MSRB
Municipal Securities Rulemaking Board

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Trends in Municipal Securities Ownership

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Municipal Securities Rulemaking Board

Summary[1]

This report examines trends in the ownership of municipal securities as measured by the Federal Reserve Board's Financial Accounts of the United States data set, which is updated on a quarterly basis. These recent trends offer an interesting view into market dynamics and changes among different holders, or categories of municipal market investors. Various factors influence different investor bases' decisions to shift their holdings of municipal securities including, but not limited to, tax law within the United States, the prevailing interest rate environment, taxable municipal securities supply and much more. Tracking municipal securities ownership trends offers an insight into the marketplace that can be a useful tool for market participants and for the Municipal Securities Rulemaking Board (MSRB) in fulfilling its congressional mandate to protect investors, issuers and the public interest by promoting a fair and efficient market and ensuring access to capital for communities across the country.

CONTENTS

Data Sources

Much of the data used in this report is pulled from the Federal Reserve Board's Financial Accounts of the United States. The report includes data on: transactions and levels of financial assets and liabilities, by sector and financial instrument; full balance sheets, including net worth, for households and nonprofit organizations (households), nonfinancial corporate businesses, and nonfinancial noncorporate businesses; and additional supplemental detail. The current release, published on June 9, 2022, covers all data through the first quarter (Q1) of 2022.[2]

It is important to note that this analysis of the data is primarily focused on 2004 onward. This report focuses on this timeframe due to a data revision in the Federal Reserve's Flow of Funds Accounts report.[3]

1 The views expressed in this research paper are those of the authors and do not necessarily reflect the views and positions of the MSRB.

2 Financial Accounts of the United States, Board of Governors of the Federal Reserve System, June 9, 2022.

3 In the Federal Reserve's Q3 2011 Flow of Funds Accounts of the United States report, there was a revision to reflect a change in data sources from 2004 onward. According to the Federal Reserve's revisions announcements on its Q3 2011 report, "data on debt outstanding and net issuance for state and local governments, nonprofit organizations, and nonfinancial corporate business (industrial revenue bonds) are now based on data from Mergent, a private data vendor. The new data indicate that municipal securities and loans outstanding in Q1 2004 is $740 billion greater than previously estimated in the flow of funds accounts. The estimate of household holdings of municipal securities and loans is revised up by about $840 billion, on average, from 2004 forward." This data revision, causing a 135% year-over-year growth in "households and nonprofit organizations" assets, renders pre-2004 holdings data inadequate for the purposes of any accurate trend analysis.

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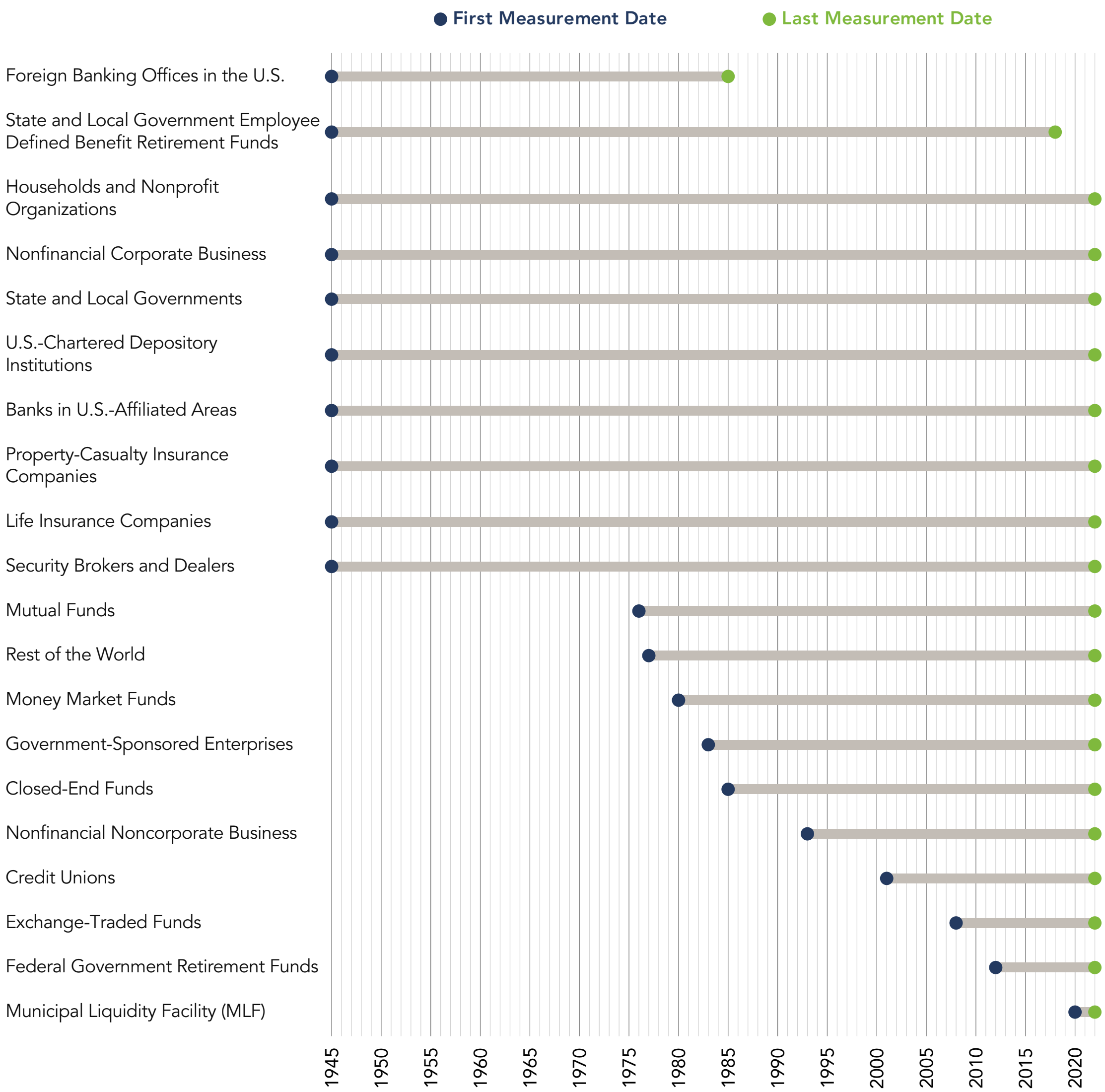
Holders of Municipal Securities

Holders of municipal securities in Federal Reserve data have shifted since tracking began in 1945. Some, such as Foreign Banking Offices in the U.S. and State and Local Government Employee Defined Benefit Retirement Funds, have been rolled off and are no longer measured. Others, such as Exchange-Traded Funds (ETFs), Federal Government Retirement Funds, and the Municipal Liquidity Facility (MLF), are more recent additions. A full history of the different holders tracked by the Federal Reserve can be seen in the chart below.

Figure 1. History of Holdings Categories

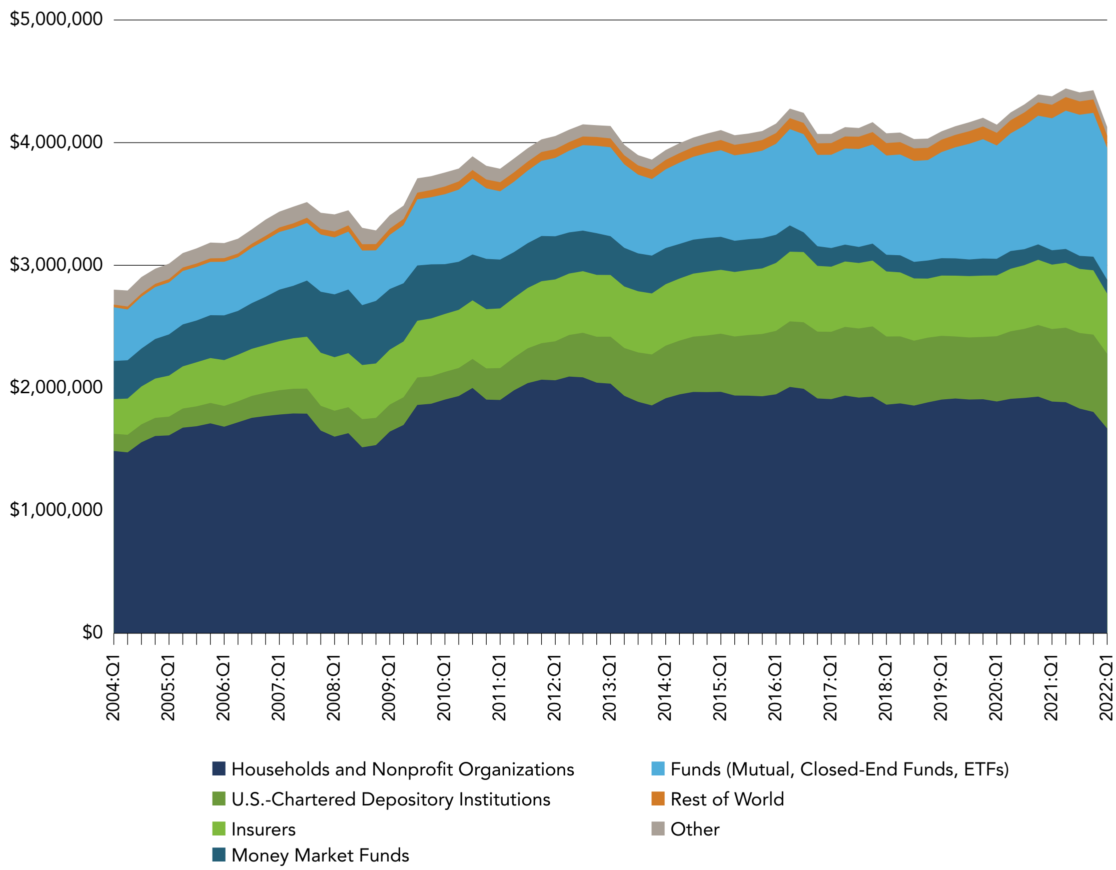


Trends

In observing municipal bond holdings, it is clear that many of the trends of the previous decade continue to persist, namely the rapid growth in mutual funds and ETFs, the continued stagnation in household direct ownership and the significant decline of money market funds as a top holder of securities.

Individual investors continue to hold the plurality of the $4.1 trillion municipal bond market, accounting for 40.4% of the market through direct holdings.

Figure 2. Holders of Municipal Securities, 2004–2022 ($ Millions)



The overall market has grown significantly since 2004, from about $2.8 trillion in 2004 to about $4.1 trillion as of the end of March 2022, a growth of about 47%.[4] Federal Reserve data indicates, however, that the market's growth has slowed substantially in recent years, both in terms of actual annual growth and annual growth as a percentage. Over the past decade, the market has grown only $74 billion, an annual growth rate of 0.3%. The stagnant growth figure is in part due to the market's $300 billion decline in Q1 of 2022, during which the total market size shrank 6.8%. According to the Federal Reserve's data, this is the sharpest quarterly market decline since tracking of the municipal market began in 1945,

[4] $4.1 trillion is the Federal Reserve's measurement of total municipal securities assets, whereas total municipal securities liabilities are $4.0 trillion.

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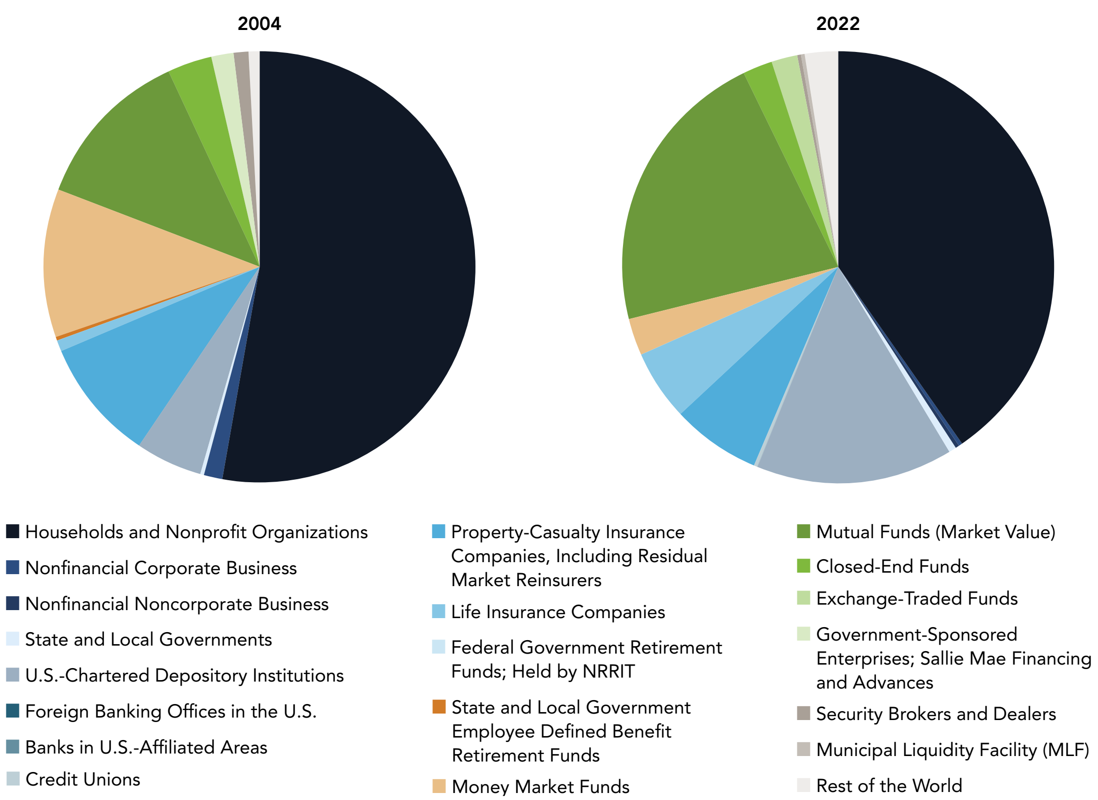
both in terms of dollars and as a percentage. As the assets in the Federal Reserve's data are reported at market value, the sharp quarterly decline is likely primarily due to falling prices.

Figure 3. Municipal Market Growth[5]

	Last 10 Years	Last 25 Years
Average Annual Market Growth ($)	$7.4 Billion	$82.5 Billion
Average Annual Market Growth (%)	0.3%	3.5%

When comparing market share by holder from 2004 to 2022, there are a number of shifts that stand out. As mentioned before, household ownership, which can be used as a proxy for direct individual ownership of municipal securities, continues to decline in share of market holdings, while share of the market held by mutual funds, ETFs, closed-end funds (CEFs) and U.S.-chartered depository institutions continue to rise. This report will dive deeper into these specific trends and provide additional context on key events or shifts in market conditions that may have contributed to these changes.

Figure 4. Municipal Securities Ownership: 2004 vs. 2022



5 The 25-year average annual market growth, both in terms of overall growth and percentage growth, excludes the Federal Reserve data change in 2004 that would drastically alter figures.

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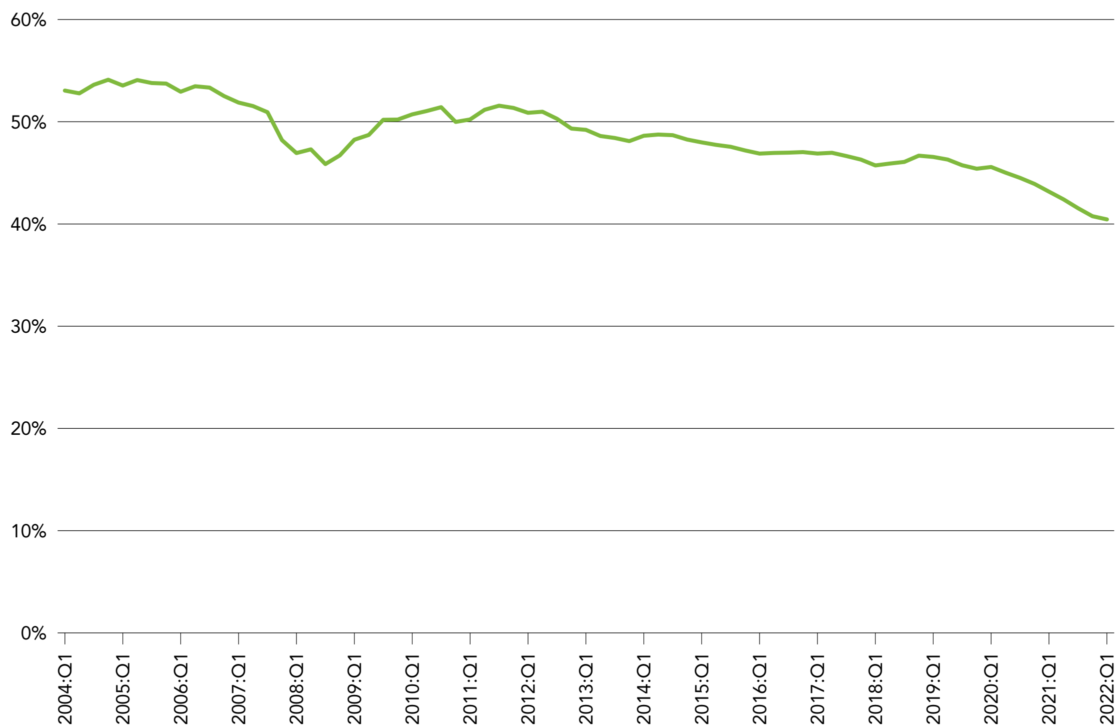
Household Ownership

Household municipal securities ownership, as mentioned before, has remained steady in recent years, claiming the largest share of municipal securities holdings at 40%. This level of household ownership is unique within the fixed-income asset class, with other fixed-income sectors having much lower levels of household ownership. According to the Federal Reserve's most-recent data, household Treasury ownership is 3% of the total market, household corporate bond ownership is 1% of the total market and household agency and GSE-backed securities ownership is at 3% of the total market.

After a high of $2.1 trillion in 2011, household ownership hit its lowest level since the Global Financial Crisis in Q1 of 2022, dropping to $1.7 trillion. Household ownership declined by $135 billion in Q1 of 2022, the second largest quarterly percentage decline on record at -7.4%.

When evaluating as a percentage of the total market, household ownership has fallen to 40% in 2022, compared to 45% in 2020 and 54% in 2004. Despite this decline, households remain firmly entrenched as the leading municipal securities holder, with mutual funds far behind at 22% of the market.

Figure 5. Household Ownership (% of Total Market)



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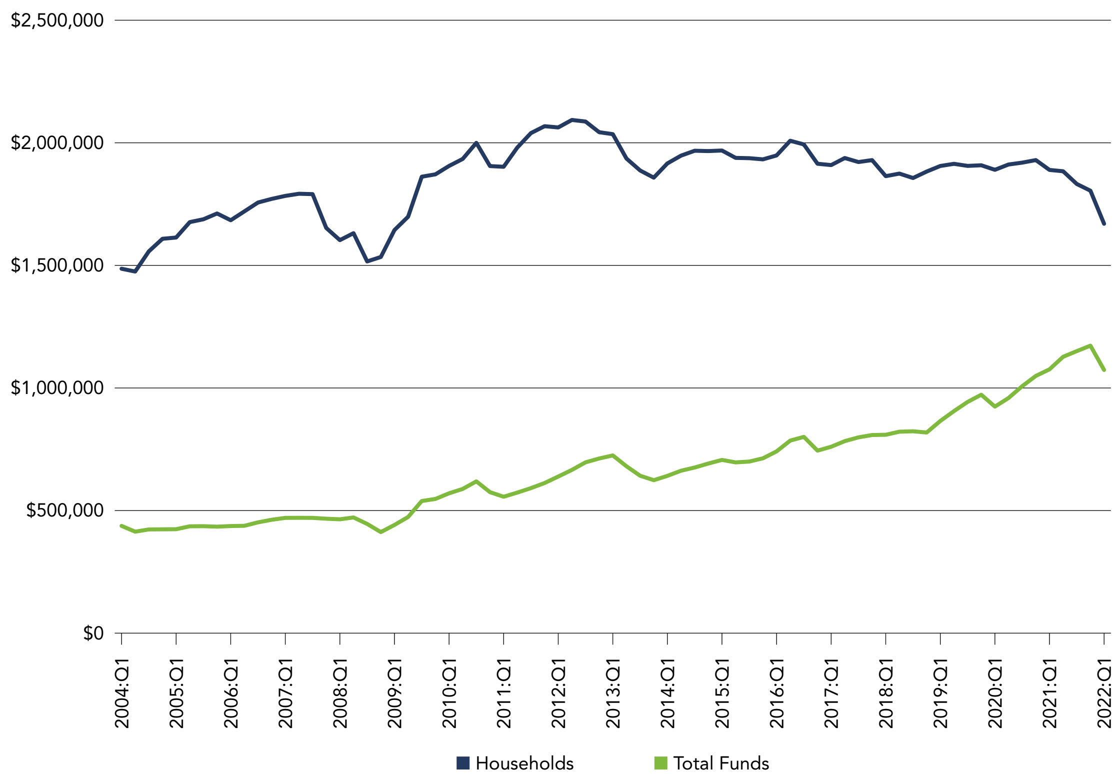
A sole focus on the stagnant growth, and declining share, of the household category may be a bit misleading, as many individual investors do not hold municipal securities directly and instead hold them through mutual funds, ETFs and CEFs, collectively described as funds in this report.[6]

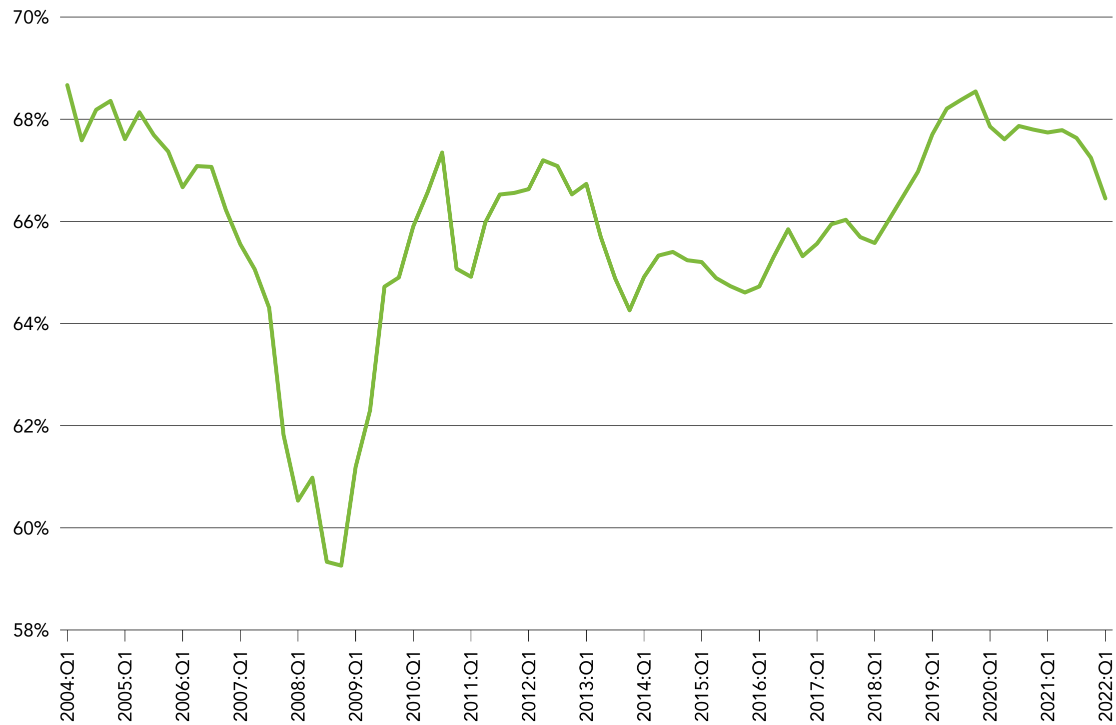
When evaluating individual ownership of municipal securities through a combination of households and funds, the data tells a much different story. Below charts show a sustained rebound in share of the market held by household and funds since the peak of the Global Financial Crisis. These categories of holders are now close to their market share peak in 2004, at slightly above 66% of the market.

Figure 6. Household and Fund Holdings ($ Millions)



[6] Mom and Pop Buying Fewer Muni Bonds Directly as ETFs Heat Up, Bloomberg, March 24, 2022.

Figure 7. Household and Fund Holdings (% of Total Market)



One important caveat to bear in mind when evaluating the household data in the Federal Reserve reporting is that it essentially serves as a catch-all for all ownership that is not measured through other holders. Because of this, there are other municipal market participants that may fall within households in the reporting, including, but not limited to, private equity funds, personal trusts and hedge funds. For example, the Federal Reserve does collect data on hedge funds' municipal securities holdings, which were most recently measured at $15.2 billion in Q3 of 2021, or 0.8% of the household category.[7]

Another important investment product that would fall under households in the Federal Reserve's measurement is separately managed accounts (SMAs). A growing part of the municipal securities market, SMA-designated accounts offer individualized investment management for investors that contrasts with the standardized mutual fund and ETF options. It is estimated that SMA holdings reached $776 billion by Q2 of 2021, nearly tripling in one decade.[8] If accurate, this would mean that SMAs comprise over 46% of direct household ownership, as measured by the Federal Reserve, and roughly 19% of the total market.

7 Financial Accounts of the United States, Board of Governors of the Federal Reserve System, June 9, 2022.

8 "The Rise of Municipal Separately Managed Accounts—2021 Update," Cumberland Advisors, November 2, 2021.

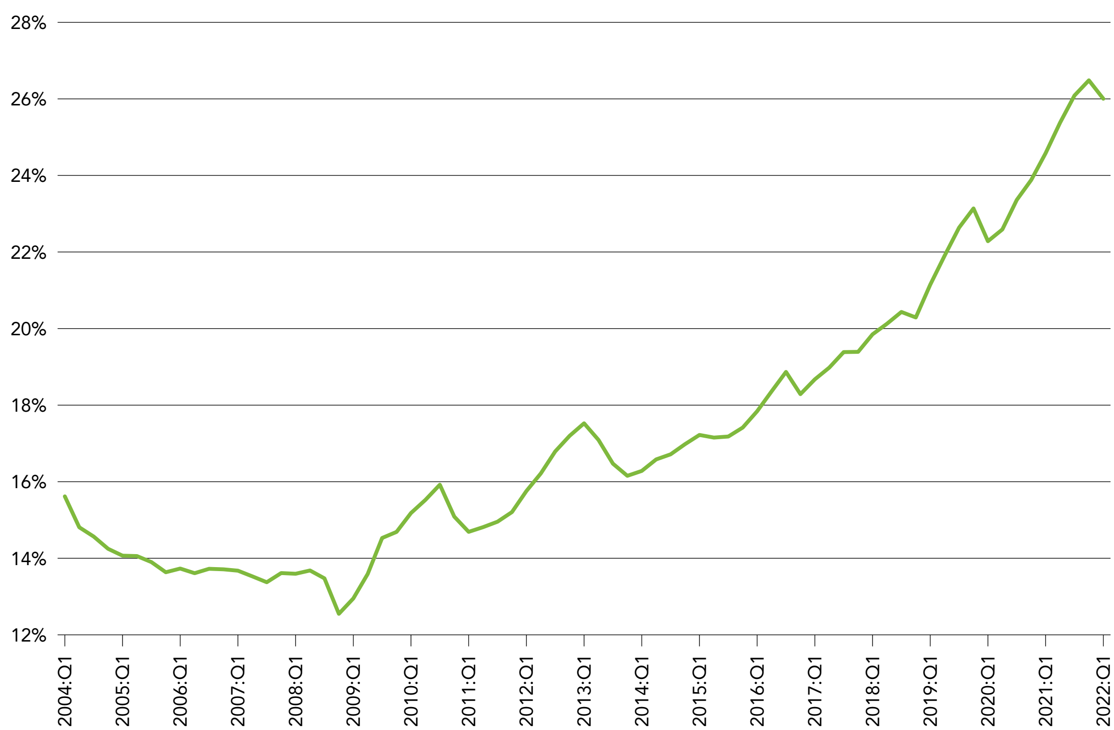
Mutual Funds, ETFs, CEFs

Fund holdings of municipal securities (including mutual funds, ETFs and CEFs) have increased by 145% since 2004, with $438 billion at the beginning of 2004 and $1.1 trillion at the end of Q1 of 2022. During this period, funds have grown from 16% of the total market to 26%. This growth stems entirely from mutual funds and ETFs, which have increased their share of the market from 12% to 22% and 0% to 2%, respectively.[9]

CEF holdings have remained steady, slightly shrinking from $95 billion in 2004 to $90 billion in 2022. The stagnancy of CEFs may be explained by the CEF structure, which leads these funds to react very negatively during times of market uncertainty or panic. Unlike ETFs, which can create or remove shares based on market demand, CEFs have a set number of shares and often see market prices lose value faster than the net asset value (NAV) during market disruption.[10] CEF holdings fell 28% from the beginning of 2007 through the end of 2008, dropping from $95 billion to $67 billion.

The average quarterly increase in municipal securities held by funds has steadily risen, from $6 billion quarterly from 2004 through 2016, to $16 billion quarterly over the past five years from 2017 through Q1 of 2022. With the exception of Q1 of 2020 and Q1 of 2022, funds have seen positive growth each quarter since 2019, averaging $20 billion quarterly.

Figure 8. Fund Holdings (% of Total Market)



9 Tracking of ETF assets in the Federal Reserve Financial Accounts report began in Q1 of 2008.

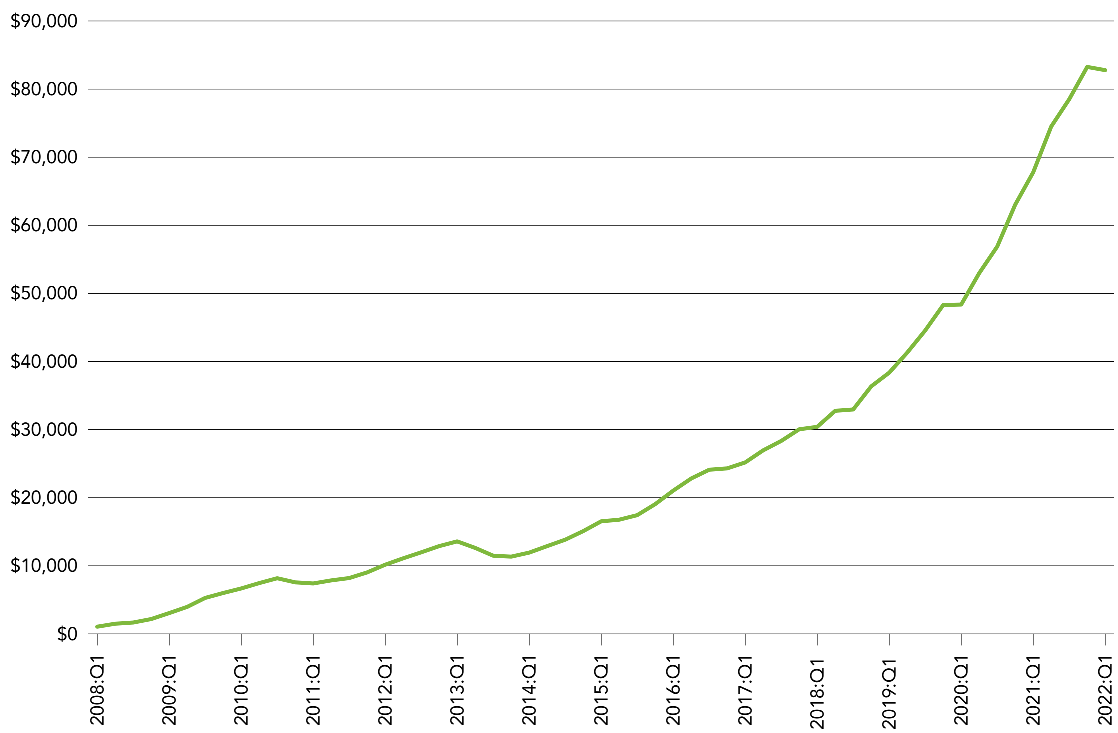
10 Closed-End Funds Dive in Down Markets, TheStreet, October 8, 2008.

As mentioned previously, some of the growth of funds over the past two decades may be attributed to shifting individual investor product preferences, with many individual investors now opting to own municipal securities through funds rather than directly. Some possible factors for this shift to individual investor fund ownership include, but are not limited to, the prevailing low interest rate environment, the proliferation of municipal bond ETFs, a desire to leverage professional management services including credit research and the growing appeal of SMAs.

Exchange-Traded Funds

Though measured under the general fund family in the previous section, it is important to dedicate some additional insights to the rapid growth of ETFs, one of the newer holding categories in the Federal Reserve data. Since measurement began in 2008, ETFs have seen positive quarterly growth in 50 of the past 56 quarters, with positive quarterly gains for eight straight years. ETF holdings of municipal securities have grown by 7,687% since 2008 and show little sign of slowing. Holdings have doubled since Q2 of 2019, and the seven largest quarters by growth have been in the last eight quarters.

Figure 9. ETF Holdings ($ Millions)



While ETFs still constitute a small percentage of the total market, roughly 2%, the pace of market share growth is accelerating. After averaging a market share gain of 0.03% per quarter from Q1 of 2008 through Q3 of 2020, ETF holdings have now gained more than 0.1% of market share in each of the past six quarters. Should that pace continue, ETFs may surpass CEFs in mid-2022 and may surpass foreign holdings soon thereafter. ETFs have now gained market share for 33 straight quarters, from Q3 of 2013 through Q1 of 2022. No other

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holding class has seen this many consecutive quarterly market share gains since property-casualty insurers' 42 consecutive quarters of gains from 1952 through 1963.

Figure 10. ETF Market Share Gains by Quarter

The growth of ETFs in the municipal market has been significant and noteworthy over the past 14 years. There have only been five other periods with growth this fast in the history of municipal market holdings—the growth of pension fund holdings from 1992 to 2004, the first 14 years of measured mutual fund holdings, the first 14 years of measured money market fund holdings and the first 14 years of measured CEF holdings. In fact, over the last 14 years, there has only been one year in which the growth rate of ETF holdings was under 17%, which was the -12% drop during the 2013 "Taper Tantrum."[11]

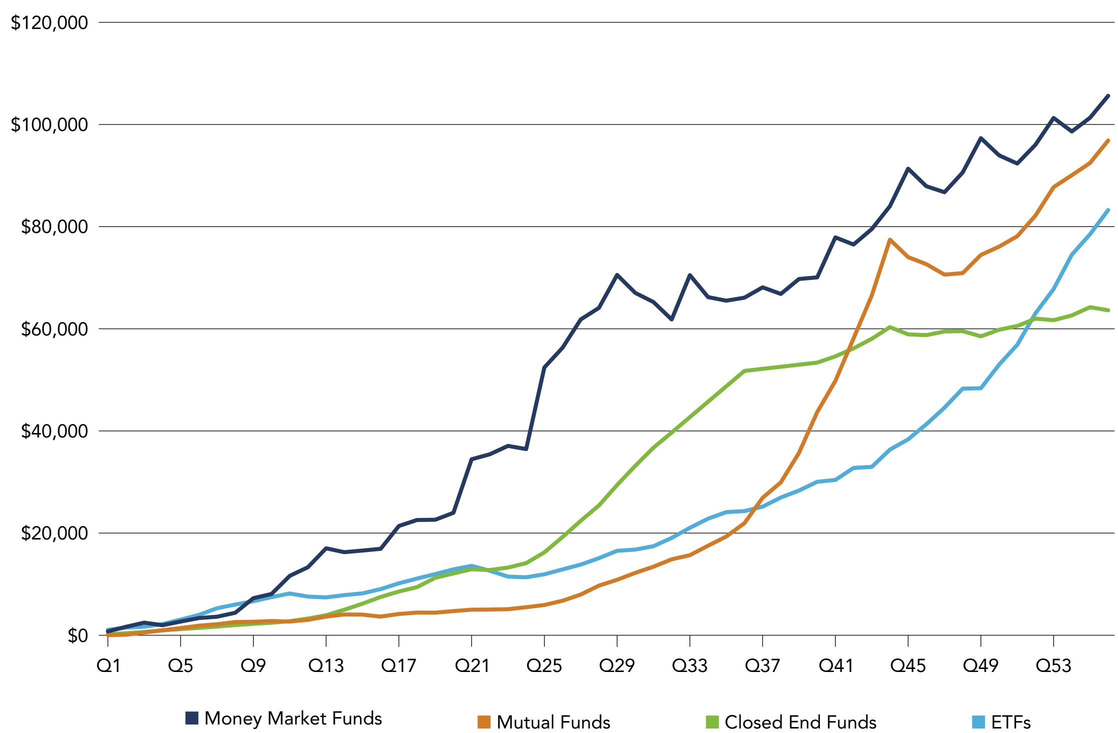
[11] The "Taper Tantrum" was a large increase in yields from June 2013 through the end of December 2013 following the Federal Reserve's announcement that they would taper purchases of Treasuries and mortgage-backed securities.

Figure 11. Fastest Holdings Growth (14-Year Span)

Holder	Average Quarterly Growth (%)	Timeframe
Mutual funds	+24.4%	1976–1990
State and local government employee defined benefit retirement funds	+17.0%	1990–2004
Closed-end funds	+12.0%	1985–1998
Money market funds	+11.0%	1980–1993
Exchange-traded funds	+8.7%	2008–2021

That said, while the growth of ETF holdings has exploded over its first 14 years, it is still less than other fund categories' growth upon introduction of the sector into Federal Reserve tracking. The chart below shows the growth for the first 14 years of municipal securities holdings for the different fund classes (mutual funds, CEFs, money market funds and ETFs).

Figure 12. Fund Holdings Growth—First 14 Years After Introduction ($ Millions)[12]



12 The figures in this chart are not adjusted for inflation.

U.S.-Chartered Depository Institutions

U.S.-chartered depository institutions, or the U.S. banking sector, has historically been a major holding class in the municipal market, growing as high as 13.8% of the market in Q4 of 2017. While this report is focused on 2004-onward, the banking sector had an even more prominent role in the past, once accounting for over half, almost 52%, of the municipal market in 1972.

Growth in municipal bond holdings by the banking sector had a strong run post-Global Financial Crisis. From Q4 of 2008 through Q4 of 2017, the banking sector saw 33 consecutive quarters of municipal bond holding gains, averaging $10.5 billion per quarter. Between Q3 of 2010 and Q4 of 2016, banks gained 7.3% in share of the total market.

However, banks saw a significant reduction in holdings from Q1 of 2018 through Q3 of 2019, seeing seven consecutive quarters of declines, averaging $14 billion per quarter. Since that point, banks have resumed increasing their holdings, approaching the recent high-water mark set in 2017. Overall, banks have seen the second greatest increase in municipal market holdings since 2004 at $470 billion. The sector lags only mutual funds, which have increased their municipal holdings by $563 billion during the same time period.

When evaluating the post-Global Financial Crisis growth, factors that may have initially fueled this trend include the relaxed tax rules associated with the 2009 American Recovery and Reinvestment Act (ARRA). ARRA provided a safe harbor for banks, allowing them to deduct 80% of the interest costs on tax-exempt bonds issued in 2009 and 2010, given certain limits. Previously, banks could only deduct interest attributable to bank-qualified bonds.

The sharp downward trend in bank municipal securities holdings beginning in 2018 corresponds to the implementation of the Tax Cuts and Jobs Act (TCJA) of 2017, which reduced the corporate tax rate to 21% from 35%. This reduction likely contributed to a reduced appetite for municipal bonds by banks. The reduction in the effective corporate tax rate resulted in increased after-tax yields on taxable securities, thereby reducing the value of the tax exemption and the desire for banks to hold tax-exempt municipal bonds compared to other taxable fixed-income securities, such as corporate bonds.

At the onset of the COVID-19 pandemic in 2020, however, while mutual fund holdings declined by $45 billion and household holdings by $19 billion, banks actually increased their holdings by $24 billion, providing access to capital to issuers during a period of great uncertainty.

Insurance Companies

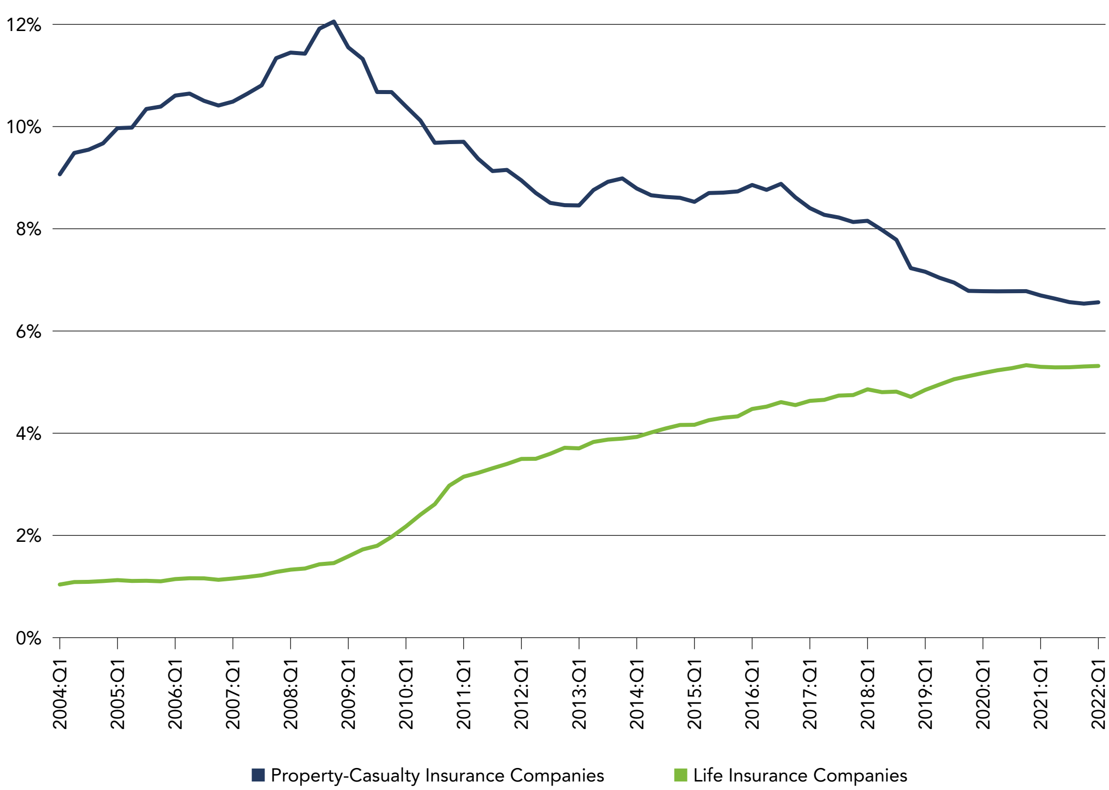
Insurance companies' unique business model makes the municipal market an appealing capital market. According to the U.S. Chamber of Commerce, insurers hold "longer-term positions than other investors. As a result, insurance companies are able to hold positions in illiquid investments and capture a "liquidity premium"—ensuring investment in longer-term, positive-return projects."[13] These investment criteria are a clear fit for municipal securities, and as such, insurance companies play a prominent institutional investor role in the market,

[13] The Role of Insurance Investments in the US Economy, U.S. Chamber of Commerce, March 2019.

annually accounting for at least 10% of the market dating back to 1949. However, insurance companies do not act as a monolith, and it's important to differentiate the roles that property-casualty insurers and life insurers play in the municipal market.

Life insurance companies, which provide risk protection for premature death of a policy holder, typically have long investment horizons and are willing to invest in traditionally illiquid, low-risk asset classes. Property and casualty (P&C) insurance companies, on the other hand, typically insure a wide range of other products, such as car insurance, renters' insurance and more. According to the U.S. Chamber of Commerce, "P&C companies' ability to take advantage of tax-exempt assets has led to a higher allocation to municipal securities. The tax-exempt nature of municipal bonds provides financial benefits for P&C companies, for example, the reduced (or exempt) tax obligation on interest generated means that P&C companies have lower tax bills and can worry less about managing their income stream to manage the potential tax obligations."

Figure 13. Insurance Holdings (% of Total Market)



Historically, P&C insurance has played a larger role in the municipal market, rising as high as $397 billion in 2009. That, however, has changed more recently as life insurers have seen positive inflows for 59 of the last 72 quarters. In fact, from 2007 through 2012, life insurers saw 24 consecutive quarters, or six straight years, of positive growth. Since 2004, life insurers have grown from 1.0% of the market to 5.3% in Q1 of 2022. Of all tracked holding classes, this represents the third-fastest growing segment of the market during the 18-year time frame, behind only mutual funds and banks. P&C insurers, on the other hand, have steadily declined since the 2009 high. From Q1 of 2010 through Q4 of 2021, P&C insurers have seen municipal bond holdings decline by an average of $2.6 billion per quarter, or $10.4 billion annually.

One of the recent reasons for this decline may be the 2017 TCJA. When the TCJA dropped the corporate tax rate from 35% to 21%, that likely had more of an impact on P&C municipal bond demand than that of life insurers. In general, P&C insurers are indifferent between investment-grade corporate securities and investment-grade municipal securities, focusing instead on after-tax yield. With lower corporate rates, the tax-shelter advantage of municipal holdings declines. Changes to proration rules also impacted P&C and life insurers investment strategies in different ways, with formula alterations impacting the relative attractiveness of tax-exempt municipal securities to life insurers.[14]

Since the TCJA went into effect in January 2018, P&C insurance companies have lost an average of $4 billion per quarter. Much of this decline happened in 2018, during which P&C insurers' holdings of municipal bonds fell by $47 billion.

Foreign Holdings

Municipal securities held by foreign entities has seen a strong run since 2004, both in terms of holdings and in terms of share of the total market. From 2004 to Q1 of 2022, holdings by foreign entities increased 367%, rising from $21.8 billion to $101.7 billion. Thirty-four of the past 39 quarters have resulted in positive growth in foreign-held municipal securities.

Since 2004, foreign holders have grown from less than 1% of the market to 2.5%, during this time surpassing the holdings of dealers, CEFs, and, at times, money market funds.

Foreign interest in municipal securities is typically correlated to the availability of taxable securities, as these entities are unable to take advantage of any tax exemption, and thus, are less likely to pay the associated premium. Foreign holdings began to increase during the implementation of the Build America Bonds (BAB) program and continue to do so.[15] During the BAB program's life, foreign holdings increased 40%, from $51 billion to $72 billion.

In 2020, taxable issuance reached close to the levels of the BAB program, totaling $138 billion. This surge in taxable new issuance volume was partly driven by a change in the 2018 TCJA which eliminated issuer's ability to advance refund outstanding debt with tax-exempt bonds. This change, coupled with historically low rates, enabled issuers to advance refund tax-exempt debt with taxable debt and still realize significant savings. Many issuers also issued new taxable municipal debt because of the historically low rates. Sixty-two percent of taxable municipal issuance was refunding in 2020, compared to just 2% in 2010.[16]

[14] How Tax Reform May Affect Insurers' Investment Strategies, Crowe.

[15] Build America Bonds were direct-pay bonds, which pay taxable interest to investors, but the issuer is subsidized directly through a payment from the U.S. Treasury that offsets a portion of the interest the issuer pays to the investors, thereby lowering the issuer's borrowing costs. From the inception of the program in April 2009 to its expiration on December 31, 2010, 2,275 BABs were issued, providing more than $181 billion of financing for new public capital infrastructure projects. *See* MSRB Notice 2009-15.

[16] Overview of the Taxable Municipal Bond Market, Municipal Securities Rulemaking Board, August 2021.

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From Q1 of 2020 through Q2 of 2021, foreign investors added $6.9 billion to their municipal securities holdings. Over the past three quarters, however, foreign holdings have declined by $9 billion, keeping foreign holdings as a share of the total market even around 2.5%.

Foreign investor interest in, and exposure to, the municipal market may continue to wane in 2022, as the Federal Reserve raises interest rates and normalizes its monetary policy. As mentioned, taxable new issuances have allowed municipalities to refund outstanding tax-exempt debt, and during the COVID-19 pandemic, generate up-front savings to plug budget gaps. However, this strategy is generally more appealing in a declining interest rate environment, as rising interest rates reduce the chances for cost savings from refinancing old debt. As such, we expect that the supply of taxable securities available for foreign investors will decline in the current market.

Money Market Funds

Many of the holding classes covered thus far have either increased their share of the municipal market over the past 17 years, or at least mostly retained their share. Some of the gains in these classes' municipal market share can be attributed to the massive decline in holdings of money market funds, a classification of mutual funds that are invested in securities that are liquid, have short-term effective maturities and are viewed as having minimal credit risks. Tax-exempt money market funds were developed as an option for investors to purchase a pool of securities that generally provided higher returns than interest-bearing bank accounts, as well as exemption from certain income taxes.[17]

Holdings of municipal securities by money market funds hit their all-time high during Q4 of 2008 when they reached $519 billion, or 15% of the total market. The period of 2005 through 2008 saw massive inflows from money market funds, totaling $187 billion or an average of $47 billion per year. This was by far the highest level of inflows for any holding class during the four-year period, with the second-strongest inflows coming from P&C insurers at $108 billion.

Beginning in 2009, this trend reversed. During 12 of the past 13 years, money market funds have seen net losses of an average of $31 billion per year, totaling $399 billion. From 15.6% of the market in 2008, money market funds now account for just 2.5% of the municipal securities market.

This trend has begun to reverse in Q4 of 2021 and Q1 of 2022, with money market funds' share growing by over $7 billion during this period. According to ICI data, while mutual fund outflows have intensified during 2022, shedding $78 billion between the weeks of January 5 and June 15,[18] money market funds have seen net inflows, increasing their holdings by $16 billion during the same time frame.[19]

17 Money Market Funds, U.S. Securities and Exchange Commission.

18 Long-Term Mutual Fund Net New Cash Flow, Investment Company Institute.

19 Weekly Total Net Assets (TNA) and Number of Money Market Mutual Funds, Investment Company Institute.

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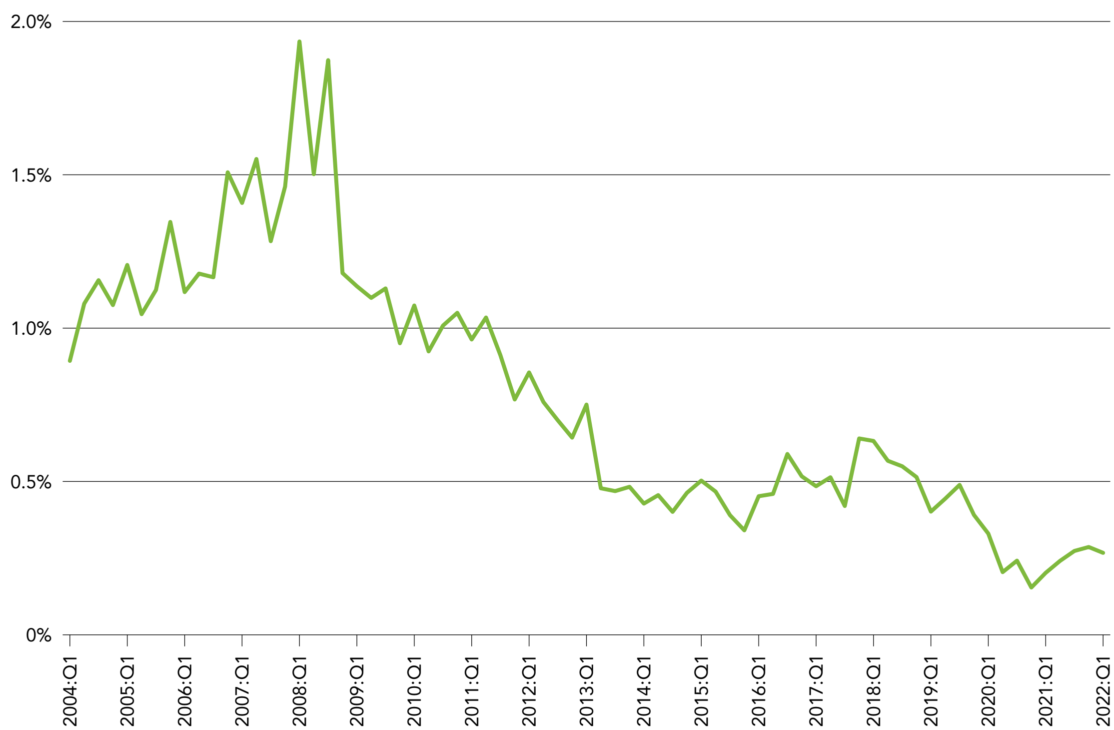
Broker Dealers

Dealer inventories have seen sustained declines since the Global Financial Crisis, both in dollar terms and as a percentage of the total municipal market. After peaking at $66 billion in Q1 of 2008, constituting 1.9% of the market, dealer holdings have steadily declined, reaching their lowest point at $6.8 billion in Q4 of 2020. This is a substantial drop from their 2008 high, a 90% decline. Possible reasons for this decline include, but are not limited to, regulation around capital, the inability to hedge and lower trading volumes. The most recent Federal Reserve data shows a slight rebound from the 2020 lows, with dealer inventories currently at $11 billion.

Figure 14. Dealer Holdings (% of Market)



2022 Flows

As mentioned previously, the Federal Reserve data used in this report tracks through the end of Q1 of 2022. It is important to note that 2022 has been an eventful year for the municipal market, with mutual fund outflows intensifying and yields dramatically increasing, even into Q2 of 2022. According to the Investment Company Institute (ICI), municipal bond mutual funds have seen outflows of $84 billion in the weeks between January 19 and June 15, which would constitute the most sustained outflows for municipal bond mutual funds since

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2013, when they saw 33 straight weeks of outflows totaling $66 billion.[20] Conversely, the trend of increased inflows for ETFs has continued into 2022. According to the ICI, in the weeks between January 5 and June 15, ETF net issuance has totaled over $12 billion. The five weeks between April 27 and May 25 represent the five largest net issuance weeks for municipal bond ETFs on record, averaging $1.4 billion per week.[21]

Conclusion

Federal Reserve data indicates that individual ownership of municipal securities has shifted in recent years, as direct ownership of municipal securities has declined while ownership through funds has steadily risen. While direct ownership of municipal securities remains the plurality of the market at 40%, it has fallen steadily from 54% of the market in 2004, having stood at 46% as recently as 2020. Meanwhile, fund holdings (including mutual funds, ETFs, and CEFs) have increased by 145% since 2004, from $438 billion, or 16% of the total market, at the beginning of 2004 to $1.1 trillion, or 26% of the market, at the end of Q1 of 2022.

Regarding other prominent municipal bond holders, market dynamics, such as the corporate tax rate set by the TCJA, tax code changes related to proration, the prevailing interest rate environment, taxable security supply and more, continue to drive firms' investment strategies. In recent years, banks, life insurers and foreign investors have increased holdings whereas money market funds and P&C insurers have decreased their holdings.

[20] Long-Term Mutual Fund Net New Cash Flow, ICI.

[21] Exchange-Traded Fund (ETF) Net Issuance, ICI.

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