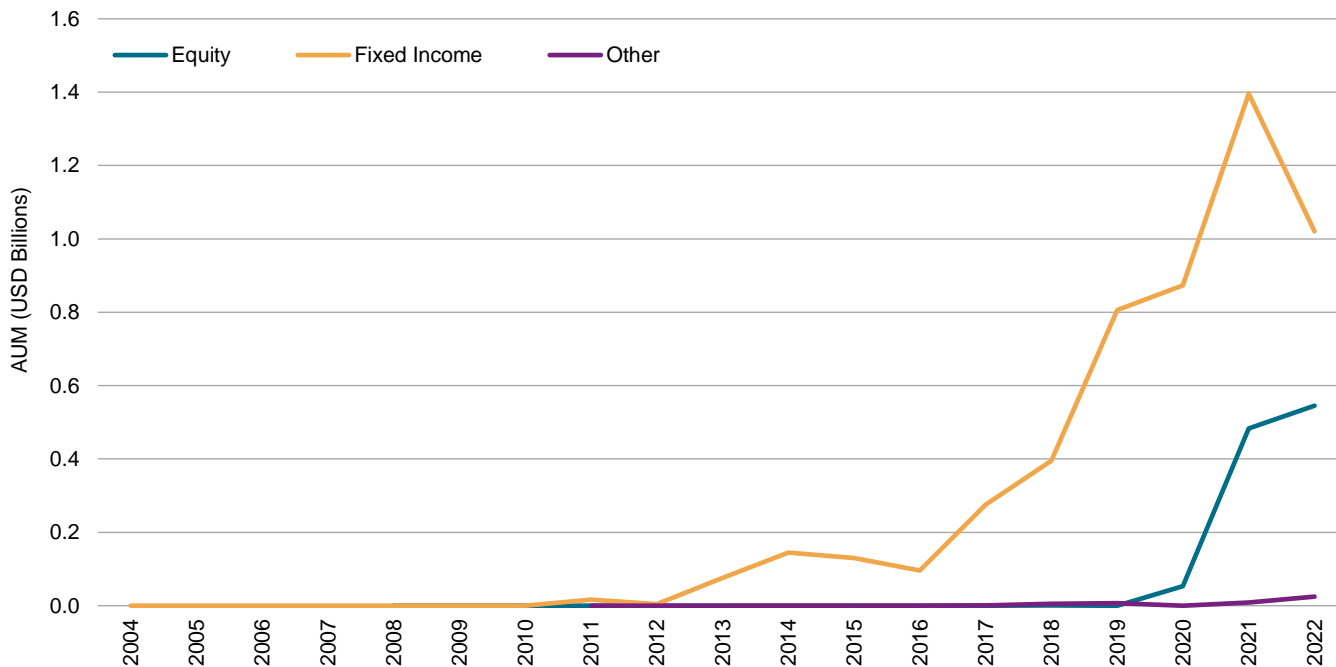
Exhibit 51: Equity ETF AUM Growth by Smart Beta Factor



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Historically, insurers have used Active Beta ETFs in Fixed Income. With the broader selloff, that value declined in 2022. However, Active Beta Equity ETFs increased (see Exhibit 52).

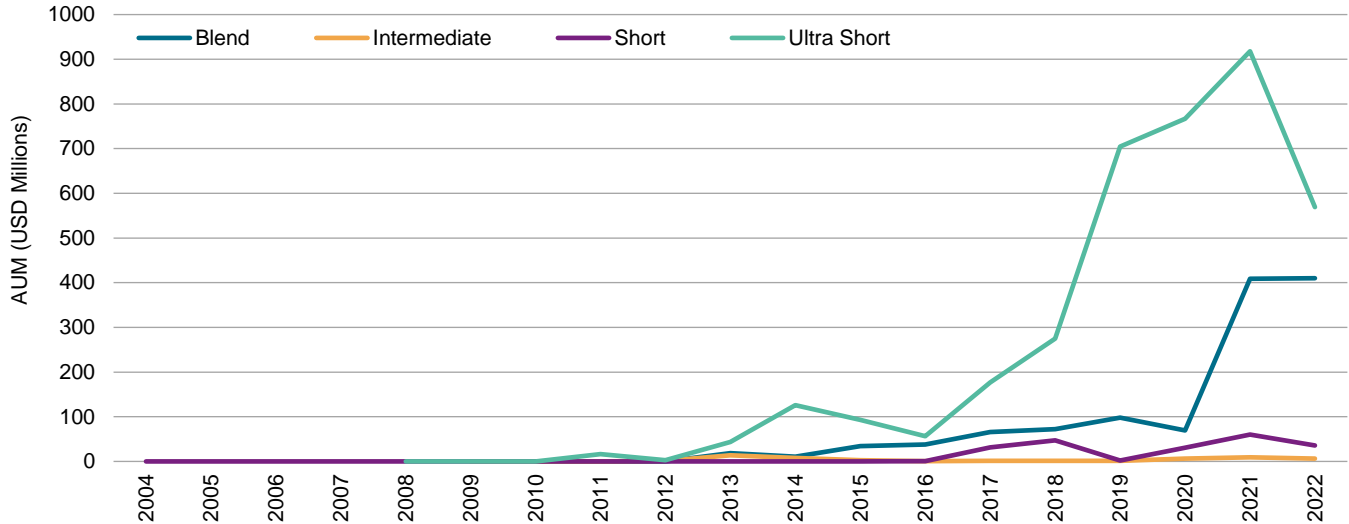
Exhibit 52: Active Beta ETF AUM Growth



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Within Active Beta Fixed Income ETFs, most of the allocation was within Ultra Short ETFs (see Exhibit 53).

Exhibit 53: Active Fixed Income ETF AUM Growth by Average Maturity

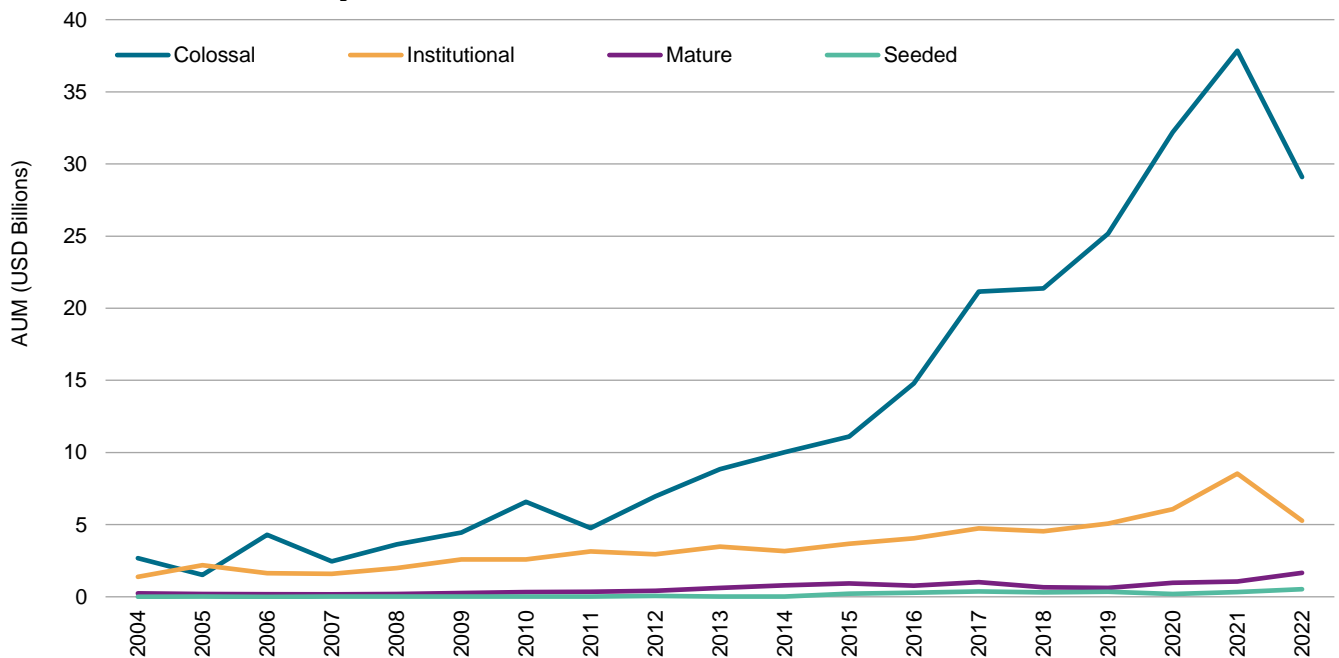


Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Miscellaneous Analysis

Insurance companies held most of their ETF assets in Colossal ETFs. Although companies withdrew funds in 2021, these funds still represented 80% of holdings (see Exhibit 54).

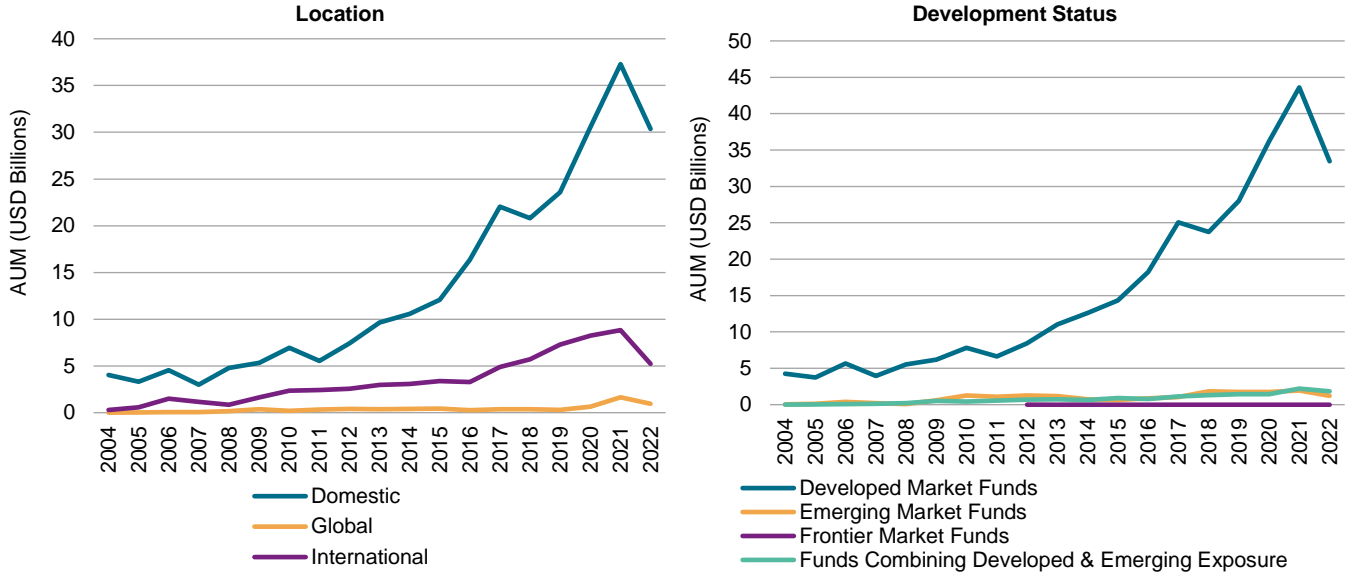
Exhibit 54: ETF AUM by ETF Size



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

In terms of location, insurance companies invested mostly in Developed Markets and Domestic ETFs (see Exhibit 55).

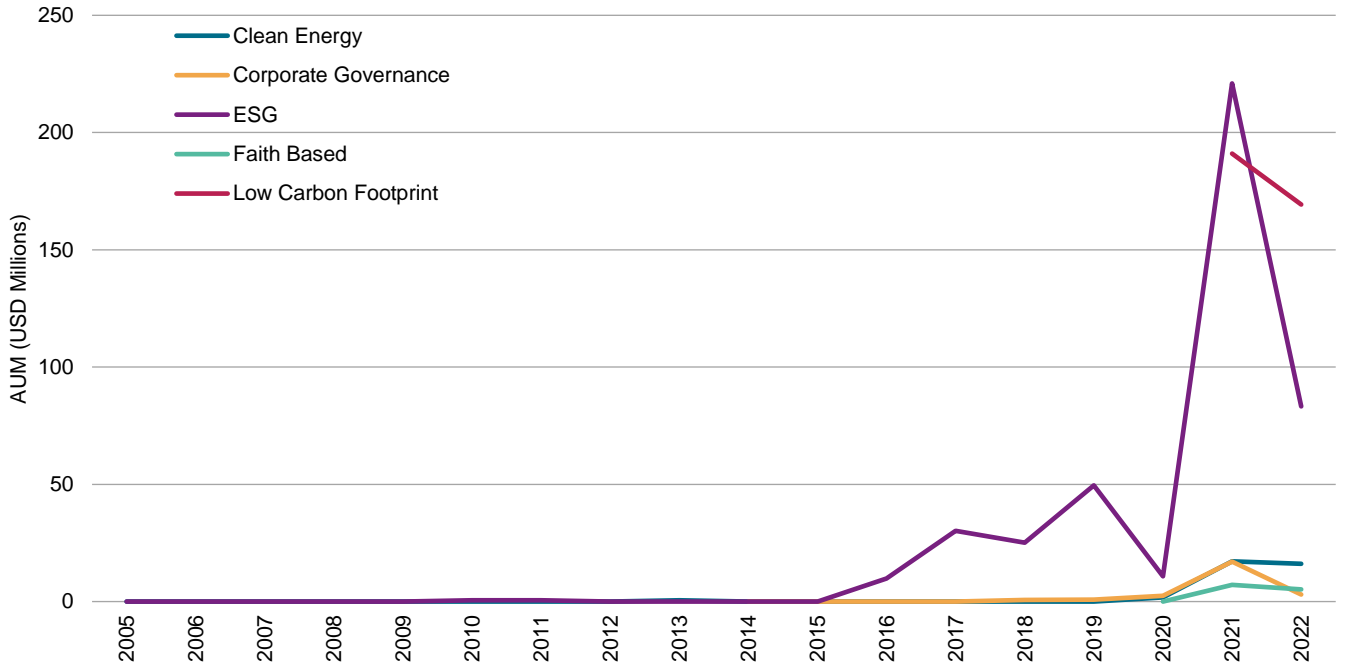
Exhibit 55: ETF AUM by Location and Development Status



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

Insurers significantly increased their use of ESG ETFs in 2021, but in 2022, these were sold off significantly (see Exhibit 56).

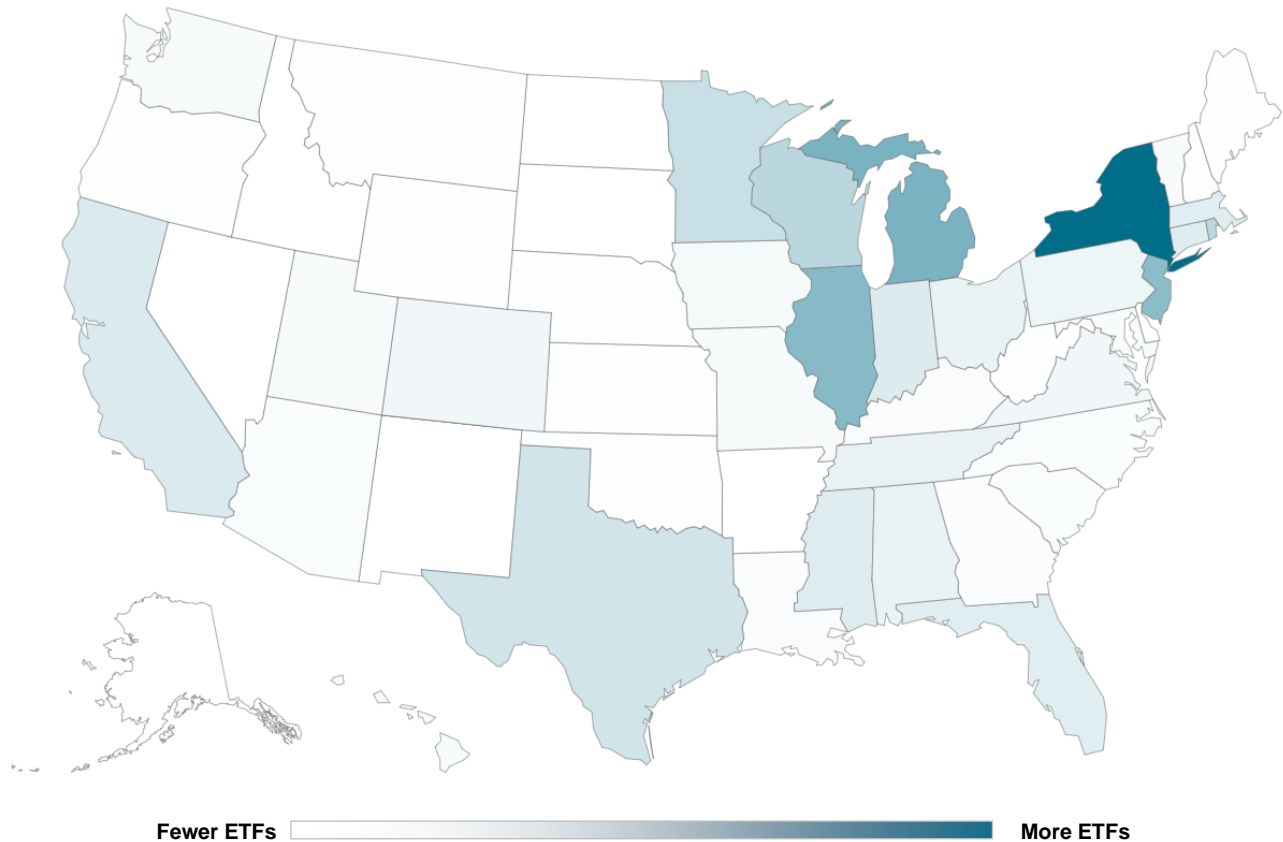
Exhibit 56: ESG AUM Growth



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

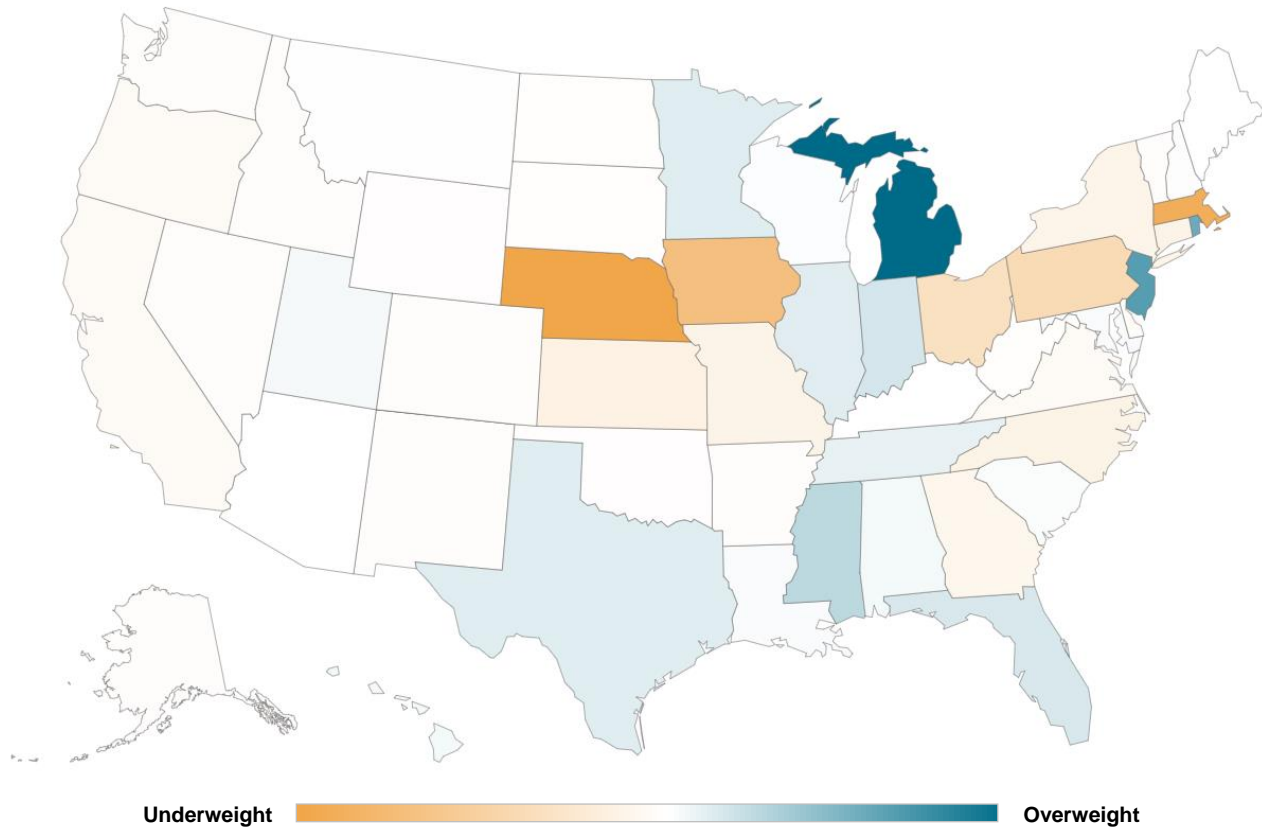
Geographically, companies domiciled in New York, Michigan, Illinois, New Jersey and Wisconsin (see Exhibit 57) accounted for 54% of all insurance ETF assets. With the adoption of new regulations, New York insurers greatly increased their ETF usage and continued to increase their usage even as other states reduced their ETF exposure (see Exhibit 59). We also analyzed the distribution to ETFs relative to invested assets. Michigan, New Jersey, Rhode Island, Mississippi and Indiana have proportionally more ETFs than invested assets. New York, which used to trail all states, now uses ETFs almost on par with its invested asset percentage (see Exhibit 58).

Exhibit 57: ETF AUM by Domicile



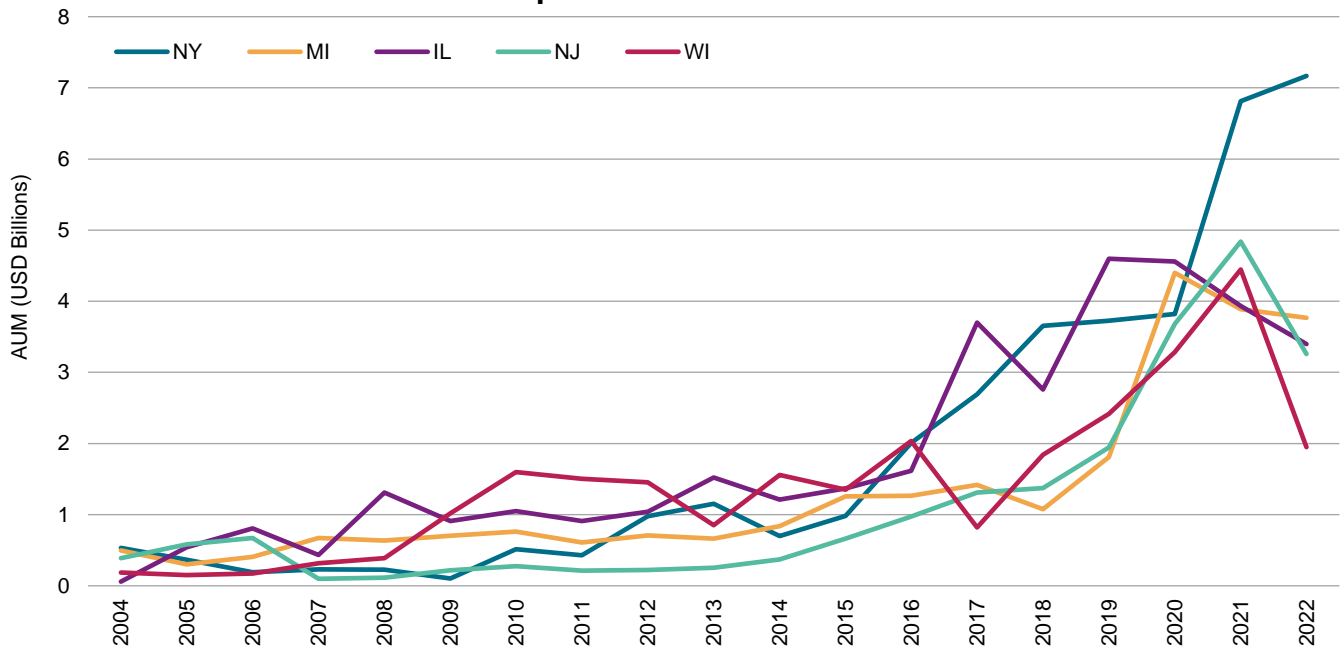
Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Exhibit 58: ETF Overweight/Underweight Relative to Invested Assets



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Exhibit 59: ETF AUM Growth for Top Five Domiciles



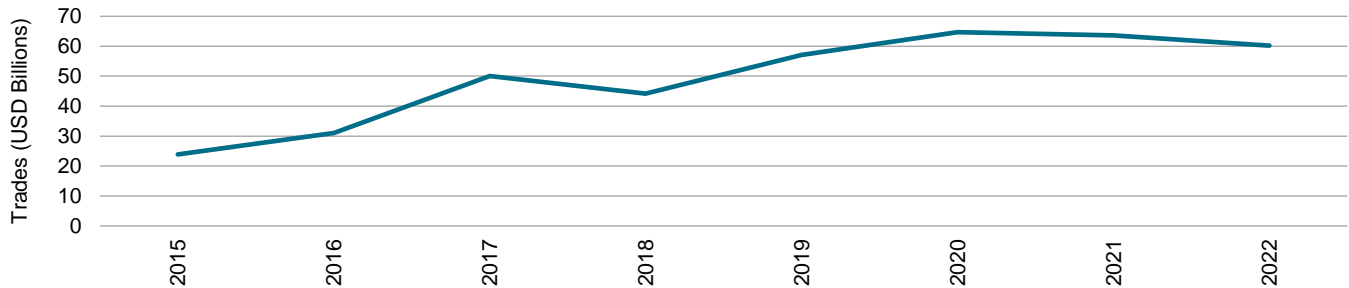
Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Trade Analysis

Overview

ETF trading volume declined slightly in 2022 to USD 60 billion (see Exhibit 60).

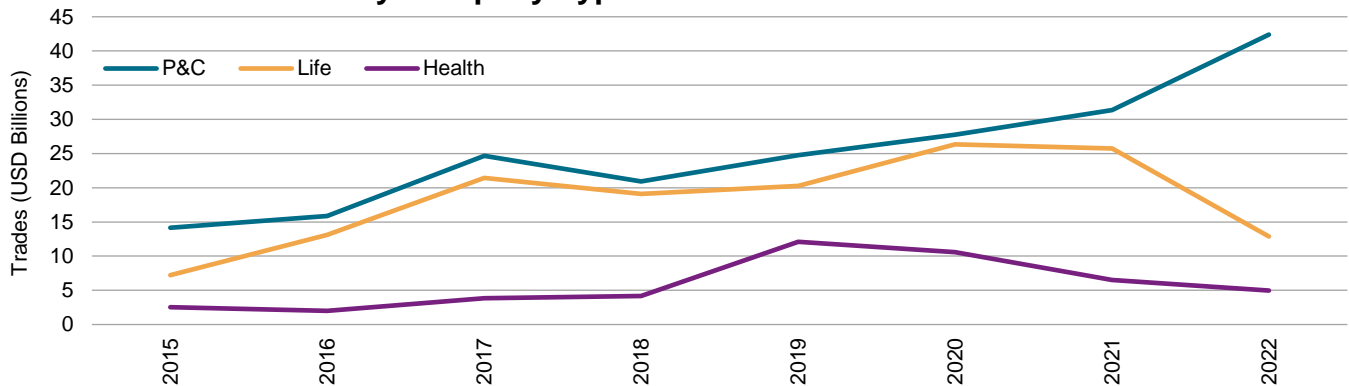
Exhibit 60: ETF Trades



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

This is due to a 50% decline in trading by Life companies (see Exhibit 61).

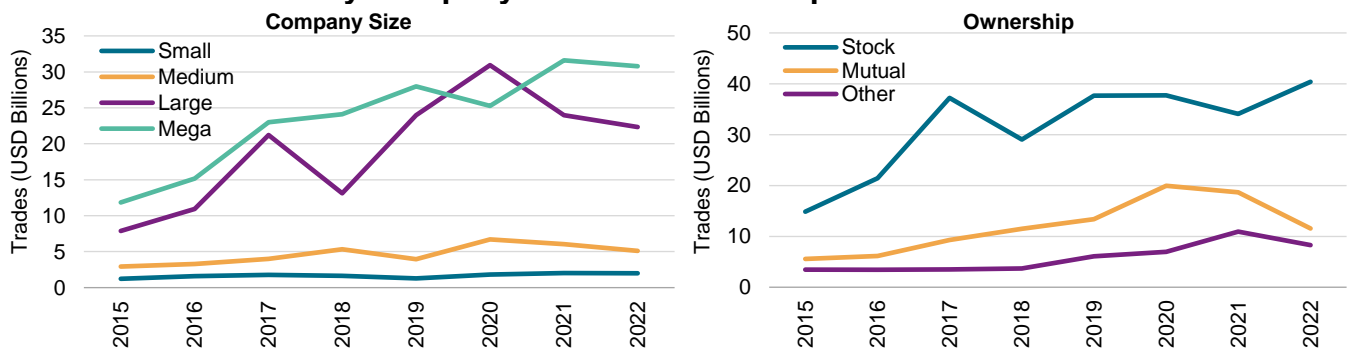
Exhibit 61: ETF Trades by Company Type



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Mutuals & Large companies also traded less in 2022 (see Exhibit 62).

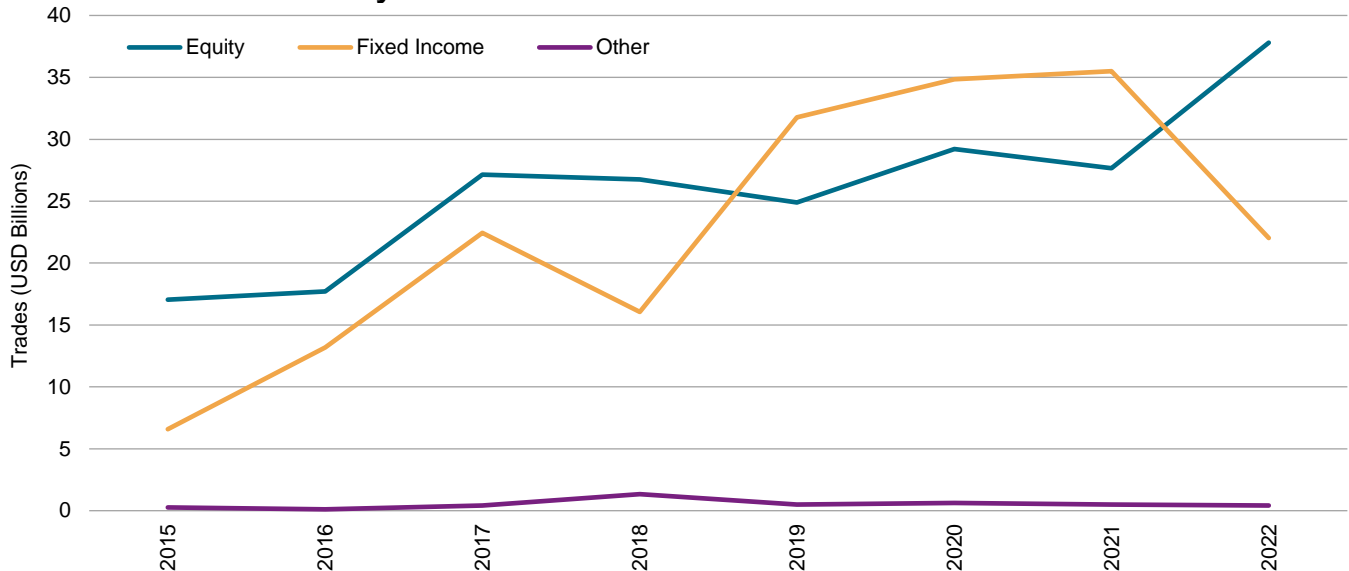
Exhibit 62: ETF AUM by Company Size and Ownership



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

Insurers also traded far fewer Fixed Income ETFs; for the first time since 2018, they traded fewer Fixed Income ETFs than Equity ETFs (see Exhibit 63).

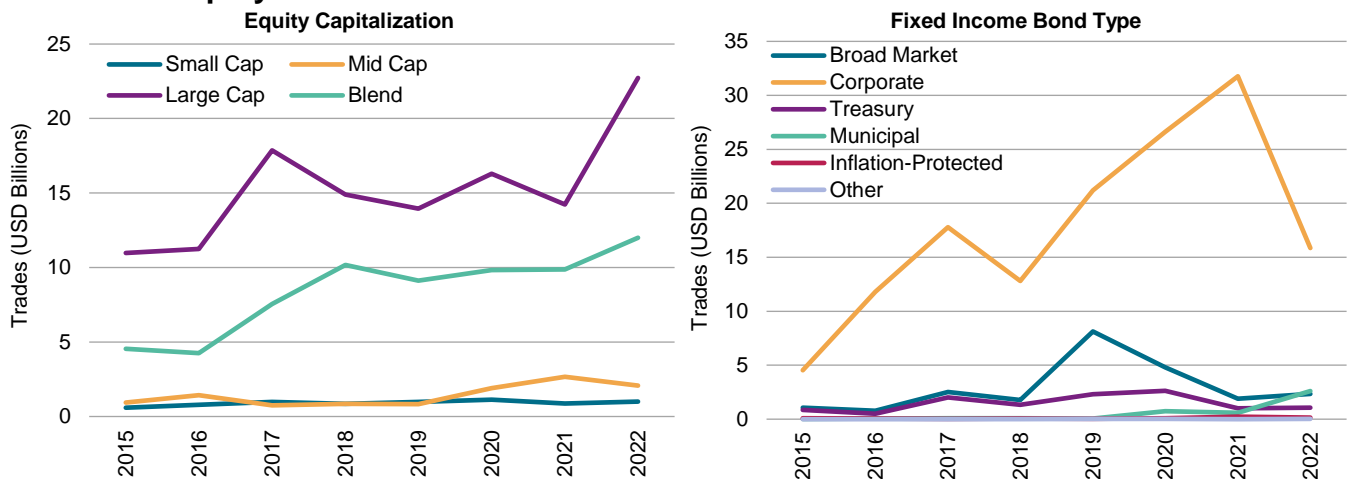
Exhibit 63: ETF Trades by Asset Class



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Among Equity ETFs, Large Cap continued to dominate trading. Additionally, there was a significant decline in Corporate Fixed Income ETF trading (see Exhibit 64).

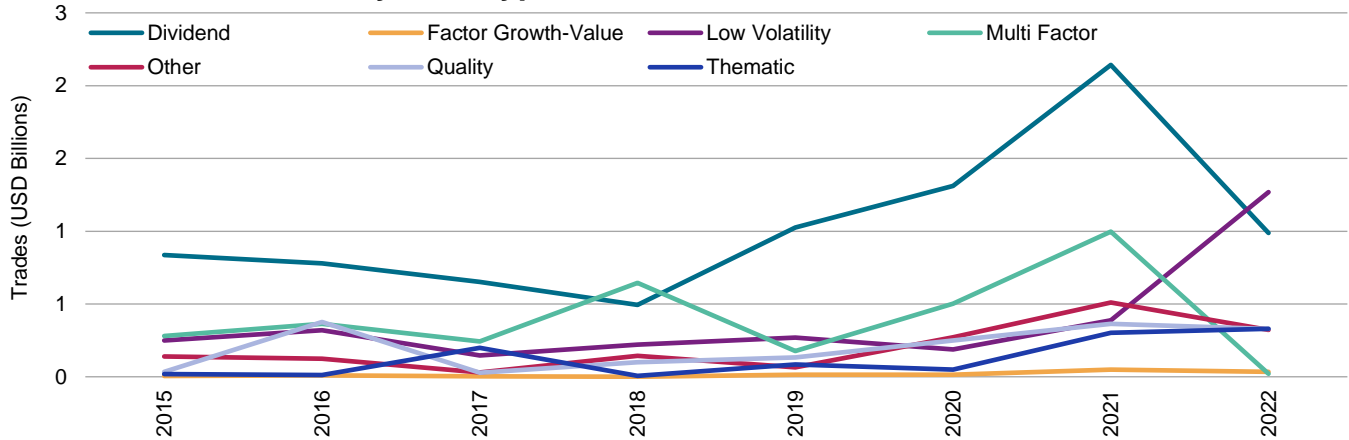
Exhibit 64: Equity and Fixed Income ETF Trades



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

Smart Beta trades saw a significant decline in Dividend and Multi-Factor ETFs, but an uptick in Low Volatility ETF trades (see Exhibit 65).

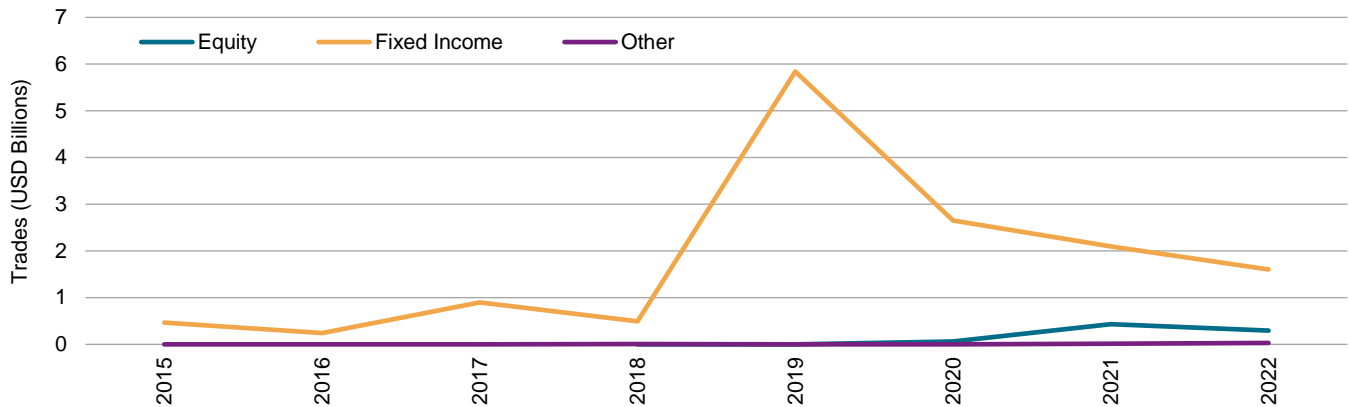
Exhibit 65: ETF Trades by Beta Type



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

After a spike in Active Beta trading in 2019, the values have consistently declined (see Exhibit 66).

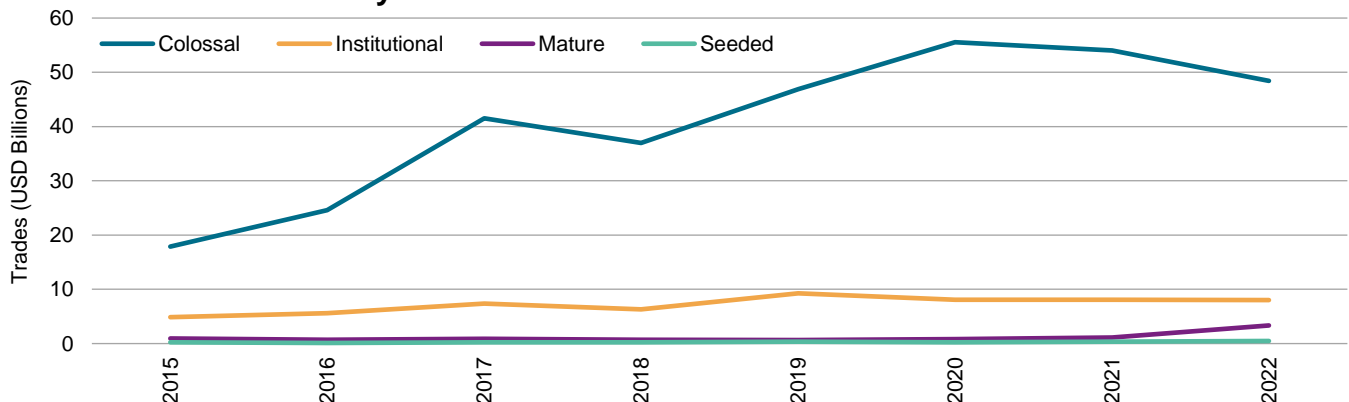
Exhibit 66: Active ETF Trades



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Colossal ETFs continued to dominate ETF trading (see Exhibit 67).

Exhibit 67: ETF Trades by ETF Size

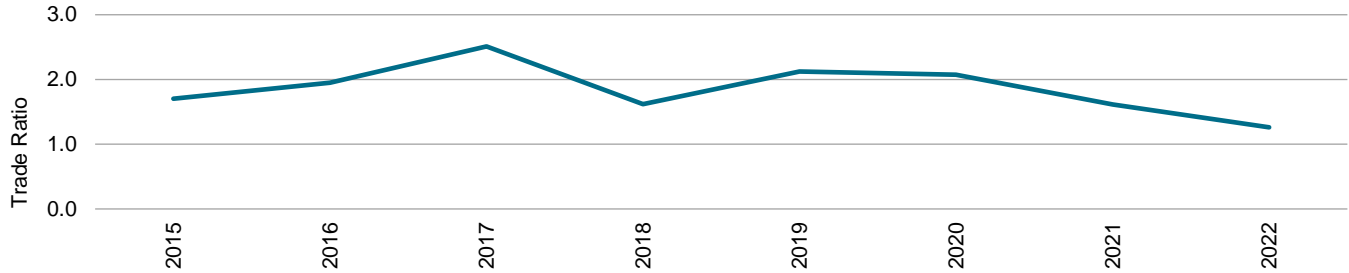


Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Trade Ratio and Trade Size

By combining the holding and trade data, we analyzed the amount of trading relative to holding. We define “trade ratio” as the amount traded in a given year by the amount of ETFs held at the beginning of the same year. In 2022, the overall trade ratio declined slightly to 1.36 (see Exhibit 68).

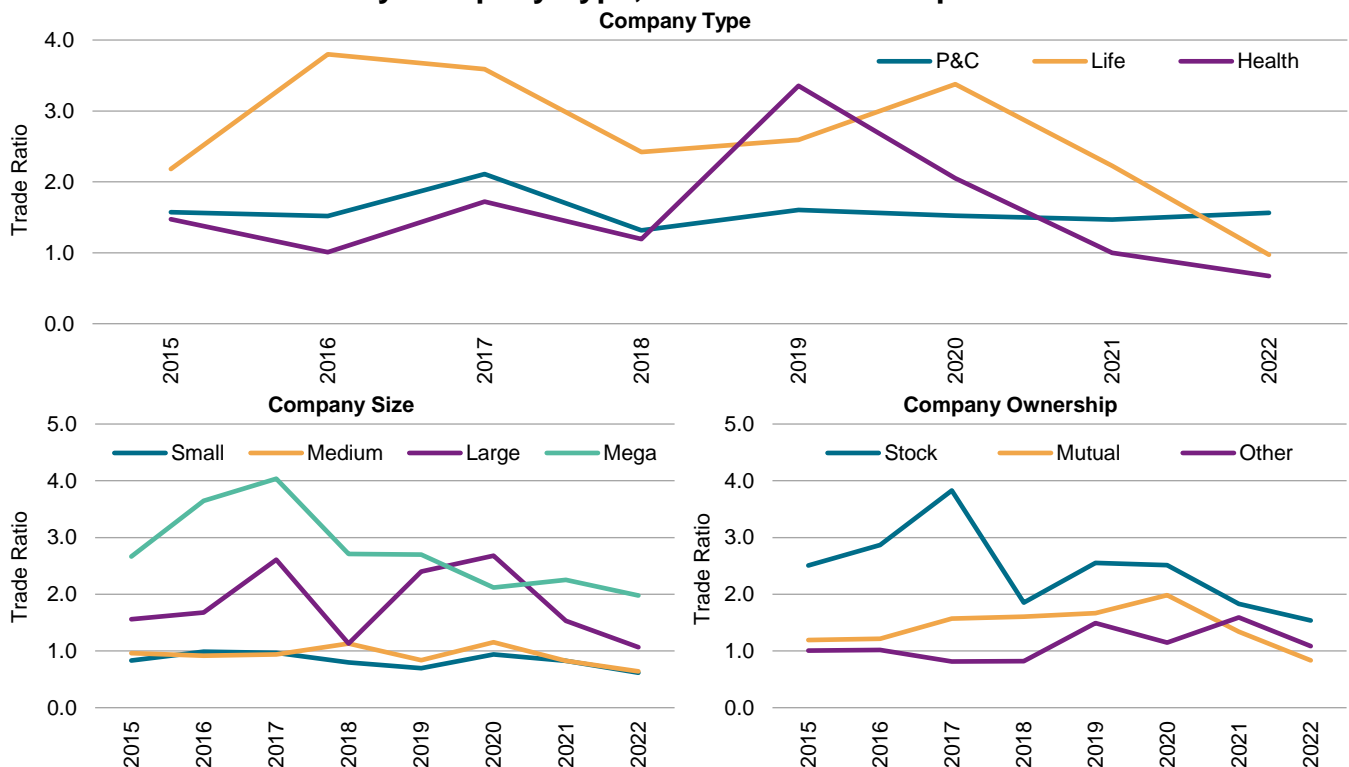
Exhibit 68: ETF Trade Ratio



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

The trade ratio for P&C companies has remained fairly consistent. However, the trade ratios for both Life and Health companies have declined. Large companies have seen the most significant decline, but companies of all sizes had a lower trade ratio in 2022. By ownership, the trade ratios are converging (see Exhibit 69).

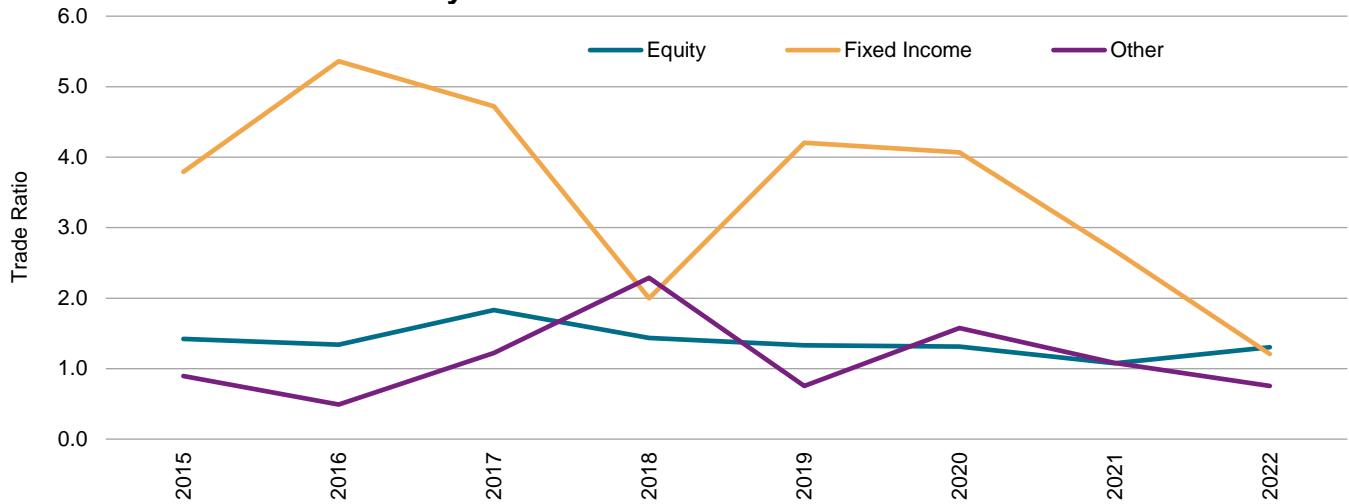
Exhibit 69: Trade Ratio by Company Type, Size and Ownership



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Charts are provided for illustrative purposes.

The Fixed Income trade ratio dropped below 2.0 for the first time (see Exhibit 70).

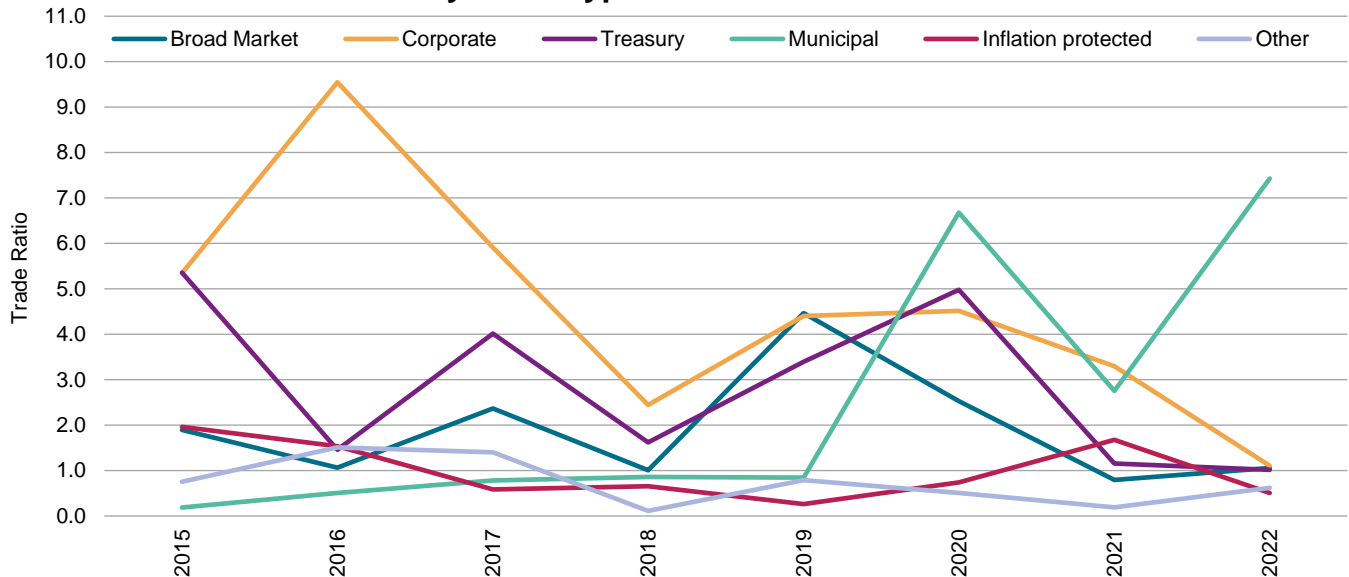
Exhibit 70: ETF Trade Ratio by Asset Class



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

The trade ratio for all bond types declined except for Municipal ETFs (see Exhibit 71).

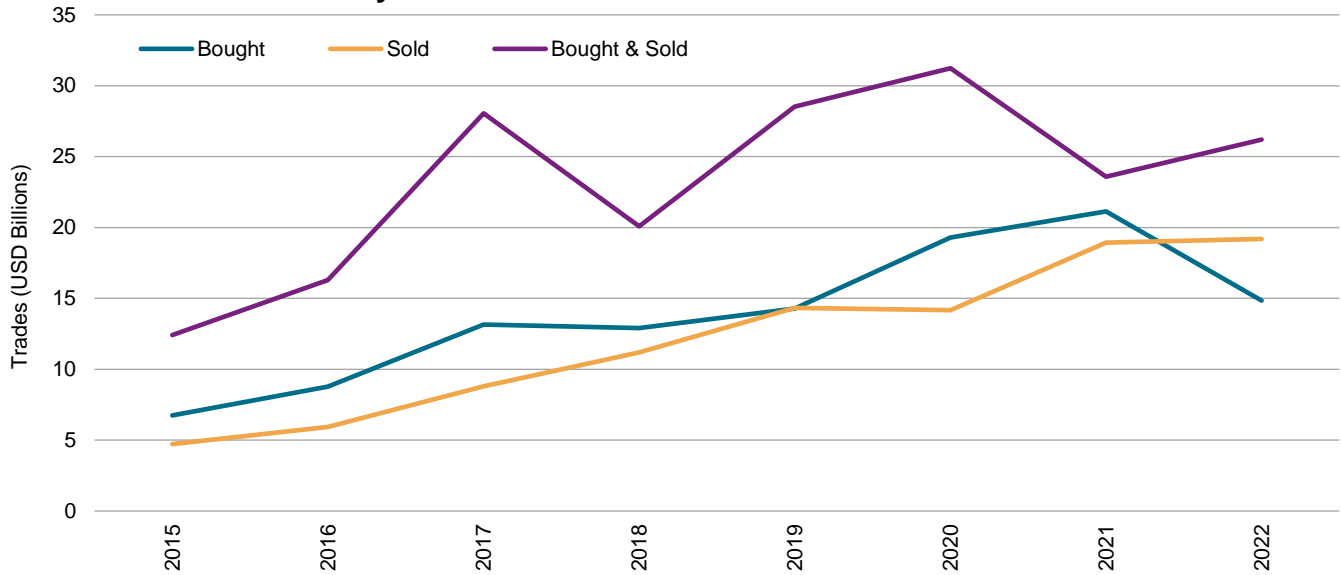
Exhibit 71: ETF Trade Ratio by Bond Type



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Using NAIC schedules, we can also identify ETFs that were bought in a year, sold in a year, or bought and sold in a year. Historically, about one-half of the trades were round-trip trades. Round-trip trades increased but bought trades declined in 2022 (see Exhibit 72).

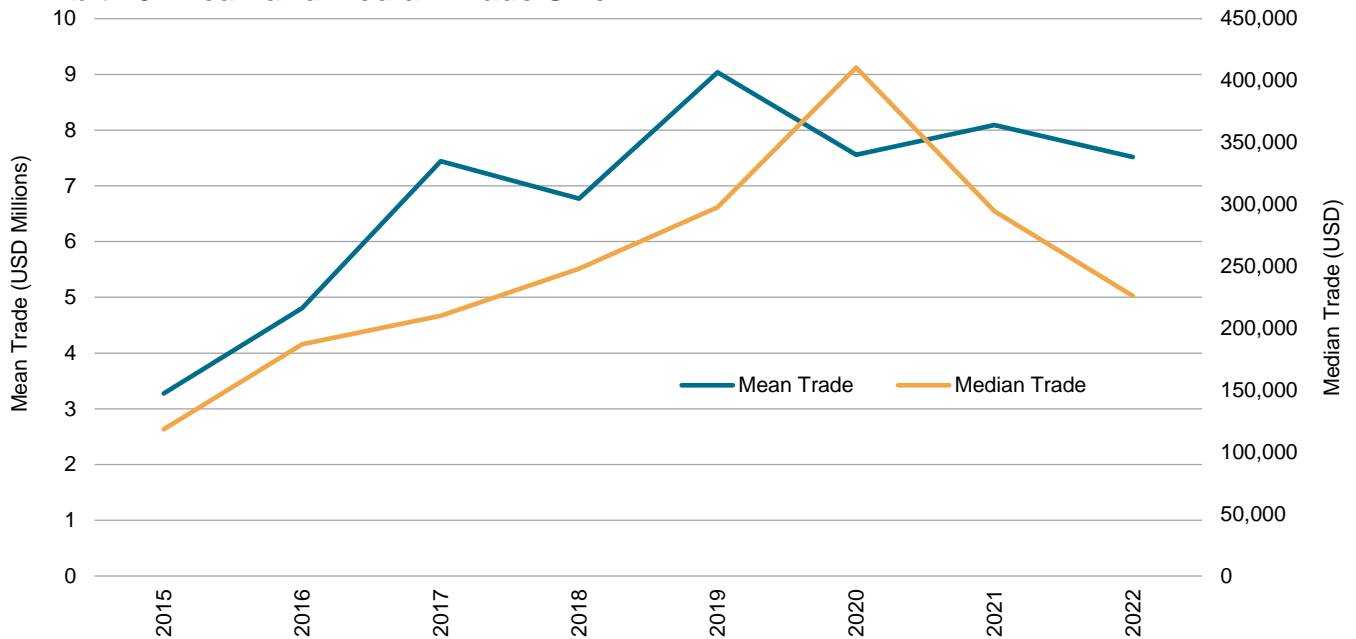
Exhibit 72: ETF Trades by NAIC Schedule



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

In 2022, the mean trade size remained relatively flat, but the median trade size declined. We note a large disparity between the mean and median size of the trades (see Exhibit 73).

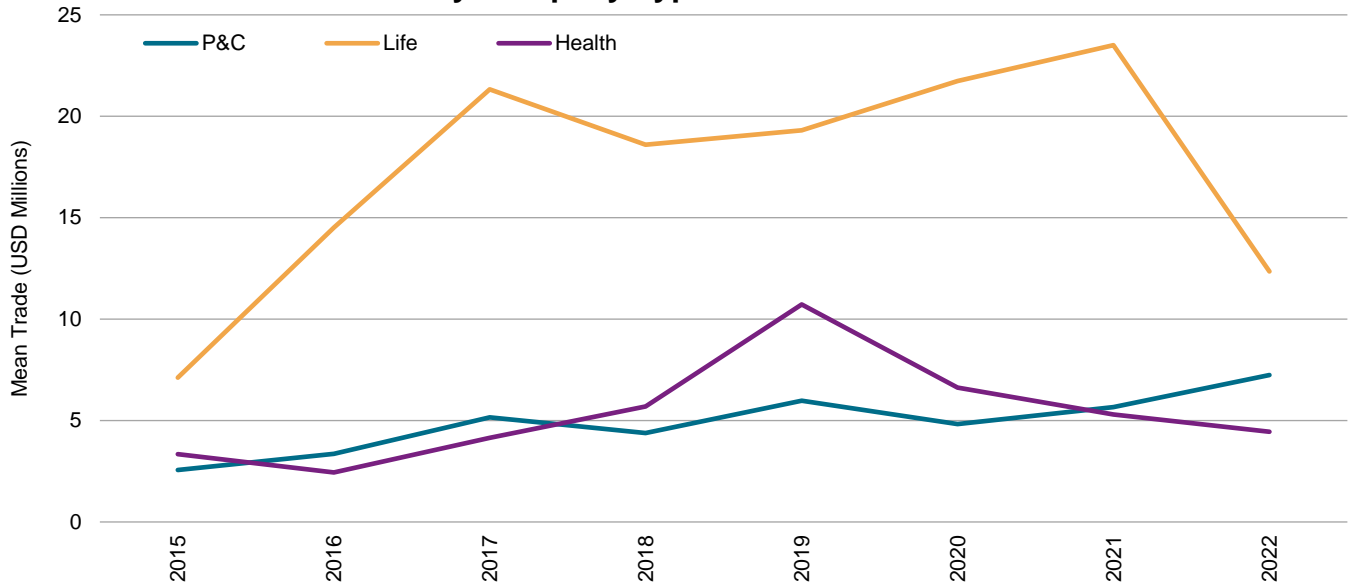
Exhibit 73: Mean and Median Trade Size



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Life companies have had consistently higher mean trades, but because they traded significantly less, that value declined (see Exhibit 74).

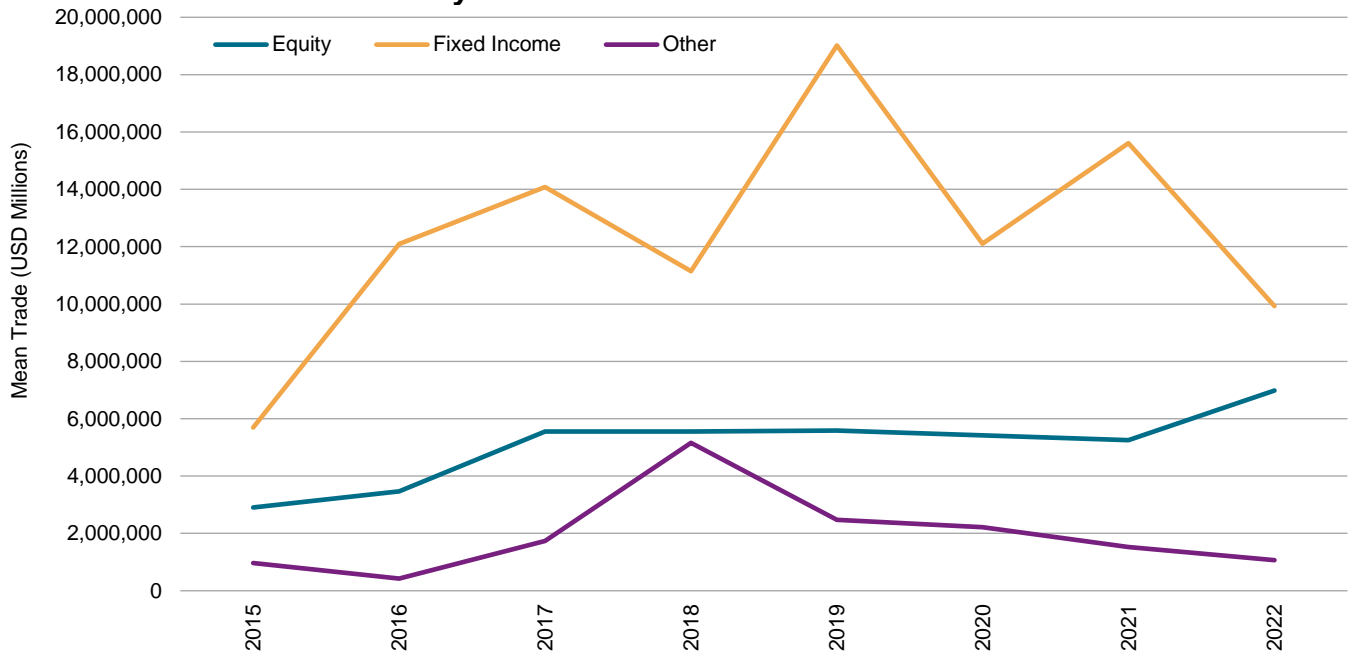
Exhibit 74: Mean Trade Size by Company Type



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

Fixed Income trade size still dominated, even though it declined in 2022 (see Exhibit 75).

Exhibit 75: Mean Trade Size by Asset Class



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

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, CFRA ETF Data, 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 2023. 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 24, 2023.

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.

We segregated companies by size, based on their invested assets as of Dec. 31, 2022.

- 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.

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 and Other

Stock companies held the vast majority of invested assets, with Mutual companies holding just 23% of invested assets.

Appendix 1.2: CFRA ETF Data

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

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. For this reason, we do not analyze ETF usage by legal structure and refer to all these funds as ETFs.

Often, CFRA 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 CFRA 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 2022.

CFRA 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 close behind.

CFRA classified individual sector fields for Equity ETFs. CFRA also identified whether an ETF was not sector specific or rotated through different sectors. Using this field, we identified whether an Equity ETF was a Sector ETF or not.

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

CFRA classified Fixed Income ETFs into eight types. We narrowed this into 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.

In terms of credit quality, CFRA 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, CFRA 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.

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. CFRA classified portfolio weighting in six ways: Traditional Beta, Smart Beta, Active Beta, Leveraged/Inverse and Proprietary Model.

Of those ETFs classified as Smart Beta, 97% were Equity ETFs. For these ETFs, First Bridge had 15 classifications of Smart Beta factors. We condensed these into the following seven factors.

- Dividend: Dividend
- Low Volatility: Low Volatility
- Multi-Factor: Multi Factor
- Thematic: 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 remained the most prevalent.

Approximately 4% of all U.S. ETFs were Active Beta ETFs; Active Beta ETFs have increased at 81% per year for the past 10 years. Historically, most of the Active Beta ETFs were Fixed Income. However, use of Active Beta Equity ETFs increased 12X over the past three years.

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 a little over 72% of the AUM in Colossal ETFs.

Appendix 1.3: Data Extraction Methodology

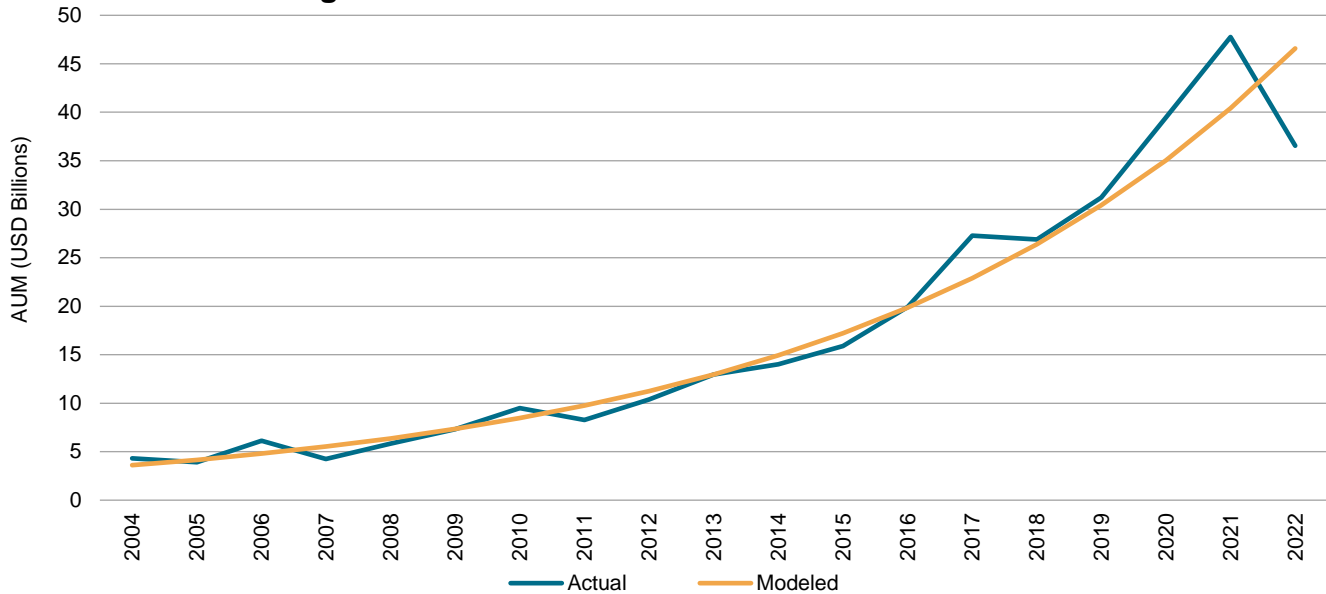
In 2022, SPGMI introduced two templates to extract data for both ETF Holdings and ETF Transactions from their database. This methodology is slightly different than the extraction methodology previously used in previous reports. There is minimal variation in the data extracted by the two methods. In this report, we used the SPGMI templates to extract ETF usage by insurers. For consistency across S&P Global divisions, we will continue to use the templates in future reports.

In order to publish this paper in a timely manner, we extracted the data from the SPGMI database in April 2023. However, as noted above, some of the data remains incomplete. When we began the analysis for this year, the data was updated.

Appendix 2: Linear Regression

To model the growth of ETF AUM, we applied a linear regression to the data (see Exhibit 76).

Exhibit 76: Linear Regression



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes.

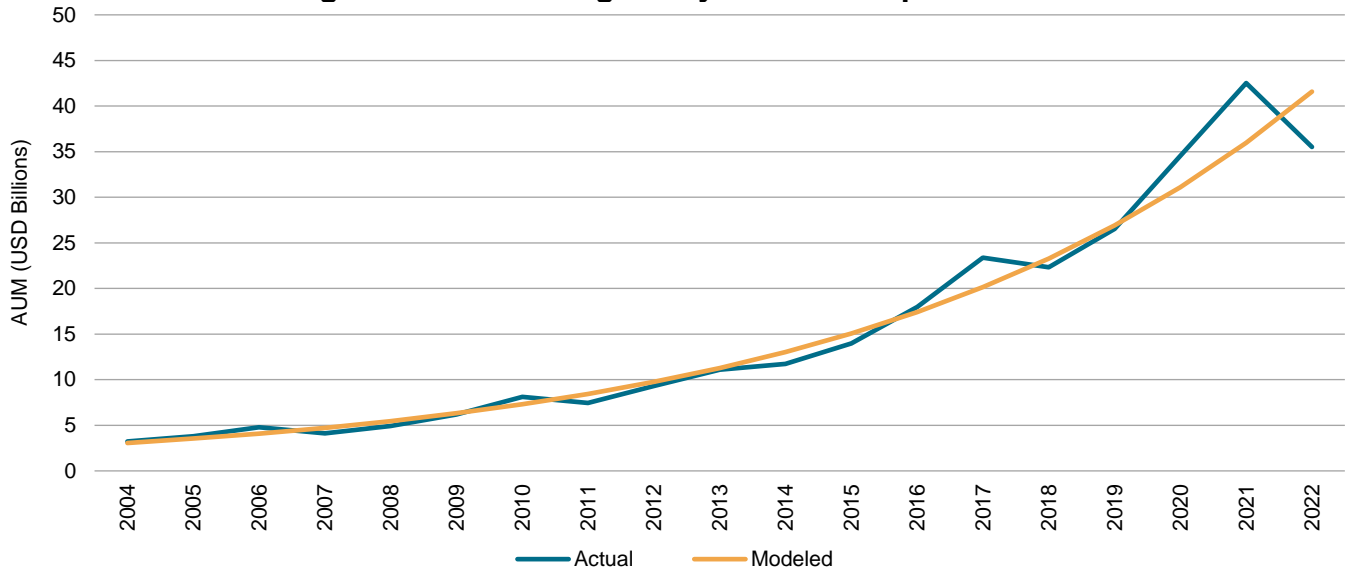
Based on the data, the following equation described the trend of ETF AUM as a function of the year.

$$\ln(\text{ETF AUM}) = 0.1421 \times \text{Year} - 262.8052$$

This model has a coefficient of determination of 96.95%. 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.

As noted earlier, two Mega companies sold out of all their public equities in 2022. This large transaction distorted several of the analyses. We also performed a linear regression excluding these two companies (see Exhibit 77).

Exhibit 77: Linear Regression Excluding Idiosyncratic Companies



Source: NAIC via S&P Global Market Intelligence. Data as of Dec. 31 ,2022. Chart is provided for illustrative purposes.

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

$$\ln(\text{ETF AUM}) = 0.1450 \times \text{Year} - 268.6822$$

This model has a coefficient of determination of 98.36%.

General Disclaimer

© 2023 S&P Dow Jones Indices. All rights reserved. S&P, S&P 500, SPX, SPY, The 500, US500, US 30, S&P 100, S&P COMPOSITE 1500, S&P 400, S&P MIDCAP 400, S&P 600, S&P SMALLCAP 600, S&P GIVI, GLOBAL TITANS, DIVIDEND ARISTOCRATS, Select Sector, S&P MAESTRO, S&P PRISM, S&P STRIDE, GICS, SPIVA, SPDR, INDEXOLOGY, iTraxx, iBoxx, ABX, ADBI, CDX, CMBX, MBX, MCDX, PRIMEX, HHPI and SOVX are trademarks of S&P Global, Inc. (“S&P Global”) or its affiliates. DOW JONES, DJIA, THE DOW and DOW JONES INDUSTRIAL AVERAGE are trademarks of Dow Jones Trademark Holdings LLC (“Dow Jones”). These trademarks together with others have been licensed to S&P Dow Jones Indices LLC. Redistribution or reproduction in whole or in part are prohibited without written permission of S&P Dow Jones Indices LLC. This document does not constitute an offer of services in jurisdictions where S&P Dow Jones Indices LLC, S&P Global, Dow Jones or their respective affiliates (collectively “S&P Dow Jones Indices”) do not have the necessary licenses. Except for certain custom index calculation services, all information provided by S&P Dow Jones Indices is impersonal and not tailored to the needs of any person, entity or group of persons. S&P Dow Jones Indices receives compensation in connection with licensing its indices to third parties and providing custom calculation services. Past performance of an index is not an indication or guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index may be available through investable instruments based on that index. S&P Dow Jones Indices does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P Dow Jones Indices makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. S&P Dow Jones Indices LLC is not an investment advisor, and S&P Dow Jones Indices makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. S&P Dow Jones Indices is not an investment adviser, commodity trading advisor, commodity pool operator, broker dealer, fiduciary, promoter” (as defined in the Investment Company Act of 1940, as amended), “expert” as enumerated within 15 U.S.C. § 77k(a) or tax advisor. Inclusion of a security, commodity, crypto currency or other asset within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, commodity, crypto currency or other asset, nor is it considered to be investment advice or commodity trading advice.

These materials have been prepared solely for informational purposes based upon information generally available to the public and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof (“Content”) may be modified, reverse-engineered, reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of S&P Dow Jones Indices. The Content shall not be used for any unlawful or unauthorized purposes. S&P Dow Jones Indices and its third-party data providers and licensors (collectively “S&P Dow Jones Indices Parties”) do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN “AS IS” BASIS. S&P DOW JONES INDICES PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT’S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Dow Jones Indices Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

Credit-related information and other analyses, including ratings, research and valuations are generally provided by licensors and/or affiliates of S&P Dow Jones Indices, including but not limited to S&P Global’s other divisions such as S&P Global Market Intelligence. Any credit-related information and other related analyses and statements in the Content are statements of opinion as of the date they are expressed and not statements of fact. Any opinion, analyses and rating acknowledgement decisions are not recommendations to purchase, hold, or sell any securities or to make any investment decisions, and do not address the suitability of any security. S&P Dow Jones Indices does not assume any obligation to update the Content following publication in any form or format. The Content should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. S&P Dow Jones Indices LLC does not act as a fiduciary or an investment advisor. While S&P Dow Jones Indices has obtained information from sources they believe to be reliable, S&P Dow Jones Indices does not perform an audit or undertake any duty of due diligence or independent verification of any information it receives.

S&P Global keeps certain activities of its various divisions and business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions and business units of S&P Global may have information that is not available to other business units. S&P Global has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate or otherwise address.