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Statistics

2024 Capital Markets Fact Book

July 2024

The SIFMA Research Capital Markets Fact Book provides a comprehensive look at U.S. capital markets, as well as a look into global markets. Inside this report, we recap:

- **Global Capital Markets:** Equity and fixed income markets (market capitalization, outstanding, issuance, trading volumes, market performance); investment banking landscape; international securities transactions; etc.
- **U.S. Capital Markets:** Equity, fixed income, derivatives and private placement markets (outstanding, issuance, volumes, index prices); investment banking landscape; mutual fund and ETF statistics; etc.
- **U.S. Investor Participation:** Household liquid financial asset breakout; household equity ownership; and holders of equities
- **U.S. Savings & Investment:** Retirement asset breakout and mix across asset classes; savings rates and other economic indicators; and federal balance sheet overview
- **U.S. Securities Industry:** Number of broker-dealers, registered representatives, registered investment advisors, and branch offices; industry financial overview; and state maps showing number firms/ reps

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Executive Summary

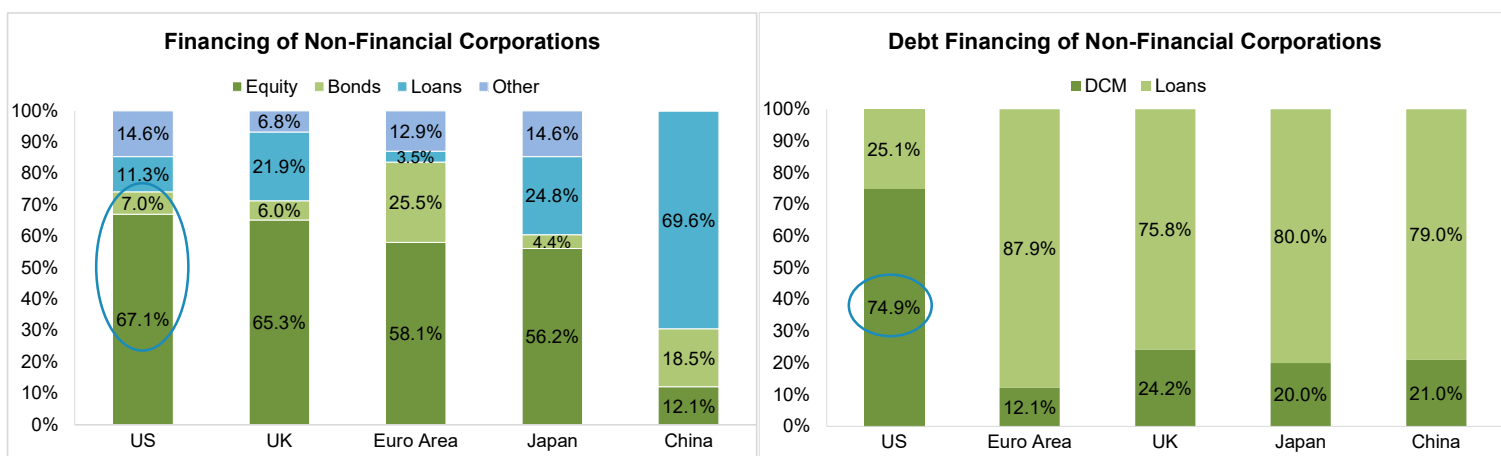
Capital is critical to corporations for running day-to-day business operations or for various business purposes. For instance, earlier stage companies need additional capital to grow to the next stage in the business life cycle. Or companies may need capital to expand organically or via acquisition, whether it be for product or regional diversification. Individuals or companies – whether at the startup level or an established firm – need capital to turn ideas into usable innovations and often new, sustainable enterprises. Governments need capital to operate their country, state, or city, as well as invest in infrastructure projects such as bridges, roadways, or schools. Therefore, capital is an integral component supporting job creation, economic development, and prosperity, and plays a crucial role in a country’s economy.

Capital markets facilitate the transfer of capital from those seeking a return (investors) to those who need capital to grow their enterprises (issuers). Capital markets, put simply, are the way we connect providers of capital with users of capital. These relationships are facilitated by financial institution intermediaries, which play a critical role in making capital markets work. Efficient capital markets allow capital users to receive lower cost funding over time while allowing investors to identify appropriate opportunities to deploy their capital.

Capital Markets Fuel Economies

Firms have several ways they can acquire capital. Outside of generating cash from operations, firms can go to either the capital markets or loan markets. With capital markets, debt issuance is a more efficient and less restrictive form of borrowing for corporations than typical loan transactions. Capital markets typically function as shock absorbers during times of economic or market stress – whereas bank lending can dry up under strain – making capital markets a more stable source of funding. On the equities side, a commonly used capital markets vehicle is an initial public offering (IPO), during which a private company raises capital by offering its common stock (equity) to the public for the first time.

In the U.S., capital markets fuel the economy, providing 74.1% of equity and debt financing for non-financial corporations. Debt capital markets are more dominant in the U.S. at 74.9% of total financing, whereas bank lending is more dominant in other regions, at 80.7% on average.



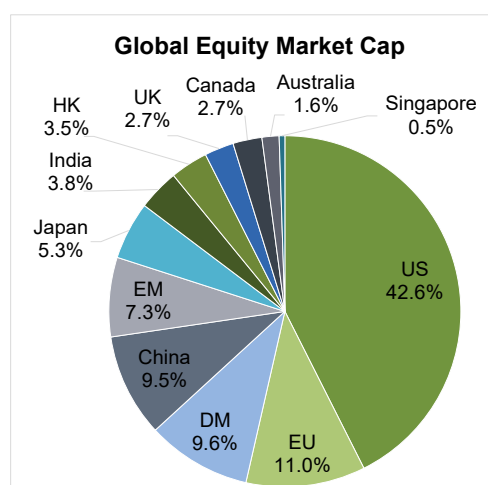
Source: OECD, Federal Reserve, ECB, Bank of Japan, National Bureau of Statistics of China, SIFMA estimates (2023, China 2021)

Note: Euro Area = 20 EU-member states using the Euro. Other financing, ex-China = insurance reserves, trade credits and trade advances; other financing, China = bankers' acceptances, FDI, other foreign A/D, misc. and errors; DCM = debt capital markets, corporate bonds only, loans (US) = bank loans only

US Capital Markets Are the Largest in the World

The U.S. capital markets are the largest in the world and continue to be among the deepest, most liquid, and most efficient.

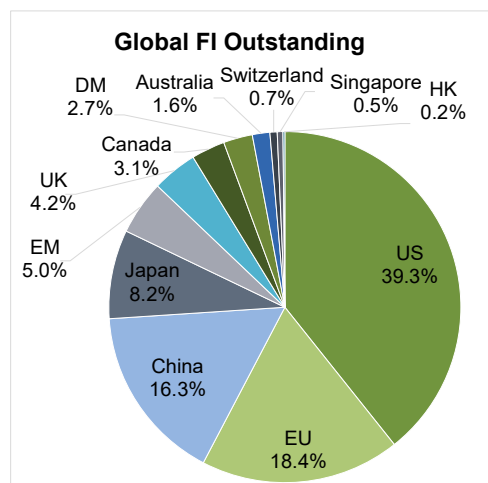
Equities: U.S. equity markets represent 42.6% of the \$115.0 trillion in global equity market cap, or \$49.0 trillion; this is 3.9x the next largest market, the EU.



Source: World Federation of Exchanges, SIFMA estimates

Note: As of FY23. Market capitalization of listed domestic companies. DM = developed markets, EM = emerging markets, DM/EM exclude countries listed in the chart. HK = Hong Kong

Fixed Income: U.S. fixed income markets comprise 39.3% of the \$140.7 trillion securities outstanding across the globe, or \$55.3 trillion; this is 2.1x the next largest market, the EU.



Source: Bank of International Settlements (BIS), SIFMA estimates

Note: As of FY23. DM = developed markets, EM = emerging markets, DM/EM exclude countries listed in the chart. HK = Hong Kong

Highlights: Global Capital Markets

Global fixed income markets outstanding increased 5.9% Y/Y to \$140.7 trillion in 2023, while global long-term fixed income issuance decreased 0.1% to \$25.2 trillion.

Global equity market capitalization increased 13.4% Y/Y to \$115.0 trillion in 2023, as global equity issuance increased to \$422.2 billion, +3.3% Y/Y.

U.S. gross activity (purchases and sales) in foreign securities decreased to \$25.1 trillion in 2023, -52.9% Y/Y, while foreign gross activity in U.S. securities declined to \$100.6 trillion, -18.3% Y/Y in 2023.

Highlights: US Capital Markets

In 2023, long-term fixed income issuance declined 6.9% Y/Y to \$8.3 trillion. U.S. Treasury securities (UST) issuance was \$3.5 trillion, -8.1% Y/Y. Mortgage-backed securities (MBS) issuance decreased 38.9% Y/Y to \$1.3 trillion, while corporate bond issuance increased 5.6% Y/Y to \$1.4 trillion. Federal agency securities increased 58.0% Y/Y to \$1.3 trillion. Municipal bond (munis) issuance decreased 1.6% Y/Y to \$385.1 billion, and asset-backed securities (ABS) issuance decreased 10.7% Y/Y to \$270.5 billion.

Total equity issuance (excluding SPACs) was \$139.1 billion in 2023, +39.9% Y/Y.¹ Initial public offering (IPO) deal value was \$20.2 billion, +136.1% Y/Y. Secondary offerings, or follow-ons, totaled \$107.1 billion, +36.4% Y/Y. Announced U.S. merger and acquisition (M&A) deal value totaled \$1.5 trillion in 2023, -4.9% Y/Y, while the value of completed M&A deals decreased 16.2% Y/Y to \$1.4 trillion.

U.S. stock markets – in terms of index prices – continued to rise in 2023, closing 2023 at: (average prices)

- S&P 500 4,769.83, +24.2% Y/Y
- Nasdaq Composite 15,011.35, +43.4% Y/Y
- Dow Jones Industrial Average (DJIA) 37,689.54, +13.7% Y/Y
- Russell 2000 2,027.07, +15.1% Y/Y

The average daily trading volume for equities in 2023 was 11.0 billion shares, -7.1% Y/Y.

¹ Excludes BDCs, SPACs, ETFs, CLEFs, and rights issues

Highlights: US Investor Participation

According to the latest Federal Reserve survey, 58.0% of households own equities, +5.3 pps from the prior survey². In 2023, the value of U.S households' liquid financial assets increased 13.3% Y/Y to \$66.4 trillion. The breakout of liquid financial assets held by U.S. households was:

- Equities 47.6%
- Mutual funds 16.5%
- Bonds (UST, agency, munis, and corporates) 8.6%
- Money market funds 6.0%
- Deposits (bank deposits and CDs) 21.3%

Highlights: Savings & Investment

The total value of U.S. retirement assets increased 9.0% Y/Y to \$44.8 trillion in 2023. Total private pension assets (defined benefit and contribution plans) were \$12.9 trillion, +10.3% Y/Y, and assets held in individual retirement accounts (IRAs) increased 13.4% Y/Y to \$13.6 trillion. The breakout of total U.S. retirement assets was:

- IRAs 30.3%
- Private pensions 28.9%
- Annuities 9.3%
- Government pension assets (federal, state, and local) 31.5%

Highlights: US Securities Industry

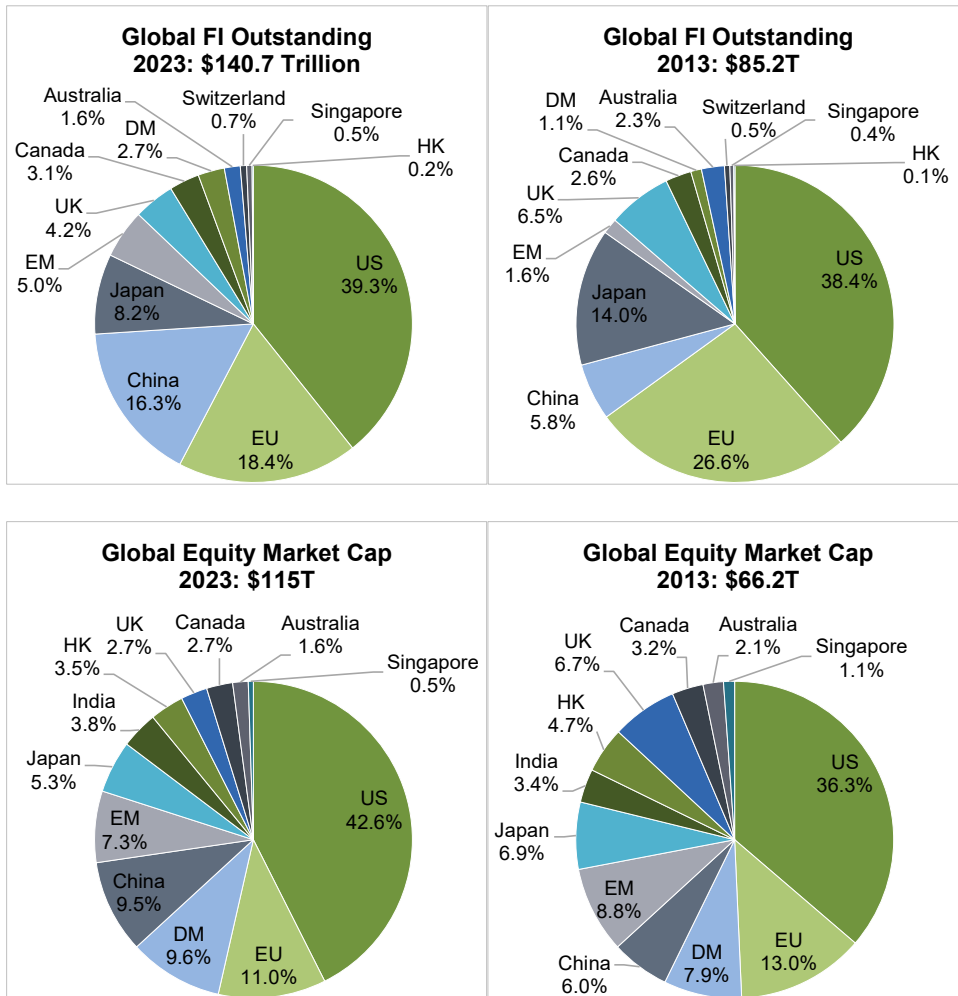
The number of FINRA registered broker-dealers decreased 2.4% Y/Y to 3,298 in 2023. Gross revenues for FINRA registered broker-dealers totaled \$605.8 billion, +43.8% Y/Y, while total expenses increased 47.6% Y/Y to \$552.1 billion. As such, pre-tax net income was \$53.7 billion in 2021, +13.5% Y/Y.

National securities industry employment reached 1,120,000 jobs in 2023, +3.1% Y/Y.

² Includes direct and indirect holdings; as of 2022, as this survey occurs every three years (prior survey 2019).

Section I: Global Capital Markets

Global Fixed Income Markets Outstanding and Global Equity Market Capitalization – Charts



Source: Bank of International Settlements (BIS), World Federation of Exchanges

Note: Market capitalization of listed domestic companies. DM = developed markets, EM = emerging markets, HK = Hong Kong. DM/EM exclude countries listed in the chart

Global Fixed Income Markets Outstanding – Value

(\$B)	Australia	Canada	China	EU	HK	Japan	Singapore	Switzerland	UK	US	DM	EM	Total
2009	1,661.1	1,671.6	2,577.9	22,066.4	71.0	12,268.5	185.0	380.7	5,122.8	28,589.1	717.4	1,015.0	76,326.4
2010	1,884.7	1,866.6	3,065.3	21,256.7	88.6	14,604.1	219.0	511.7	5,012.3	29,676.4	790.1	1,222.2	80,197.7
2011	2,007.3	1,963.4	3,528.4	21,411.4	92.0	15,809.1	240.9	417.4	5,350.9	30,448.3	802.5	1,233.2	83,304.9
2012	2,170.0	2,173.5	4,294.1	22,084.3	94.9	14,247.6	294.8	430.2	5,657.8	31,696.5	931.1	1,405.2	85,479.9
2013	1,979.9	2,241.9	4,960.8	22,662.6	109.9	11,900.3	331.4	461.8	5,555.1	32,729.7	948.4	1,343.3	85,225.0
2014	1,995.9	2,206.1	5,835.4	20,007.2	110.7	10,547.4	349.3	428.9	5,845.7	33,772.7	879.9	1,397.9	83,377.1
2015	1,880.6	2,767.5	7,752.5	17,987.6	121.8	10,631.0	322.3	438.2	5,565.1	34,856.1	821.4	1,405.0	84,549.2
2016	1,868.3	2,943.5	9,408.8	17,539.1	139.4	11,241.1	326.4	447.6	5,142.2	36,069.4	879.7	1,526.1	87,531.6
2017	2,034.1	3,267.4	11,757.1	19,937.9	150.8	11,913.3	412.2	487.5	5,712.9	37,296.3	966.3	1,814.7	95,750.6
2018	1,918.1	3,151.0	12,906.9	19,449.4	152.4	12,459.5	441.1	516.9	5,434.6	38,793.1	3,136.4	5,133.7	103,493.2
2019	1,959.7	3,371.1	14,725.9	19,792.7	154.8	12,815.0	492.9	569.4	5,965.1	40,622.1	3,291.1	5,476.1	109,235.9
2020	2,501.4	3,914.4	18,555.6	24,608.2	154.8	14,669.4	542.8	675.1	5,355.2	46,620.3	3,805.5	5,515.2	126,917.7
2021	2,414.7	4,074.6	21,816.4	24,077.2	177.1	13,372.6	612.4	703.8	5,609.9	49,581.4	3,809.6	5,648.5	131,898.2
2022	2,293.1	4,085.8	21,660.0	23,622.7	193.6	12,054.4	656.6	810.4	5,269.5	52,169.2	3,754.7	6,215.5	132,785.3
2023	2,258.6	4,317.9	22,913.5	25,829.7	217.1	11,495.7	751.9	921.2	5,841.0	55,298.8	3,794.6	7,035.2	140,675.2
Average	2,055.2	2,934.4	11,050.6	21,488.9	135.3	12,668.6	411.9		5,496.0	38,548.0	1,955.2	3,159.1	100,449.9
Y/Y Change	-1.5%	5.7%	5.8%	9.3%	12.2%	-4.6%	14.5%		10.8%	6.0%	1.1%	13.2%	5.9%
5Y CAGR	2.9%	5.1%	9.2%	5.5%	7.0%	-2.1%	8.8%		-0.4%	6.4%	2.9%	5.1%	5.2%
10Y CAGR	1.2%	6.9%	14.7%	2.6%	7.0%	0.9%	8.0%		0.0%	5.1%	15.7%	17.5%	5.4%

(Y/Y)	Australia	Canada	China	EU	HK	Japan	Singapore	Switzerland	UK	US	DM	EM	Total
2010	13.5%	11.7%	18.9%	-3.7%	24.7%	19.0%	18.4%	34.4%	-2.2%	3.8%	10.1%	20.4%	5.1%
2011	6.5%	5.2%	15.1%	0.7%	3.9%	8.3%	10.0%	-18.4%	6.8%	2.6%	1.6%	0.9%	3.9%
2012	8.1%	10.7%	21.7%	3.1%	3.2%	-9.9%	22.4%	3.1%	5.7%	4.1%	16.0%	13.9%	2.6%
2013	-8.8%	3.1%	15.5%	2.6%	15.8%	-16.5%	12.4%	7.3%	-1.8%	3.3%	1.9%	-4.4%	-0.3%
2014	0.8%	-1.6%	17.6%	-11.7%	0.7%	-11.4%	5.4%	-7.1%	5.2%	3.2%	-7.2%	4.1%	-2.2%
2015	-5.8%	25.4%	32.9%	-10.1%	10.1%	0.8%	-7.7%	2.2%	-4.8%	3.2%	-6.7%	0.5%	1.4%
2016	-0.7%	6.4%	21.4%	-2.5%	14.4%	5.7%	1.3%	2.1%	-7.6%	3.5%	7.1%	8.6%	3.5%
2017	8.9%	11.0%	25.0%	13.7%	8.1%	6.0%	26.3%	8.9%	11.1%	3.4%	9.8%	18.9%	9.4%
2018	-5.7%	-3.6%	9.8%	-2.5%	1.1%	4.6%	7.0%	6.0%	-4.9%	4.0%	224.6%	182.9%	8.1%
2019	2.2%	7.0%	14.1%	1.8%	1.6%	2.9%	11.7%	10.1%	9.8%	4.7%	4.9%	6.7%	5.5%
2020	27.6%	16.1%	26.0%	24.3%	0.0%	14.5%	10.1%	18.6%	-10.2%	14.8%	15.6%	0.7%	16.2%
2021	-3.5%	4.1%	17.6%	-2.2%	14.4%	-8.8%	12.8%	4.3%	4.8%	6.4%	0.1%	2.4%	3.9%
2022	-5.0%	0.3%	-0.7%	-1.9%	9.3%	-9.9%	7.2%	15.1%	-6.1%	5.2%	-1.4%	10.0%	0.7%
2023	-1.5%	5.7%	5.8%	9.3%	12.2%	-4.6%	14.5%	13.7%	10.8%	6.0%	1.1%	13.2%	5.9%

Source: Bank of International Settlements (BIS)

Note: EU = European Union, HK = Hong Kong, DM = developed markets, EM = emerging markets. DM/EM exclude countries listed in the chart

Global Fixed Income Markets Outstanding – Share of Total

(% Total)	Australia	Canada	China	EU	HK	Japan	Singapore	Switzerland	UK	US	DM	EM
2009	2.2%	2.2%	3.4%	28.9%	0.1%	16.1%	0.2%	0.5%	6.7%	37.5%	0.9%	1.3%
2010	2.4%	2.3%	3.8%	26.5%	0.1%	18.2%	0.3%	0.6%	6.2%	37.0%	1.0%	1.5%
2011	2.4%	2.4%	4.2%	25.7%	0.1%	19.0%	0.3%	0.5%	6.4%	36.6%	1.0%	1.5%
2012	2.5%	2.5%	5.0%	25.8%	0.1%	16.7%	0.3%	0.5%	6.6%	37.1%	1.1%	1.6%
2013	2.3%	2.6%	5.8%	26.6%	0.1%	14.0%	0.4%	0.5%	6.5%	38.4%	1.1%	1.6%
2014	2.4%	2.6%	7.0%	24.0%	0.1%	12.7%	0.4%	0.5%	7.0%	40.5%	1.1%	1.7%
2015	2.2%	3.3%	9.2%	21.3%	0.1%	12.6%	0.4%	0.5%	6.6%	41.2%	1.0%	1.7%
2016	2.1%	3.4%	10.7%	20.0%	0.2%	12.8%	0.4%	0.5%	5.9%	41.2%	1.0%	1.7%
2017	2.1%	3.4%	12.3%	20.8%	0.2%	12.4%	0.4%	0.5%	6.0%	39.0%	1.0%	1.9%
2018	1.9%	3.0%	12.5%	18.8%	0.1%	12.0%	0.4%	0.5%	5.3%	37.5%	3.0%	5.0%
2019	1.8%	3.1%	13.5%	18.1%	0.1%	11.7%	0.5%	0.5%	5.5%	37.2%	3.0%	5.0%
2020	2.0%	3.1%	14.6%	19.4%	0.1%	11.6%	0.4%	0.5%	4.2%	36.7%	3.0%	4.3%
2021	1.8%	3.1%	16.5%	18.3%	0.1%	10.1%	0.5%	0.5%	4.3%	37.6%	2.9%	4.3%
2022	1.7%	3.1%	16.3%	17.8%	0.1%	9.1%	0.5%	0.6%	4.0%	39.3%	2.8%	4.7%
2023	1.6%	3.1%	16.3%	18.4%	0.2%	8.2%	0.5%	0.7%	4.2%	39.3%	2.7%	5.0%
Average	2.1%	2.9%	10.1%	22.0%	0.1%	13.1%	0.4%	0.5%	5.7%	38.4%	1.8%	2.9%
Y/Y Change	-0.12%	-0.01%	0.0%	0.6%	0.0%	-0.9%	0.04%	0.04%	0.2%	0.0%	-0.1%	0.3%

Source: Bank of International Settlements (BIS)

Note: EU = European Union, HK = Hong Kong, DM = developed markets, EM = emerging markets. DM/EM exclude countries listed in the chart

Global Equity Market Capitalization – Value

(\$B)	Australia	Canada	China	EU	HK	India	Japan	Singapore	UK	US	DM	EM	Total
2009	1,261.9	1,676.8	3,573.2	7,664.0	2,305.1	2,531.6	3,444.4	481.2	2,796.4	15,077.3	3,567.2	4,673.5	49,052.7
2010	1,454.5	2,170.4	4,027.8	7,160.9	2,711.3	3,228.5	4,099.6	647.2	3,613.1	17,283.5	4,387.4	6,047.3	56,831.5
2011	1,198.2	1,912.1	3,412.1	5,962.0	2,258.0	1,992.5	3,540.8	598.3	3,266.4	15,640.7	3,798.9	6,009.1	49,589.1
2012	1,386.9	2,058.8	3,697.4	6,847.1	2,831.9	2,497.8	3,681.0	765.1	3,396.5	18,668.3	4,449.1	5,869.2	56,149.1
2013	1,366.0	2,113.8	3,949.1	8,611.6	3,100.8	2,251.8	4,543.2	744.4	4,429.0	24,034.9	5,240.3	5,825.5	66,210.3
2014	1,288.8	2,095.4	6,004.9	7,844.3	3,233.0	3,079.2	4,378.0	752.8	4,012.9	26,330.6	5,292.9	5,336.4	69,649.3
2015	1,187.2	1,593.5	8,188.0	7,580.0	3,184.9	3,001.3	4,894.9	640.0	3,878.8	25,067.5	5,107.2	4,251.6	68,575.0
2016	1,316.9	2,041.5	7,320.7	7,669.6	3,193.2	3,095.5	5,061.5	649.5	3,467.4	27,352.2	5,274.7	5,107.1	71,549.9
2017	1,508.6	2,367.1	8,711.3	9,787.6	4,350.5	4,683.0	6,222.8	787.3	4,455.4	32,120.7	6,436.3	6,236.7	87,667.2
2018	1,262.8	1,937.9	6,324.9	8,136.0	3,819.2	4,139.8	5,296.8	687.3	3,638.0	30,436.3	5,661.4	5,481.1	76,821.6
2019	1,487.6	2,409.1	8,569.5	9,733.6	4,899.2	2,162.7	6,191.1	697.3	4,182.9	34,085.7	8,505.5	6,657.1	89,581.4
2020	1,720.6	2,608.4	12,276.8	11,148.1	6,130.4	2,552.5	6,718.2	652.6	4,045.6	41,569.9	9,571.5	7,537.1	106,531.5
2021	1,887.4	3,302.8	14,437.4	13,811.0	5,434.2	3,548.0	6,544.3	663.4	3,799.5	48,548.5	10,965.0	7,854.9	120,796.5
2022	1,679.2	2,760.9	11,469.3	10,992.8	4,566.8	3,387.4	5,380.5	619.4	3,096.0	40,298.0	9,628.7	7,587.8	101,466.7
2023	1,788.7	3,088.4	10,935.8	12,621.9	3,974.8	4,340.1	6,149.2	608.3	3,096.0	48,979.4	11,051.3	8,390.8	115,024.8
Average	1,453.0	2,275.8	7,526.6	9,038.0	3,732.9	3,099.5	5,076.4	666.3	3,678.3	29,699.6	6,595.8	6,191.0	79,033.1
Y/Y Change	6.5%	11.9%	-4.7%	14.8%	-13.0%	28.1%	14.3%	-1.8%	0.0%	21.5%	14.8%	10.6%	13.4%
5Y CAGR	7.2%	9.8%	11.6%	9.2%	0.8%	0.9%	3.0%	-2.4%	-3.2%	10.0%	14.3%	8.9%	8.4%
10Y CAGR	2.7%	3.9%	10.7%	3.9%	2.5%	6.8%	3.1%	-2.0%	-3.5%	7.4%	7.7%	3.7%	5.7%
(Y/Y)	Australia	Canada	China	EU	HK	India	Japan	Singapore	UK	US	DM	EM	Total
2010	15.3%	29.4%	12.7%	-6.6%	17.6%	27.5%	19.0%	34.5%	29.2%	14.6%	23.0%	29.4%	15.9%
2011	-17.6%	-11.9%	-15.3%	-16.7%	-16.7%	-38.3%	-13.6%	-7.6%	-9.6%	-9.5%	-13.4%	-0.6%	-12.7%
2012	15.7%	7.7%	8.4%	14.8%	25.4%	25.4%	4.0%	27.9%	4.0%	19.4%	17.1%	-2.3%	13.2%
2013	-1.5%	2.7%	6.8%	25.8%	9.5%	-9.9%	23.4%	-2.7%	30.4%	28.7%	17.8%	-0.7%	17.9%
2014	-5.7%	-0.9%	52.1%	-8.9%	4.3%	36.7%	-3.6%	1.1%	-9.4%	9.6%	1.0%	-8.4%	5.2%
2015	-7.9%	-24.0%	36.4%	-3.4%	-1.5%	-2.5%	11.8%	-15.0%	-3.3%	-4.8%	-3.5%	-20.3%	-1.5%
2016	10.9%	28.1%	-10.6%	1.2%	0.3%	3.1%	3.4%	1.5%	-10.6%	9.1%	3.3%	20.1%	4.3%
2017	14.6%	15.9%	19.0%	27.6%	36.2%	51.3%	22.9%	21.2%	28.5%	17.4%	22.0%	22.1%	22.5%
2018	-16.3%	-18.1%	-27.4%	-16.9%	-12.2%	-11.6%	-14.9%	-12.7%	-18.3%	-5.2%	-12.0%	-12.1%	-12.4%
2019	17.8%	24.3%	35.5%	19.6%	28.3%	-47.8%	16.9%	1.5%	15.0%	12.0%	50.2%	21.5%	16.6%
2020	15.7%	8.3%	43.3%	14.5%	25.1%	18.0%	8.5%	-6.4%	-3.3%	22.0%	12.5%	13.2%	18.9%
2021	9.7%	26.6%	17.6%	23.9%	-11.4%	39.0%	-2.6%	1.7%	-6.1%	16.8%	14.6%	4.2%	13.4%
2022	-11.0%	-16.4%	-20.6%	-20.4%	-16.0%	-4.5%	-17.8%	-6.6%	-18.5%	-17.0%	-12.2%	-3.4%	-16.0%
2023	6.5%	11.9%	-4.7%	14.8%	-13.0%	28.1%	14.3%	-1.8%	0.0%	21.5%	14.8%	10.6%	13.4%

Source: World Federation of Exchanges

Note: Market capitalization of listed domestic companies. EU = European Union, HK = Hong Kong, DM = developed markets, EM = emerging markets, DM/EM exclude countries listed in the table

Global Equity Market Capitalization – Share of Total

(% Total)	Australia	Canada	China	EU	HK	India	Japan	Singapore	UK	US	DM	EM
2009	2.6%	3.4%	7.3%	15.6%	4.7%	5.2%	7.0%	1.0%	5.7%	30.7%	7.3%	9.5%
2010	2.6%	3.8%	7.1%	12.6%	4.8%	5.7%	7.2%	1.1%	6.4%	30.4%	7.7%	10.6%
2011	2.4%	3.9%	6.9%	12.0%	4.6%	4.0%	7.1%	1.2%	6.6%	31.5%	7.7%	12.1%
2012	2.5%	3.7%	6.6%	12.2%	5.0%	4.4%	6.6%	1.4%	6.0%	33.2%	7.9%	10.5%
2013	2.1%	3.2%	6.0%	13.0%	4.7%	3.4%	6.9%	1.1%	6.7%	36.3%	7.9%	8.8%
2014	1.9%	3.0%	8.6%	11.3%	4.6%	4.4%	6.3%	1.1%	5.8%	37.8%	7.6%	7.7%
2015	1.7%	2.3%	11.9%	11.1%	4.6%	4.4%	7.1%	0.9%	5.7%	36.6%	7.4%	6.2%
2016	1.8%	2.9%	10.2%	10.7%	4.5%	4.3%	7.1%	0.9%	4.8%	38.2%	7.4%	7.1%
2017	1.7%	2.7%	9.9%	11.2%	5.0%	5.3%	7.1%	0.9%	5.1%	36.6%	7.3%	7.1%
2018	1.6%	2.5%	8.2%	10.6%	5.0%	5.4%	6.9%	0.9%	4.7%	39.6%	7.4%	7.1%
2019	1.7%	2.7%	9.6%	10.9%	5.5%	2.4%	6.9%	0.8%	4.7%	38.1%	9.5%	7.4%
2020	1.6%	2.4%	11.5%	10.5%	5.8%	2.4%	6.3%	0.6%	3.8%	39.0%	9.0%	7.1%
2021	1.6%	2.7%	12.0%	11.4%	4.5%	2.9%	5.4%	0.5%	3.1%	40.2%	9.1%	6.5%
2022	1.7%	2.7%	11.3%	10.8%	4.5%	3.3%	5.3%	0.6%	3.1%	39.7%	9.5%	7.5%
2023	1.6%	2.7%	9.5%	11.0%	3.5%	3.8%	5.3%	0.5%	2.7%	42.6%	9.6%	7.3%
Average	1.9%	3.0%	9.1%	11.7%	4.7%	4.1%	6.6%	0.9%	5.0%	36.7%	8.2%	8.2%
Y/Y Change	-0.1%	0.0%	-1.8%	0.1%	-1.0%	0.4%	0.0%	-0.1%	-0.4%	2.9%	0.1%	-0.2%

Source: World Federation of Exchanges

Note: Market capitalization of listed domestic companies. EU = European Union, HK = Hong Kong, DM = developed markets, EM = emerging markets, DM/EM exclude countries listed in the table

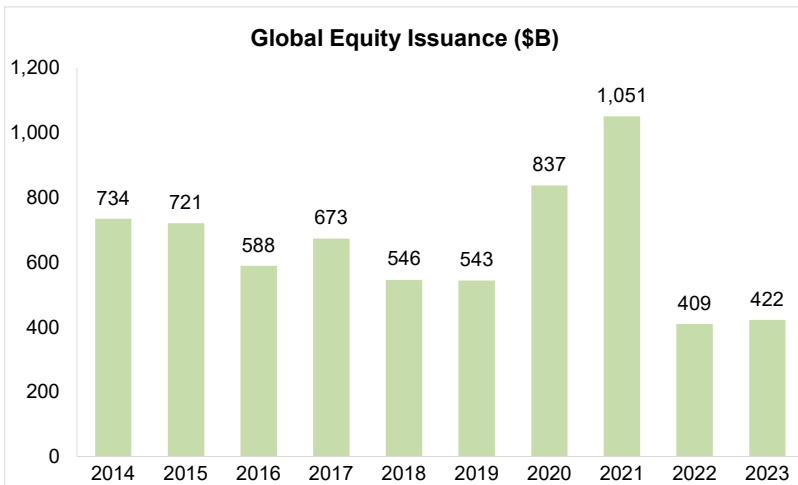
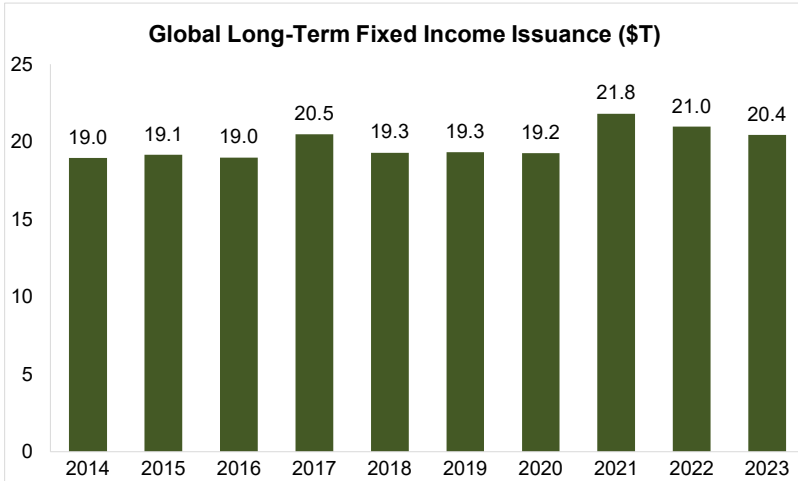
Global Derivatives Market Outstanding – Value

(\$B)	Exchange Traded	Over-the-Counter	Total	(Y/Y)	Exchange Traded	Over-the-Counter	Total
2009	67,416.4	603,893.3	671,309.7				
2010	62,309.9	601,042.8	663,352.7	2010	-7.6%	-0.5%	-1.2%
2011	53,692.9	647,807.0	701,499.9	2011	-13.8%	7.8%	5.8%
2012	49,033.2	635,681.0	684,714.1	2012	-8.7%	-1.9%	-2.4%
2013	57,459.4	710,092.3	767,551.7	2013	17.2%	11.7%	12.1%
2014	57,594.2	627,786.0	685,380.2	2014	0.2%	-11.6%	-10.7%
2015	63,485.8	492,536.2	556,022.0	2015	10.2%	-21.5%	-18.9%
2016	67,244.9	482,421.1	549,665.9	2016	5.9%	-2.1%	-1.1%
2017	80,984.1	531,911.1	612,895.1	2017	20.4%	10.3%	11.5%
2018	94,849.7	544,383.3	639,233.0	2018	17.1%	2.3%	4.3%
2019	95,812.8	558,512.7	654,325.5	2019	1.0%	2.6%	2.4%
2020	65,949.7	582,055.3	648,005.1	2020	-31.2%	4.2%	-1.0%
2021	80,091.8	598,416.0	678,507.7	2021	21.4%	2.8%	4.7%
2022	80,641.6	617,991.3	698,632.9	2022	0.7%	3.3%	3.0%
2023	87,170.5	667,058.3	754,228.8	2023	8.1%	7.9%	8.0%
Average	70,915.8	593,439.2	664,355.0				
Y/Y Change	8.1%	7.9%	8.0%				
5Y CAGR	-1.7%	4.1%	3.4%				
10Y CAGR	4.3%	-0.6%	-0.2%				

Source: Bank for International Settlements (BIS)

Note: Notional principal value. Includes interest rates, foreign exchange, equity linked, commodities, credit, and credit default swaps

Global Fixed Income and Equity Issuance – Charts



Source: Bloomberg, Refinitiv, Dealogic

Note: Long-term includes securities with maturity >13 months; global equity issuance includes non-convertible IPOs and follow-on equity deals, excludes preferred shares, rights issues, closed-end funds, business development companies, and special purpose acquisition companies

Global Long-Term Fixed Income Issuance – Value

(\$B)	Australia	Canada	China	EU	HK	Japan	Singapore	UK	US	DM	EM	Total
2009	265.9	439.9	524.4	4,345.9	25.7	3,239.8	28.7	1,213.2	7,177.8	453.9	1,243.7	18,958.9
2010	322.5	473.0	704.5	3,672.3	30.2	3,600.9	37.6	686.4	7,342.0	472.1	1,801.9	19,143.5
2011	346.3	552.9	900.7	3,715.3	33.5	4,050.2	33.1	735.2	6,346.9	531.6	1,732.9	18,978.6
2012	349.6	516.9	792.0	3,747.9	47.0	4,293.5	42.9	746.4	7,461.1	546.7	1,933.4	20,477.4
2013	335.3	575.5	978.5	3,617.4	38.0	3,754.6	45.8	662.2	6,977.0	541.0	1,762.0	19,287.4
2014	320.9	549.0	1,611.5	3,713.4	52.6	3,475.5	39.9	659.7	6,428.0	572.5	1,899.8	19,322.6
2015	250.3	502.2	2,445.4	3,010.3	44.6	3,225.7	36.0	509.9	6,821.9	573.2	1,829.1	19,248.7
2016	312.0	503.1	3,674.3	2,958.3	63.0	3,444.3	56.8	505.5	7,466.1	557.8	2,270.1	21,811.3
2017	311.4	595.3	2,814.6	3,089.3	65.9	3,244.2	35.9	475.7	7,635.7	561.3	2,136.3	20,965.7
2018	267.6	550.4	2,935.9	2,925.0	45.2	3,051.6	54.4	562.6	7,451.3	558.0	2,038.4	20,440.3
2019	244.7	541.1	3,811.1	3,086.0	88.1	3,152.5	54.6	424.0	8,322.1	601.3	2,538.5	22,864.0
2020	507.0	748.8	5,166.8	4,011.6	79.7	3,389.7	38.2	801.4	12,482.1	751.8	3,177.2	31,154.2
2021	293.8	744.9	5,500.8	3,760.8	108.4	3,666.2	64.6	773.9	13,440.5	721.0	2,822.0	31,896.9
2022	294.5	682.2	5,822.5	3,036.9	80.2	2,965.4	48.7	339.5	8,881.1	597.3	2,447.7	25,196.1
2023	279.8	702.5	6,464.1	3,178.8	94.8	2,614.4	25.5	559.2	8,266.9	628.6	2,361.1	25,175.8
Average	313.4	578.5	2,943.1	3,457.9	59.8	3,411.2	42.8	643.7	8,166.7	577.9	2,132.9	22,328.1
Y/Y Change	-5.0%	3.0%	11.0%	4.7%	18.2%	-11.8%	-47.7%	64.7%	-6.9%	5.2%	-3.5%	-0.1%
5Y CAGR	0.9%	5.0%	17.1%	1.7%	16.0%	-3.0%	-14.1%	-0.1%	2.1%	2.4%	3.0%	4.3%
10Y CAGR	-1.8%	2.0%	20.8%	-1.3%	9.6%	-3.6%	-5.7%	-1.7%	1.7%	1.5%	3.0%	2.7%

(Y/Y)	Australia	Canada	China	EU	HK	Japan	Singapore	UK	US	DM	EM	Total
2010	21.3%	7.5%	34.3%	-15.5%	17.8%	11.1%	31.1%	-43.4%	2.3%	4.0%	44.9%	1.0%
2011	7.4%	16.9%	27.9%	1.2%	10.9%	12.5%	-12.1%	7.1%	-13.6%	12.6%	-3.8%	-0.9%
2012	1.0%	-6.5%	-12.1%	0.9%	40.1%	6.0%	29.7%	1.5%	17.6%	2.9%	11.6%	7.9%
2013	-4.1%	11.3%	23.6%	-3.5%	-19.0%	-12.6%	6.9%	-11.3%	-6.5%	-1.1%	-8.9%	-5.8%
2014	-4.3%	-4.6%	64.7%	2.7%	38.3%	-7.4%	-12.9%	-0.4%	-7.9%	5.8%	7.8%	0.2%
2015	-22.0%	-8.5%	51.7%	-18.9%	-15.1%	-7.2%	-9.8%	-22.7%	6.1%	0.1%	-3.7%	-0.4%
2016	24.6%	0.2%	50.3%	-1.7%	41.1%	6.8%	58.0%	-0.9%	9.4%	-2.7%	24.1%	13.3%
2017	-0.2%	18.3%	-23.4%	4.4%	4.6%	-5.8%	-36.9%	-5.9%	2.3%	0.6%	-5.9%	-3.9%
2018	-14.1%	-7.5%	4.3%	-5.3%	-31.5%	-5.9%	51.6%	18.3%	-2.4%	-0.6%	-4.6%	-2.5%
2019	-8.6%	-1.7%	29.8%	5.5%	95.0%	3.3%	0.4%	-24.6%	11.7%	7.8%	24.5%	11.9%
2020	107.2%	38.4%	35.6%	30.0%	-9.5%	7.5%	-30.0%	89.0%	50.0%	25.0%	25.2%	36.3%
2021	-42.0%	-0.5%	6.5%	-6.3%	35.9%	8.2%	68.8%	-3.4%	7.7%	-4.1%	-11.2%	2.4%
2022	0.2%	-8.4%	5.8%	-19.2%	-26.0%	-19.1%	-24.5%	-56.1%	-33.9%	-17.2%	-13.3%	-21.0%
2023	-5.0%	3.0%	11.0%	4.7%	18.2%	-11.8%	-47.7%	64.7%	-6.9%	5.2%	-3.5%	-0.1%

Source: Bloomberg, Refinitiv

Note: Long-term includes securities with maturity >13 months; includes corporate, municipal and sovereign issuance. EU = European Union, HK = Hong Kong, DM = developed markets, EM = emerging markets. DM/EM exclude countries listed in the table

Global Equity Issuance

(\$B)	Australia	Canada	China	EU	HK	Japan	Singapore	UK	US	DM	EM	Total
2009	22.3	32.0	30.2	34.0	50.4	58.7	4.2	28.8	257.9	16.2	56.8	591.5
2010	20.3	38.7	73.1	50.9	78.3	56.0	8.2	26.5	213.0	8.2	108.1	681.3
2011	10.9	28.6	42.1	56.1	44.7	17.9	10.2	26.0	179.4	4.6	59.2	479.7
2012	10.5	29.0	40.2	47.1	51.0	22.4	6.1	19.9	230.0	7.5	70.6	534.3
2013	21.3	25.7	29.7	95.2	41.2	42.8	9.2	41.8	254.8	15.7	74.9	652.4
2014	27.5	33.2	66.1	114.6	56.8	31.0	4.5	56.2	265.4	10.3	68.7	734.5
2015	20.2	27.6	111.0	122.2	70.0	35.3	1.3	55.0	216.7	9.7	51.8	720.7
2016	14.1	33.7	159.0	62.9	35.3	20.9	2.6	28.7	178.1	7.4	45.8	588.4
2017	13.1	26.8	114.6	95.6	31.5	44.9	4.4	38.1	194.0	16.5	93.9	673.4
2018	10.9	16.2	49.7	59.7	57.0	46.7	3.7	32.1	204.5	10.1	55.9	546.3
2019	17.8	13.3	47.9	49.8	51.6	20.0	5.3	32.3	194.1	12.0	99.3	543.5
2020	27.0	15.5	107.5	67.8	83.1	37.7	3.8	45.0	343.7	20.0	85.5	836.6
2021	28.7	20.4	172.2	114.9	95.7	36.2	3.9	51.6	376.4	20.1	131.1	1,051.2
2022	10.0	10.4	132.2	32.8	19.0	9.4	0.7	12.9	87.1	9.9	84.2	408.6
2023	10.8	9.6	93.1	43.5	10.1	30.1	1.5	18.6	127.3	9.1	68.4	422.2
Average	17.7	24.0	84.6	69.8	51.7	34.0	4.6	34.2	221.5	11.8	76.9	631.0
Y/Y Change	7.5%	-7.6%	-29.6%	32.7%	-47.0%	221.2%	117.3%	44.0%	46.2%	-7.8%	-18.8%	3.3%
5Y CAGR	-0.2%	-9.9%	13.4%	-6.1%	-29.3%	-8.4%	-17.1%	-10.3%	-9.0%	-2.0%	4.1%	-5.0%
10Y CAGR	-6.6%	-9.3%	12.1%	-7.5%	-13.2%	-3.4%	-16.8%	-7.8%	-6.7%	-5.3%	-0.9%	-4.3%
(Y/Y)	Australia	Canada	China	EU	HK	Japan	Singapore	UK	US	DM	EM	Total
2010	-9.3%	20.7%	142.4%	49.8%	55.5%	-4.7%	94.7%	-7.9%	-17.4%	-49.2%	90.5%	15.2%
2011	-46.2%	-26.1%	-42.4%	10.1%	-42.9%	-68.1%	24.8%	-2.1%	-15.7%	-43.7%	-45.2%	-29.6%
2012	-3.4%	1.5%	-4.7%	-16.0%	14.1%	25.3%	-40.3%	-23.2%	28.2%	62.0%	19.2%	11.4%
2013	102.7%	-11.6%	-25.9%	102.2%	-19.2%	91.2%	50.4%	109.7%	10.8%	109.0%	6.2%	22.1%
2014	29.1%	29.2%	122.2%	20.4%	37.8%	-27.5%	-50.5%	34.5%	4.2%	-34.2%	-8.3%	12.6%
2015	-26.8%	-16.8%	67.9%	6.6%	23.3%	13.9%	-70.5%	-2.3%	-18.4%	-6.3%	-24.6%	-1.9%
2016	-29.9%	22.0%	43.3%	-48.5%	-49.6%	-40.8%	91.6%	-47.9%	-17.8%	-23.6%	-11.7%	-18.4%
2017	-7.4%	-20.5%	-28.0%	51.9%	-10.7%	114.6%	72.7%	32.9%	8.9%	122.6%	105.3%	14.4%
2018	-16.6%	-39.7%	-56.6%	-37.6%	81.1%	4.0%	-16.3%	-15.8%	5.4%	-38.6%	-40.5%	-18.9%
2019	63.4%	-17.9%	-3.6%	-16.6%	-9.5%	-57.1%	43.6%	0.6%	-5.1%	18.9%	77.8%	-0.5%
2020	51.1%	17.0%	124.4%	36.2%	61.1%	88.4%	-28.4%	39.4%	77.1%	66.6%	-13.9%	53.9%
2021	6.5%	31.5%	60.2%	69.5%	15.3%	-4.0%	1.5%	14.7%	9.5%	0.2%	53.3%	25.7%
2022	-65.0%	-49.0%	-23.2%	-71.5%	-80.2%	-74.1%	-82.7%	-74.9%	-76.9%	-50.6%	-35.8%	-61.1%
2023	7.5%	-7.6%	-29.6%	32.7%	-47.0%	221.2%	117.3%	44.0%	46.2%	-7.8%	-18.8%	3.3%

Source: Dealogic

Note: By exchange nationality. Includes rank eligible, non-convertible IPOs and follow-on equity deals; excludes preferred shares, rights issued, closed-end funds, business development companies, and special purpose acquisition companies. Developed/Emerging Markets excludes countries listed in the table. EU = European Union, HK = Hong Kong, DM = developed markets, EM = emerging markets. DM/EM exclude countries listed in the table

International Security Offerings by All Issuers – Value

(\$B)	Straight Debt	Convertible Debt	Total Debt	Common Stock	Preferred Stock	Total Equity	Total
2009	2,569.0	55.5	2,624.6	396.1	13.7	409.8	3,034.4
2010	2,340.2	51.9	2,392.1	365.5	6.6	372.2	2,764.3
2011	2,270.3	36.4	2,306.8	235.1	10.5	245.7	2,552.4
2012	2,698.8	44.0	2,742.8	236.1	15.6	251.7	2,994.5
2013	2,736.7	54.8	2,791.5	307.1	8.3	315.5	3,107.0
2014	3,079.3	56.1	3,135.4	351.2	15.6	366.8	3,502.1
2015	2,529.5	38.4	2,568.0	393.9	14.4	408.3	2,976.3
2016	2,642.5	43.2	2,685.8	225.6	7.3	232.9	2,918.6
2017	3,162.3	35.6	3,197.9	348.9	24.1	372.9	3,570.8
2018	2,730.0	33.0	2,763.0	294.1	8.2	302.3	3,065.3
2019	3,022.3	70.3	3,092.6	288.2	6.2	294.4	3,387.1
2020	3,572.0	132.2	3,704.2	396.2	6.3	402.5	4,106.8
2021	3,712.8	137.2	3,850.0	527.7	10.5	538.2	4,388.2
2022	2,572.0	36.6	2,608.6	194.0	2.6	196.6	2,805.2
2023	2,653.7	77.0	2,730.8	175.4	1.8	177.2	2,908.0

Average	2,819.4	60.2	2,879.6	315.7	10.1	325.8	3,205.4
Y/Y Change	3.2%	110.5%	4.7%	-9.5%	-32.7%	-9.9%	3.7%
5Y CAGR	-0.6%	18.5%	-0.2%	-9.8%	-26.4%	-10.1%	-1.0%
10Y CAGR	-0.3%	3.5%	-0.2%	-5.4%	-14.3%	-5.6%	-0.7%

(Y/Y)	Straight Debt	Convertible Debt	Total Debt	Common Stock	Preferred Stock	Total Equity	Total
2010	-8.9%	-6.6%	-8.9%	-7.7%	-51.4%	-9.2%	-8.9%
2011	-3.0%	-29.8%	-3.6%	-35.7%	58.5%	-34.0%	-7.7%
2012	18.9%	20.8%	18.9%	0.4%	47.7%	2.4%	17.3%
2013	1.4%	24.6%	1.8%	30.1%	-46.6%	25.3%	3.8%
2014	12.5%	2.4%	12.3%	14.3%	87.7%	16.3%	12.7%
2015	-17.9%	-31.5%	-18.1%	12.2%	-7.8%	11.3%	-15.0%
2016	4.5%	12.5%	4.6%	-42.7%	-49.5%	-43.0%	-1.9%
2017	19.7%	-17.7%	19.1%	54.6%	231.5%	60.1%	22.3%
2018	-13.7%	-7.1%	-13.6%	-15.7%	-65.9%	-18.9%	-14.2%
2019	10.7%	112.8%	11.9%	-2.0%	-24.4%	-2.6%	10.5%
2020	18.2%	88.0%	19.8%	37.5%	2.1%	36.7%	21.2%
2021	3.9%	3.8%	3.9%	33.2%	65.7%	33.7%	6.9%
2022	-30.7%	-73.3%	-32.2%	-63.2%	-74.9%	-63.5%	-36.1%
2023	3.2%	110.5%	4.7%	-9.5%	-32.7%	-9.9%	3.7%

Source: Refinitiv

Note: Foreign entity issuing securities outside of its domestic market.

International Security Offerings by All Issuers – Number of Issues

(#)	Straight Debt	Convertible Debt	Total Debt	Common Stock	Preferred Stock	Total Equity	Total
2009	3,602	201	3,803	1,516	65	1,581	5,384
2010	4,640	444	5,084	1,820	44	1,864	6,948
2011	4,190	429	4,619	1,440	57	1,497	6,116
2012	5,165	273	5,438	1,586	99	1,685	7,123
2013	5,137	317	5,454	1,909	92	2,001	7,455
2014	5,695	259	5,954	2,049	96	2,145	8,099
2015	4,691	127	4,818	2,190	62	2,252	7,070
2016	4,865	114	4,979	2,046	37	2,083	7,062
2017	5,636	102	5,738	2,582	56	2,638	8,376
2018	4,936	158	5,094	2,300	42	2,342	7,436
2019	5,291	244	5,535	2,397	26	2,423	7,958
2020	5,505	311	5,816	3,034	18	3,052	8,868
2021	6,100	312	6,412	3,703	37	3,740	10,152
2022	4,438	132	4,570	2,259	23	2,282	6,852
2023	4,717	212	4,929	2,398	12	2,410	7,339

Average	4,974	242	5,216	2,215	51	2,266	7,483
Y/Y Change	6.3%	60.6%	7.9%	6.2%	-47.8%	5.6%	7.1%
5Y CAGR	-0.9%	6.1%	-0.7%	0.8%	-22.2%	0.6%	-0.3%
10Y CAGR	-0.8%	-3.9%	-1.0%	2.3%	-18.4%	1.9%	-0.2%

(Y/Y)	Straight Debt	Convertible Debt	Total Debt	Common Stock	Preferred Stock	Total Equity	Total
2010	28.8%	120.9%	33.7%	20.1%	-32.3%	17.9%	29.0%
2011	-9.7%	-3.4%	-9.1%	-20.9%	29.5%	-19.7%	-12.0%
2012	23.3%	-36.4%	17.7%	10.1%	73.7%	12.6%	16.5%
2013	-0.5%	16.1%	0.3%	20.4%	-7.1%	18.8%	4.7%
2014	10.9%	-18.3%	9.2%	7.3%	4.3%	7.2%	8.6%
2015	-17.6%	-51.0%	-19.1%	6.9%	-35.4%	5.0%	-12.7%
2016	3.7%	-10.2%	3.3%	-6.6%	-40.3%	-7.5%	-0.1%
2017	15.8%	-10.5%	15.2%	26.2%	51.4%	26.6%	18.6%
2018	-12.4%	54.9%	-11.2%	-10.9%	-25.0%	-11.2%	-11.2%
2019	7.2%	54.4%	8.7%	4.2%	-38.1%	3.5%	7.0%
2020	4.0%	27.5%	5.1%	26.6%	-30.8%	26.0%	11.4%
2021	10.8%	0.3%	10.2%	22.1%	105.6%	22.5%	14.5%
2022	-27.2%	-57.7%	-28.7%	-39.0%	-37.8%	-39.0%	-32.5%
2023	6.3%	60.6%	7.9%	6.2%	-47.8%	5.6%	7.1%

Source: Refinitiv

Note: Foreign entity issuing securities outside of its domestic market.

International Security Offerings by US Issuers – Value

(\$B)	Straight Debt	Convertible Debt	Total Debt	Common Stock	Preferred Stock	Total Equity	Total
2009	232.8	0.2	233.0	1.8	1.1	3.0	236.0
2010	316.2	0.0	316.2	1.9	0.0	1.9	318.1
2011	249.7	1.1	250.8	1.0	1.8	2.7	253.5
2012	419.4	4.0	423.4	2.2	1.8	4.0	427.4
2013	450.7	4.8	455.5	1.7	1.7	3.4	458.9
2014	582.9	4.1	587.0	1.7	0.2	1.9	588.9
2015	619.6	1.9	621.5	2.0	3.4	5.4	626.9
2016	600.4	1.3	601.7	1.2	0.1	1.3	603.0
2017	744.3	0.4	744.7	4.4	0.8	5.2	749.9
2018	557.9	2.3	560.2	2.2	3.4	5.7	565.9
2019	684.4	33.9	718.3	1.5	3.1	4.7	723.0
2020	832.8	73.6	906.4	1.8	2.7	4.4	910.9
2021	1,022.8	73.7	1,096.6	4.6	3.3	7.9	1,104.4
2022	573.4	26.4	599.8	1.7	0.0	1.7	601.5
2023	519.8	47.5	567.3	2.9	0.7	3.6	570.9
Average	560.5	18.4	578.8	2.2	1.6	3.8	582.6
Y/Y Change	-9.3%	79.8%	-5.4%	77.4%	70.0%	116.5%	-5.1%
5Y CAGR	-1.4%	82.6%	0.3%	5.5%	-28.3%	-8.7%	0.2%
10Y CAGR	1.4%	25.8%	2.2%	5.9%	-9.3%	0.6%	2.2%

(Y/Y)	Straight Debt	Convertible Debt	Total Debt	Common Stock	Preferred Stock	Total Equity	Total
2010	35.8%	-91.5%	35.7%	4.4%	-97.7%	-34.8%	34.8%
2011	-21.0%	5202.8%	-20.7%	-50.1%	6636.7%	40.5%	-20.3%
2012	68.0%	266.3%	68.8%	129.0%	4.5%	48.1%	68.6%
2013	7.5%	19.1%	7.6%	-23.7%	-6.7%	-15.9%	7.4%
2014	29.3%	-13.9%	28.9%	3.5%	-90.9%	-44.5%	28.3%
2015	6.3%	-52.7%	5.9%	13.5%	2089.7%	186.5%	6.4%
2016	-3.1%	-31.6%	-3.2%	-39.8%	-96.7%	-76.0%	-3.8%
2017	24.0%	-71.3%	23.8%	272.5%	637.8%	304.4%	24.4%
2018	-25.1%	515.5%	-24.8%	-48.6%	312.2%	8.9%	-24.5%
2019	22.7%	1348.1%	28.2%	-31.2%	-8.2%	-17.3%	27.8%
2020	21.7%	116.9%	26.2%	14.6%	-14.8%	-5.1%	26.0%
2021	22.8%	0.2%	21.0%	156.8%	24.3%	77.1%	21.3%
2022	-43.9%	-64.2%	-45.3%	-63.5%	-100.0%	-78.9%	-45.5%
2023	-9.3%	79.8%	-5.4%	77.4%	N/A	116.5%	-5.1%

Source: Refinitiv

Note: U.S. entity issuing securities outside of U.S.

International Security Offerings by US Issuers – Number of Issues

(#)	Straight Debt	Convertible Debt	Total Debt	Common Stock	Preferred Stock	Total Equity	Total
2009	397	5	402	34	9	43	445
2010	700	7	707	40	3	43	750
2011	569	40	609	32	17	49	658
2012	835	80	915	30	33	63	978
2013	873	70	943	35	41	76	1,019
2014	1,056	51	1,107	29	25	54	1,161
2015	1,003	8	1,011	26	14	40	1,051
2016	1,025	4	1,029	25	3	28	1,057
2017	1,212	3	1,215	35	6	41	1,256
2018	966	10	976	53	11	64	1,040
2019	1,050	97	1,147	49	6	55	1,202
2020	1,256	147	1,403	56	2	58	1,461
2021	1,651	137	1,788	66	5	71	1,859
2022	978	56	1,034	25	0	25	1,059
2023	994	86	1,080	36	1	37	1,117

Average	971	53	1,024	38	12	50	1,074
Y/Y Change	1.6%	53.6%	4.4%	44.0%	100.0%	48.0%	5.5%
5Y CAGR	0.6%	53.8%	2.0%	-7.4%	-38.1%	-10.4%	1.4%
10Y CAGR	1.3%	2.1%	1.4%	0.3%	-31.0%	-6.9%	0.9%

(Y/Y)	Straight Debt	Convertible Debt	Total Debt	Common Stock	Preferred Stock	Total Equity	Total
2010	76.3%	40.0%	75.9%	17.6%	-66.7%	0.0%	68.5%
2011	-18.7%	471.4%	-13.9%	-20.0%	466.7%	14.0%	-12.3%
2012	46.7%	100.0%	50.2%	-6.3%	94.1%	28.6%	48.6%
2013	4.6%	-12.5%	3.1%	16.7%	24.2%	20.6%	4.2%
2014	21.0%	-27.1%	17.4%	-17.1%	-39.0%	-28.9%	13.9%
2015	-5.0%	-84.3%	-8.7%	-10.3%	-44.0%	-25.9%	-9.5%
2016	2.2%	-50.0%	1.8%	-3.8%	-78.6%	-30.0%	0.6%
2017	18.2%	-25.0%	18.1%	40.0%	100.0%	46.4%	18.8%
2018	-20.3%	233.3%	-19.7%	51.4%	83.3%	56.1%	-17.2%
2019	8.7%	870.0%	17.5%	-7.5%	-45.5%	-14.1%	15.6%
2020	19.6%	51.5%	22.3%	14.3%	-66.7%	5.5%	21.5%
2021	31.4%	-6.8%	27.4%	17.9%	150.0%	22.4%	27.2%
2022	-40.8%	-59.1%	-42.2%	-62.1%	-100.0%	-64.8%	-43.0%
2023	1.6%	53.6%	4.4%	44.0%	N/A	48.0%	5.5%

Source: Refinitiv

Note: U.S. entity issuing securities outside of U.S.

Major Global Stock Market Indexes

	US: S&P 500	Canada: S&P/TSX	France: CAC 40	Germany: DAX	Hong Kong: Hang Seng	Japan: Nikkei 225	UK: FTSE 100
2009	1,115.10	11,746.11	3,936.33	5,957.43	21,872.50	10,546.44	5,412.88
2010	1,257.64	13,443.22	3,804.78	6,914.19	23,035.45	10,228.92	5,899.94
2011	1,257.61	11,955.09	3,159.81	5,898.35	18,434.39	8,455.35	5,572.28
2012	1,426.19	12,433.53	3,641.07	7,612.39	22,656.92	10,395.18	5,897.81
2013	1,848.36	13,621.55	4,295.95	9,552.16	23,306.39	16,291.31	6,749.09
2014	2,058.90	14,632.44	4,272.75	9,805.55	23,605.04	17,450.77	6,566.09
2015	2,043.94	13,009.95	4,637.06	10,743.01	21,914.40	19,033.71	6,242.32
2016	2,238.83	15,287.59	4,862.31	11,481.06	22,000.56	19,114.37	7,142.83
2017	2,673.61	16,209.13	5,312.56	12,917.64	29,919.15	22,764.94	7,687.77
2018	2,506.85	14,322.86	4,730.69	10,558.96	25,845.70	20,014.77	6,728.13
2019	3,230.78	17,063.43	5,978.06	13,249.01	28,189.75	23,656.62	7,542.44
2020	3,756.07	17,433.36	5,551.41	13,718.78	27,231.13	27,444.17	6,460.52
2021	4,766.18	21,222.84	7,153.03	15,884.86	23,397.67	28,791.71	7,384.54
2022	3,839.50	19,384.92	6,473.76	13,923.59	19,781.41	26,094.50	7,451.74
2023	4,769.83	20,958.44	7,543.18	16,751.64	17,047.39	33,464.17	7,733.24
Average	2,585.96	15,514.96	5,023.52	10,997.91	23,215.86	19,583.13	6,698.11
Y/Y Change	24.2%	8.1%	16.5%	20.3%	-13.8%	28.2%	3.8%
5Y CAGR	13.7%	7.9%	9.8%	9.7%	-8.0%	10.8%	2.8%
10Y CAGR	9.9%	4.4%	5.8%	5.8%	-3.1%	7.5%	1.4%

(Y/Y)	US: S&P 500	Canada: S&P/TSX	France: CAC 40	Germany: DAX	Hong Kong: Hang Seng	Japan: Nikkei 225	UK: FTSE 100
2010	12.8%	14.4%	-3.3%	16.1%	5.3%	-3.0%	9.0%
2011	0.0%	-11.1%	-17.0%	-14.7%	-20.0%	-17.3%	-5.6%
2012	13.4%	4.0%	15.2%	29.1%	22.9%	22.9%	5.8%
2013	29.6%	9.6%	18.0%	25.5%	2.9%	56.7%	14.4%
2014	11.4%	7.4%	-0.5%	2.7%	1.3%	7.1%	-2.7%
2015	-0.7%	-11.1%	8.5%	9.6%	-7.2%	9.1%	-4.9%
2016	9.5%	17.5%	4.9%	6.9%	0.4%	0.4%	14.4%
2017	19.4%	6.0%	9.3%	12.5%	36.0%	19.1%	7.6%
2018	-6.2%	-11.6%	-11.0%	-18.3%	-13.6%	-12.1%	-12.5%
2019	28.9%	19.1%	26.4%	25.5%	9.1%	18.2%	12.1%
2020	16.3%	2.2%	-7.1%	3.5%	-3.4%	16.0%	-14.3%
2021	26.9%	21.7%	28.9%	15.8%	-14.1%	4.9%	14.3%
2022	-19.4%	-8.7%	-9.5%	-12.3%	-15.5%	-9.4%	0.9%
2023	24.2%	8.1%	16.5%	20.3%	-13.8%	28.2%	3.8%

Source: Bloomberg (end of year closing price)

Foreign Exchange Rates

Foreign Exchange Rates: Foreign Currency Units Per US

(\$)	Canadian Dollar	Euro	Japanese Yen	British Pound	Index
2009	1.1405	0.7189	93.6037	0.6405	96.7509
2010	1.0302	0.7553	87.7331	0.6475	93.0541
2011	0.9891	0.7189	79.7018	0.6236	88.7767
2012	0.9996	0.7781	79.8385	0.6310	91.6361
2013	1.0300	0.7531	97.6297	0.6395	92.7611
2014	1.1046	0.7540	105.9190	0.6074	95.5876
2015	1.2790	0.9013	121.0446	0.6544	108.1696
2016	1.3248	0.9039	108.7770	0.7407	113.0665
2017	1.2982	0.8868	112.1547	0.7765	112.8101
2018	1.2961	0.8477	110.4630	0.7500	112.0032
2019	1.3268	0.8935	109.0333	0.7837	115.7338
2020	1.3409	0.8771	106.7661	0.7796	117.7809
2021	1.2537	0.8459	109.8543	0.7271	113.1162
2022	1.3019	0.9514	131.5479	0.8117	120.7044
2023	1.3495	0.9248	140.5771	0.8043	120.4892

Average	1.2043	0.8340	106.3096	0.7079	106.1627
Y/Y Change	3.7%	-2.8%	6.9%	-0.9%	-0.2%
5Y CAGR	0.8%	1.8%	4.9%	1.4%	1.5%
10Y CAGR	2.7%	2.1%	3.7%	2.3%	2.6%

Foreign Exchange Rates: % Change Y/Y

(Y/Y)	Canadian Dollar	Euro	Japanese Yen	British Pound	Index
2010	-9.7%	5.1%	-6.3%	1.1%	-3.8%
2011	-4.0%	-4.8%	-9.2%	-3.7%	-4.6%
2012	1.1%	8.2%	0.2%	1.2%	3.2%
2013	3.0%	-3.2%	22.3%	1.3%	1.2%
2014	7.2%	0.1%	8.5%	-5.0%	3.0%
2015	15.8%	19.5%	14.3%	7.7%	13.2%
2016	3.6%	0.3%	-10.1%	13.2%	4.5%
2017	-2.0%	-1.9%	3.1%	4.8%	-0.2%
2018	-0.2%	-4.4%	-1.5%	-3.4%	-0.7%
2019	2.4%	5.4%	-1.3%	4.5%	3.3%
2020	1.1%	-1.8%	-2.1%	-0.5%	1.8%
2021	-6.5%	-3.5%	2.9%	-6.7%	-4.0%
2022	3.8%	12.5%	19.7%	11.6%	6.7%
2023	3.7%	-2.8%	6.9%	-0.9%	-0.2%

Source: The Federal Reserve

Note: Averages used. Index = Nominal Advanced Foreign Economies Dollar Index, includes trade-weighted (goods only) value of the dollar

American Depositary Receipts (ADRs)

	Sponsored	Un-sponsored	Share Volume (B)	Dollar Volume (\$B)
2009	2,110	1,060	135	2,700
2010	2,217	1,116	147	3,500
2011	2,289	1,229	157	3,467
2012	2,287	1,391	134	2,535
2013	2,230	1,532	134	2,510
2014	2,152	1,600	143	3,166
2015	1,976	1,626	156	3,053
2016	1,876	1,516	150	2,842
2017	1,652	1,613	136	3,336
2018	1,579	1,461	162	4,280
2019	1,449	1,497	162	3,510
2020	1,442	1,449	250	5,881
2021	1,403	1,475	299	8,003
2022	1,343	1,460	287	5,437
2023	1,273	1,447	193	4,136

Average	1,818.5	1,431.5	176.3	3,890.4
Y/Y Change	-5.2%	-0.9%	-32.8%	-23.9%
5Y CAGR	-4.2%	-0.2%	3.6%	-0.7%
10Y CAGR	-5.5%	-0.6%	3.7%	5.1%

(Y/Y)	Sponsored	Un-sponsored	Share Volume (B)	Dollar Volume (\$B)
2010	5.1%	5.3%	8.9%	29.6%
2011	3.2%	10.1%	6.7%	-0.9%
2012	-0.1%	13.2%	-14.9%	-26.9%
2013	-2.5%	10.1%	0.2%	-1.0%
2014	-3.5%	4.4%	7.1%	26.1%
2015	-8.2%	1.6%	8.9%	-3.6%
2016	-5.1%	-6.8%	-3.7%	-6.9%
2017	-11.9%	6.4%	-9.8%	17.4%
2018	-4.4%	-9.4%	19.5%	28.3%
2019	-8.2%	2.5%	-0.1%	-18.0%
2020	-0.5%	-3.2%	54.3%	67.6%
2021	-2.7%	1.8%	19.9%	36.1%
2022	-4.3%	-1.0%	-4.1%	-32.1%
2023	-5.2%	-0.9%	-32.8%	-23.9%

Source: Deutsche Bank

Note: Trading volume includes both sponsored and un-sponsored ADRs global traded amounts

US Holdings of Foreign Securities

(\$B)	Stocks	Bonds	Total	(Y/Y)	Stocks	Bonds	Total
2009	3,995.3	1,693.0	5,688.3				
2010	4,900.2	1,903.1	6,803.3	2010	22.7%	12.4%	19.6%
2011	4,501.4	2,107.5	6,609.0	2011	-8.1%	10.7%	-2.9%
2012	5,321.9	2,334.6	7,656.5	2012	18.2%	10.8%	15.8%
2013	6,472.9	2,366.8	8,839.6	2013	21.6%	1.4%	15.5%
2014	6,770.6	2,587.0	9,357.6	2014	4.6%	9.3%	5.9%
2015	6,756.2	2,427.2	9,183.3	2015	-0.2%	-6.2%	-1.9%
2016	7,146.3	2,504.3	9,650.7	2016	5.8%	3.2%	5.1%
2017	9,118.1	2,950.2	12,068.4	2017	27.6%	17.8%	25.1%
2018	7,899.6	2,984.6	10,884.1	2018	-13.4%	1.2%	-9.8%
2019	9,478.0	3,266.9	12,744.9	2019	20.0%	9.5%	17.1%
2020	10,615.0	3,536.2	14,151.2	2020	12.0%	8.2%	11.0%
2021	12,061.3	3,796.7	15,858.0	2021	13.6%	7.4%	12.1%
2022	10,306.0	3,381.4	13,687.3	2022	-14.6%	-10.9%	-13.7%
2023	11,475.4	3,484.3	14,959.7	2023	11.3%	3.0%	9.3%
Average	7,787.9	2,754.9	10,542.8				
Y/Y Change	11.3%	3.0%	9.3%				
5Y CAGR	7.8%	3.1%	6.6%				
10Y CAGR	5.9%	3.9%	5.4%				

Source: The Federal Reserve - Financial Accounts of the United States

Note: Holding of foreign corporate equities, investment shares, and bonds by U.S. residents; includes American Depository Receipts (ADR)

US Gross Activity in Foreign Securities

(\$B)	Stocks	Bonds	Total	(Y/Y)	Stocks	Bonds	Total
2009	6,396.3	3,991.9	10,388.2				
2010	7,404.1	7,320.3	14,724.4	2010	15.8%	83.4%	41.7%
2011	8,000.5	7,054.9	15,055.4	2011	8.1%	-3.6%	2.2%
2012	6,909.5	7,824.3	14,733.8	2012	-13.6%	10.9%	-2.1%
2013	7,850.7	8,609.6	16,460.3	2013	13.6%	10.0%	11.7%
2014	8,892.2	9,287.3	18,179.4	2014	13.3%	7.9%	10.4%
2015	9,694.7	11,501.0	21,195.7	2015	9.0%	23.8%	16.6%
2016	8,805.5	11,104.5	19,910.0	2016	-9.2%	-3.4%	-6.1%
2017	9,798.2	17,387.2	27,185.3	2017	11.3%	56.6%	36.5%
2018	11,907.8	21,865.7	33,773.5	2018	21.5%	25.8%	24.2%
2019	11,082.2	25,856.9	36,939.0	2019	-6.9%	18.3%	9.4%
2020	14,437.1	31,616.3	46,053.3	2020	30.3%	22.3%	24.7%
2021	16,967.2	35,792.1	52,759.3	2021	17.5%	13.2%	14.6%
2022	14,260.7	39,005.1	53,265.9	2022	-16.0%	9.0%	1.0%
2023	17,733.0	7,366.0	25,099.0	2023	24.3%	-81.1%	-52.9%
Average	10,676.0	16,372.2	27,048.2				
Y/Y Change	24.3%	-81.1%	-52.9%				
5Y CAGR	8.3%	-19.6%	-5.8%				
10Y CAGR	8.5%	-1.5%	4.3%				

Source: U.S. Treasury, Treasury International Capital (TIC) System

Note: Gross activity = purchases + sales

US Net Purchases of Foreign Securities

(\$B)	Stocks	Bonds	Total
2009	59.6	123.9	183.5
2010	59.9	75.4	135.3
2011	69.8	88.8	158.6
2012	41.3	1.4	42.7
2013	174.0	76.4	250.4
2014	107.7	-94.0	13.8
2015	114.0	-251.3	-137.3
2016	55.8	-233.2	-177.4
2017	106.3	-217.8	-111.5
2018	-44.0	-291.7	-335.6
2019	-50.0	-113.6	-163.6
2020	-109.1	-178.0	-287.1
2021	54.2	-299.4	-245.2
2022	-45.0	-236.4	-281.4
2023	27.9	-72.6	-44.7

Average	41.5	-108.1	-66.6
Y/Y Change	72.9	163.8	236.7

(Y/Y)	Stocks	Bonds	Total
2010	0.5%	-39.1%	-26.3%
2011	16.5%	17.8%	17.2%
2012	-40.8%	-98.5%	-73.1%
2013	321.1%	5517.4%	486.7%
2014	-38.1%	-223.0%	-94.5%
2015	5.8%	-167.5%	-1097.5%
2016	-51.0%	7.2%	-29.2%
2017	90.3%	6.6%	37.2%
2018	-141.4%	-33.9%	-201.1%
2019	-13.8%	61.1%	51.3%
2020	-118.0%	-56.7%	-75.5%
2021	149.7%	-68.2%	14.6%
2022	-183.0%	21.1%	-14.8%
2023	161.9%	69.3%	84.1%

Source: U.S. Treasury, Treasury International Capital (TIC) System
 Note: Net purchases = purchases - sales

US Gross Activity in Foreign Equities by Region/Country

(\$B)	Australia	Canada	China	EU	HK	Japan	Singapore	UK	Total
2009	157.4	425.9	19.5	627.1	508.5	366.5	86.0	1,992.1	6,396.3
2010	153.7	490.8	22.5	673.2	612.4	374.2	89.6	2,289.6	7,404.1
2011	135.2	581.3	25.1	724.4	638.2	390.7	104.6	2,552.0	8,000.5
2012	106.2	487.1	17.1	657.1	545.3	304.7	99.7	2,274.4	6,909.5
2013	111.0	526.4	26.2	634.7	719.3	504.9	116.8	2,456.1	7,850.7
2014	97.7	750.8	28.0	751.6	707.1	361.6	137.8	2,760.2	8,892.2
2015	115.1	846.2	46.4	861.9	728.3	390.0	171.7	2,616.6	9,694.7
2016	110.3	679.5	30.5	1,013.1	614.7	417.3	180.3	2,510.4	8,805.5
2017	114.5	744.2	32.9	1,149.3	705.4	459.0	188.2	2,811.3	9,798.2
2018	127.0	878.5	51.8	1,369.8	886.4	565.4	249.1	3,768.8	11,907.8
2019	129.6	818.4	53.1	1,204.5	832.4	441.7	231.6	3,356.3	11,082.2
2020	159.3	1,080.1	84.6	1,668.0	1,179.7	474.9	325.7	4,450.2	14,437.1
2021	201.3	1,346.2	96.7	1,868.2	1,349.6	468.7	389.0	5,210.7	16,967.2
2022	205.2	1,391.3	52.2	1,580.7	911.5	398.2	303.6	4,105.6	14,260.7
2023	247.8	2,313.0	2,278.5	4,473.7	170.8	952.7	117.9	1,349.1	17,733.0
Average	144.8	890.6	191.0	1,283.8	740.6	458.0	186.1	2,966.9	10,676.0
Y/Y Change	20.8%	66.2%	4263.8%	183.0%	-81.3%	139.3%	-61.2%	-67.1%	24.3%
5Y CAGR	14.3%	21.4%	113.1%	26.7%	-28.1%	11.0%	-13.9%	-18.6%	8.3%
10Y CAGR	8.4%	16.0%	56.3%	21.6%	-13.4%	6.6%	0.1%	-5.8%	8.5%

Source: U.S. Treasury, Treasury International Capital (TIC) System

Note: Gross activity = purchases + sales. EU = European Union, HK = Hong Kong, China includes Mainland only.

US Net Activity of Foreign Equities by Region/Country

(\$B)	Australia	Canada	China	EU	HK	Japan	Singapore	UK	Total
2009	5.9	7.2	-2.4	-11.7	9.5	2.5	-0.8	24.0	59.6
2010	0.2	2.8	-0.6	-6.9	26.0	13.0	-2.2	-3.8	59.9
2011	-0.3	1.4	5.4	12.1	0.2	-4.1	2.2	3.0	69.8
2012	0.1	0.8	-1.2	2.0	15.6	9.2	-4.6	13.1	41.3
2013	4.0	6.4	-4.0	30.3	6.7	32.9	-5.0	96.8	174.0
2014	7.9	9.9	0.2	6.3	15.3	1.2	5.8	47.8	107.7
2015	4.6	7.7	2.5	6.0	20.8	-2.4	4.5	40.9	114.0
2016	7.4	3.2	0.2	5.8	1.8	-14.2	0.0	23.3	55.8
2017	-1.2	-17.3	-0.4	-0.5	29.2	2.5	0.8	95.1	106.3
2018	-0.2	-35.6	-3.2	14.6	25.6	-10.0	-8.4	-2.5	-44.0
2019	-2.0	-28.9	-1.5	-16.9	29.9	-1.2	-1.2	16.9	-50.0
2020	-1.8	-39.6	-2.4	-32.4	-26.4	-16.4	2.8	31.3	-109.1
2021	7.5	8.1	0.0	-12.8	2.1	-5.5	-9.3	52.4	54.2
2022	13.5	-15.9	0.6	-20.9	-1.4	-13.9	-3.3	-1.2	-45.0
2023	-4.3	-14.1	5.4	17.7	10.7	-9.9	1.6	-17.2	27.9
Average	2.7	-6.9	-0.1	-0.5	11.0	-1.1	-1.1	28.0	41.5
Y/Y Change	-17.8	1.7	4.8	38.6	12.1	4.0	4.9	-16.0	72.9

Source: U.S. Treasury, Treasury International Capital (TIC) System

Note: Net purchases = purchases - sales; EU = European Union, HK = Hong Kong, China includes Mainland only

Foreign Holdings of US Securities

(\$B)	Stocks	Corporates	UST	Agency & MBS	Total
2009	2,657.4	2,483.5	3,670.6	1,150.0	9,961.5
2010	3,213.5	2,523.1	4,458.8	1,095.8	11,291.2
2011	3,397.2	2,491.0	5,004.4	1,078.2	11,970.8
2012	3,953.0	2,615.0	5,571.5	1,001.2	13,140.7
2013	5,205.4	2,735.4	5,792.6	883.8	14,617.2
2014	5,920.6	2,924.4	6,158.0	899.6	15,902.6
2015	5,500.9	3,079.6	6,146.2	916.5	15,643.2
2016	5,782.7	3,429.8	6,002.8	991.6	16,206.9
2017	7,019.4	3,877.3	6,211.3	1,012.2	18,120.2
2018	6,629.5	3,602.6	6,270.1	1,087.0	17,589.3
2019	8,278.5	3,979.5	6,917.8	1,230.7	20,406.5
2020	10,673.4	4,481.7	7,291.6	1,276.4	23,723.1
2021	13,898.3	4,401.6	7,740.4	1,252.6	27,292.9
2022	10,799.1	3,724.3	7,318.5	1,260.6	23,102.4
2023	13,276.2	4,149.0	8,056.1	1,429.6	26,910.9

Average	7,080.3	3,366.5	6,174.0	1,104.4	17,725.3
Y/Y Change	22.9%	11.4%	10.1%	13.4%	16.5%
5Y CAGR	14.9%	2.9%	5.1%	5.6%	8.9%
10Y CAGR	9.8%	4.3%	3.4%	4.9%	6.3%

(Y/Y)	Stocks	Corporates	UST	Agency & MBS	Total
2010	20.9%	1.6%	21.5%	-4.7%	13.3%
2011	5.7%	-1.3%	12.2%	-1.6%	6.0%
2012	16.4%	5.0%	11.3%	-7.1%	9.8%
2013	31.7%	4.6%	4.0%	-11.7%	11.2%
2014	13.7%	6.9%	6.3%	1.8%	8.8%
2015	-7.1%	5.3%	-0.2%	1.9%	-1.6%
2016	5.1%	11.4%	-2.3%	8.2%	3.6%
2017	21.4%	13.0%	3.5%	2.1%	11.8%
2018	-5.6%	-7.1%	0.9%	7.4%	-2.9%
2019	24.9%	10.5%	10.3%	13.2%	16.0%
2020	28.9%	12.6%	5.4%	3.7%	16.3%
2021	30.2%	-1.8%	6.2%	-1.9%	15.0%
2022	-22.3%	-15.4%	-5.5%	0.6%	-15.4%
2023	22.9%	11.4%	10.1%	13.4%	16.5%

Source: The Federal Reserve - Financial Accounts of the United States

Note: UST = U.S. Treasuries, MBS = mortgage-backed securities, agency = federal agency debt. Corporates = corporate bonds, includes asset-backed securities (ABS) and MBS

Foreign Gross Activity in US Securities

(\$B)	Stocks	Corporates	UST	Agency	Total
2009	13,155.0	2,414.1	22,628.9	2,086.3	40,284.3
2010	13,384.6	1,951.7	31,653.7	2,095.9	49,086.0
2011	15,413.4	2,032.3	35,439.6	2,167.2	55,052.4
2012	14,706.1	1,759.7	29,075.0	2,890.1	48,430.8
2013	15,435.8	1,856.7	35,386.7	2,671.9	55,351.1
2014	17,861.9	2,145.2	33,243.8	2,143.0	55,393.9
2015	22,233.5	2,232.8	32,490.6	2,616.6	59,573.5
2016	23,065.8	2,298.8	30,510.3	3,260.2	59,135.1
2017	26,592.2	2,967.9	29,511.7	3,475.6	62,547.5
2018	36,291.1	2,776.4	30,100.6	3,633.4	72,801.5
2019	37,228.8	3,481.1	36,646.7	4,850.6	82,207.1
2020	48,547.7	5,224.6	38,020.1	6,539.4	98,331.8
2021	61,181.3	5,097.3	50,659.2	9,783.7	126,721.5
2022	62,914.0	4,400.2	50,297.9	5,634.9	123,247.1
2023	42,668.3	4,475.1	51,787.4	1,713.8	100,644.6

Average	30,045.3	3,007.6	35,830.1	3,704.2	72,587.2
Y/Y Change	-32.2%	1.7%	3.0%	-69.6%	-18.3%
5Y CAGR	3.3%	10.0%	11.5%	-14.0%	6.7%
10Y CAGR	10.7%	9.2%	3.9%	-4.3%	6.2%

(Y/Y)	Stocks	Corporates	UST	Agency	Total
2010	1.7%	-19.2%	39.9%	0.5%	21.8%
2011	15.2%	4.1%	12.0%	3.4%	12.2%
2012	-4.6%	-13.4%	-18.0%	33.4%	-12.0%
2013	5.0%	5.5%	21.7%	-7.5%	14.3%
2014	15.7%	15.5%	-6.1%	-19.8%	0.1%
2015	24.5%	4.1%	-2.3%	22.1%	7.5%
2016	3.7%	3.0%	-6.1%	24.6%	-0.7%
2017	15.3%	29.1%	-3.3%	6.6%	5.8%
2018	36.5%	-6.5%	2.0%	4.5%	16.4%
2019	2.6%	25.4%	21.7%	33.5%	12.9%
2020	30.4%	50.1%	3.7%	34.8%	19.6%
2021	26.0%	-2.4%	33.2%	49.6%	28.9%
2022	2.8%	-13.7%	-0.7%	-42.4%	-2.7%
2023	-32.2%	1.7%	3.0%	-69.6%	-18.3%

Source: U.S. Treasury, Treasury International Capital (TIC) System

Note: Gross activity = purchases + sales. UST = U.S. Treasuries, agency = federal agency debt, corporates = corporate bonds

Foreign Net Purchases of US Securities

(\$B)	Stocks	Corporates	UST	Agency	Total
2009	152.7	-39.7	538.3	-9.9	641.5
2010	109.8	-11.4	703.5	109.3	911.1
2011	24.7	-42.6	421.0	81.9	485.0
2012	107.8	-22.8	417.4	131.7	634.1
2013	-43.0	9.3	43.6	72.4	82.3
2014	-15.4	23.3	178.1	75.8	261.8
2015	-114.7	134.7	-15.0	158.2	163.2
2016	-6.3	125.0	-311.8	266.3	73.1
2017	119.4	132.3	25.0	136.4	413.1
2018	-129.8	56.9	8.8	230.5	166.3
2019	0.9	16.1	-131.4	299.9	185.4
2020	366.9	-145.3	-537.4	469.6	153.9
2021	47.8	146.7	82.4	321.5	598.6
2022	-226.8	164.3	757.4	303.1	997.9
2023	-130.0	-294.8	-399.4	-147.8	-972.0

Average	17.6	16.8	118.7	166.6	319.7
Y/Y Change	42.7%	-279.4%	-152.7%	-148.8%	-197.4%

(Y/Y)	Stocks	Corporates	UST	Agency	Total
2010	-28.1%	71.2%	30.7%	1207.3%	42.0%
2011	-77.5%	-273.2%	-40.2%	-25.1%	-46.8%
2012	336.1%	46.5%	-0.9%	60.8%	30.7%
2013	-139.9%	140.9%	-89.5%	-45.0%	-87.0%
2014	64.2%	149.8%	308.1%	4.7%	218.0%
2015	-644.9%	478.5%	-108.4%	108.7%	-37.7%
2016	94.5%	-7.2%	-1979.7%	68.3%	-55.2%
2017	1981.4%	5.8%	108.0%	-48.8%	465.0%
2018	-208.7%	-57.0%	-64.9%	69.0%	-59.7%
2019	100.7%	-71.7%	-1597.1%	30.1%	11.5%
2020	42265.1%	-1004.1%	-309.0%	56.6%	-17.0%
2021	-87.0%	201.0%	115.3%	-31.5%	289.0%
2022	-574.2%	12.0%	818.7%	-5.7%	66.7%
2023	42.7%	-279.4%	-152.7%	-148.8%	-197.4%

Source: U.S. Treasury, Treasury International Capital (TIC) System

Note: Net purchases = purchases – sales. UST = U.S. Treasuries, agency = federal agency debt, corporates = corporate bonds

Foreign Gross Activity in US Equities by Region/Country

(\$B)	Australia	Canada	China	EU	HK	Japan	Singapore	UK	Total
2009	45.5	619.1	34.5	2,713.7	63.9	127.5	78.7	1,749.6	13,155.0
2010	53.6	731.5	38.0	2,394.0	73.8	132.7	79.8	1,843.2	13,384.6
2011	64.5	974.4	34.0	2,543.0	89.5	166.1	91.8	2,593.0	15,413.4
2012	62.4	1,176.5	44.1	2,457.6	88.0	154.7	99.1	2,388.4	14,706.1
2013	82.8	793.6	49.0	2,018.2	160.1	179.9	132.2	3,101.2	15,435.8
2014	89.2	867.2	46.8	1,852.9	207.0	158.7	126.2	3,589.9	17,861.9
2015	80.3	833.9	50.4	1,834.3	183.8	133.3	147.2	5,360.1	22,233.5
2016	72.5	985.1	32.6	2,126.1	185.1	124.5	145.6	6,637.3	23,065.8
2017	85.9	1,173.2	45.5	2,031.4	234.6	155.7	211.8	8,295.3	26,592.2
2018	98.6	1,549.7	110.5	3,203.8	377.2	193.1	380.4	12,978.0	36,291.1
2019	104.0	1,516.8	106.5	3,943.5	362.4	193.4	417.2	11,677.0	37,228.8
2020	164.6	2,536.3	159.7	5,510.4	651.1	347.8	597.1	12,483.0	48,547.7
2021	216.5	2,883.0	169.9	6,755.3	797.6	375.6	651.3	16,653.6	61,181.3
2022	212.0	2,651.6	172.9	6,239.6	693.5	260.0	503.6	16,625.2	62,914.0
2023	374.4	2,134.2	304.0	9,545.9	406.6	654.6	600.7	7,884.3	42,668.3
Average	120.5	1,428.4	93.2	3,678.0	305.0	223.8	284.2	7,590.6	30,045.3
Y/Y Change	76.6%	-19.5%	75.9%	53.0%	-41.4%	151.8%	19.3%	-52.6%	-32.2%
5Y CAGR	30.6%	6.6%	22.4%	24.4%	1.5%	27.7%	9.6%	-9.5%	3.3%
10Y CAGR	16.3%	10.4%	20.0%	16.8%	9.8%	13.8%	16.3%	9.8%	10.7%

Source: U.S. Treasury, Treasury International Capital (TIC) System

Note: Gross activity = purchases + sales. EU = European Union, HK = Hong Kong

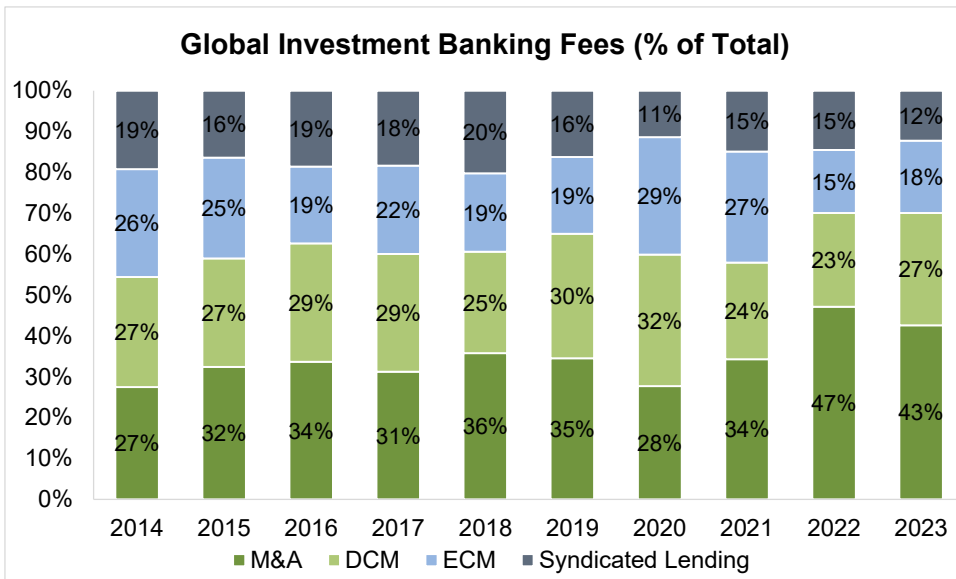
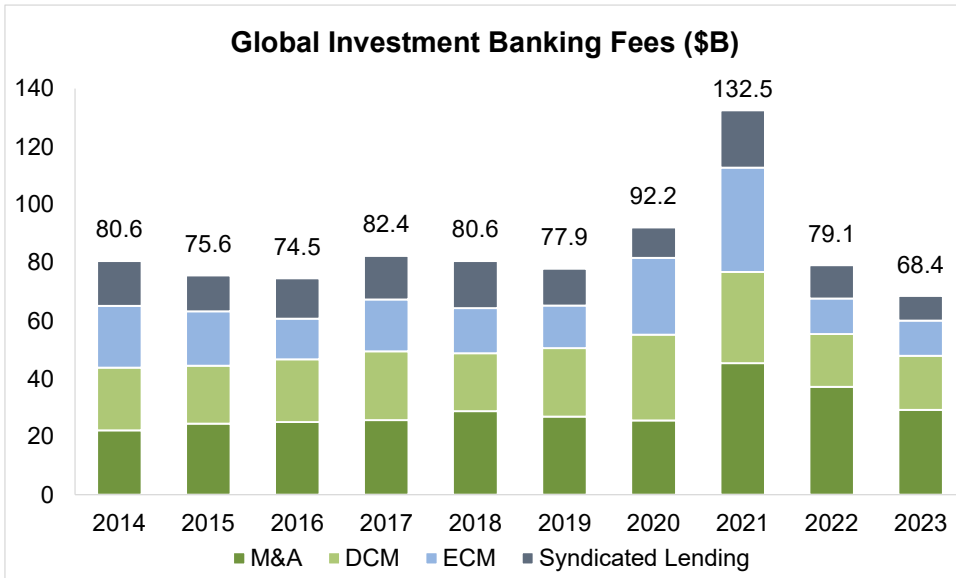
Foreign Net Purchases of US Equities by Region/Country

(\$B)	Australia	Canada	China	EU	HK	Japan	Singapore	UK	Total
2009	3.0	-1.6	4.0	15.7	6.3	13.8	12.0	33.7	152.7
2010	2.0	6.5	2.8	14.4	9.8	4.6	-4.4	27.8	109.8
2011	0.3	14.1	0.4	-35.0	6.5	3.4	-6.7	3.0	24.7
2012	1.0	14.7	-1.5	22.1	0.1	-8.1	-0.9	34.2	107.8
2013	-0.6	-3.2	2.8	11.7	-4.0	-26.4	-3.8	-0.3	-43.0
2014	0.9	10.2	-1.7	28.6	-6.6	-9.2	-11.0	-19.7	-15.4
2015	0.1	-12.2	-4.5	-25.3	-16.2	9.5	-5.5	-15.5	-114.7
2016	0.4	2.3	-3.3	-20.6	-12.3	9.1	-0.6	13.5	-6.3
2017	6.8	53.0	2.1	-2.6	-4.6	3.0	-7.3	33.5	119.4
2018	2.9	0.8	2.0	-4.8	-28.9	5.9	-2.9	-106.4	-129.8
2019	4.3	21.1	-3.5	17.7	7.0	0.0	16.6	-15.7	0.9
2020	-2.1	72.8	0.4	107.5	23.6	14.0	22.0	-20.3	366.9
2021	11.5	76.6	-7.0	72.1	-4.2	-24.2	14.9	-64.5	47.8
2022	-2.6	-77.2	-4.1	21.6	-6.1	-9.0	-51.5	-46.5	-226.8
2023	22.2	-35.3	20.1	-33.2	3.4	38.4	-26.9	18.7	-130.0
Average	3.3	9.5	0.6	12.7	-1.7	1.7	-3.7	-8.3	17.6
Y/Y Change	960.5%	54.3%	590.7%	-253.2%	156.6%	528.9%	47.7%	140.2%	42.7%

Source: U.S. Treasury, Treasury International Capital (TIC) System

Note: Net purchases = purchases - sales; EU = European Union, HK = Hong Kong

Global Investment Banking Revenues by Product – Charts



Source: Dealogic Investment Banking Revenue Analytics

Note: M&A = mergers & acquisition; DCM = debt capital markets; ECM = equity capital markets

Global Investment Banking Net Revenues by Region

(\$B)	US	UK	Europe	Japan	China	Australia	Canada	Latin America	Middle East	Other	Total
2019	39.2	3.8	13.2	3.0	7.5	1.4	3.5	1.8	1.0	3.4	77.9
2020	47.2	4.6	15.1	3.7	10.6	1.7	3.6	1.4	1.0	3.4	92.2
2021	70.5	7.1	21.9	4.0	11.9	2.5	5.5	2.3	1.5	5.3	132.5
2022	36.1	4.1	15.6	2.4	8.3	2.3	4.0	1.5	1.1	3.8	79.1
2023	32.2	3.5	13.1	3.2	6.1	1.6	3.5	1.2	0.8	3.2	68.4

Average	45.0	4.6	15.8	3.3	8.9	1.9	4.0	1.6	1.1	3.8	90.0
Y/Y Change	-10.7%	-13.3%	-16.2%	32.3%	-26.3%	-30.7%	-11.7%	-18.1%	-27.8%	-15.5%	-13.5%

(Y/Y)	US	UK	Europe	Japan	China	Australia	Canada	Latin America	Middle East	Other	Total
2020	20.2%	20.7%	15.0%	22.6%	40.1%	20.8%	1.3%	-21.1%	-3.0%	-1.2%	18.3%
2021	49.5%	55.1%	44.6%	7.9%	12.9%	47.8%	54.1%	63.4%	57.2%	54.6%	43.8%
2022	-48.8%	-42.6%	-28.7%	-39.3%	-30.1%	-10.4%	-26.9%	-36.6%	-28.3%	-28.5%	-40.3%
2023	-10.7%	-13.3%	-16.2%	32.3%	-26.3%	-30.7%	-11.7%	-18.1%	-27.8%	-15.5%	-13.5%

(% Total)	US	UK	Europe	Japan	China	Australia	Canada	Latin America	Middle East	Other
2019	50.4%	4.9%	16.9%	3.9%	9.7%	1.8%	4.5%	2.3%	1.3%	4.4%
2020	51.2%	5.0%	16.4%	4.0%	11.5%	1.8%	3.9%	1.5%	1.1%	3.7%
2021	53.2%	5.4%	16.5%	3.0%	9.0%	1.9%	4.1%	1.7%	1.2%	4.0%
2022	45.6%	5.2%	19.7%	3.1%	10.5%	2.9%	5.1%	1.9%	1.4%	4.8%
2023	47.1%	5.2%	19.1%	4.7%	9.0%	2.3%	5.2%	1.8%	1.2%	4.6%

Average	49.5%	5.1%	17.7%	3.7%	9.9%	2.1%	4.5%	1.8%	1.2%	4.3%
Y/Y Change	1.5%	0.0%	-0.6%	1.6%	-1.6%	-0.6%	0.1%	-0.1%	-0.2%	-0.1%

Source: Dealogic Investment Banking Revenue Analytics

Note: Includes M&A, debt capital markets, equity capital markets, syndicated lending

Global Mergers and Acquisitions – Announced and Completed

Announced			Completed		
	Value (\$ Billions)	# of Deals		Value (\$ Billions)	# of Deals
2009	2,299.5	37,643	2009	2,370.2	37,172
2010	2,721.7	42,356	2010	2,489.4	41,982
2011	2,769.2	45,529	2011	2,910.8	45,500
2012	2,664.3	43,927	2012	2,562.1	43,873
2013	2,792.3	38,352	2013	2,753.1	38,546
2014	3,629.9	41,549	2014	3,060.0	41,187
2015	4,556.3	40,602	2015	4,138.0	40,498
2016	3,888.4	48,211	2016	4,002.9	48,207
2017	3,689.0	51,440	2017	3,839.8	51,587
2018	4,269.2	50,646	2018	4,454.0	50,695
2019	4,084.8	50,687	2019	3,954.5	50,810
2020	3,714.1	45,502	2020	3,650.0	45,415
2021	6,052.7	52,209	2021	5,670.1	52,098
2022	3,740.6	43,665	2022	4,304.3	43,414
2023	3,168.3	38,013	2023	3,146.6	36,809
Average	3,602.7	44,688.7	Average	3,553.7	44,519.5
Y/Y Change	-15.3%	-12.9%	Y/Y Change	-26.9%	-15.2%
5Y CAGR	-5.8%	-5.6%	5Y CAGR	-6.7%	-6.2%
10Y CAGR	1.3%	-0.1%	10Y CAGR	1.3%	-0.5%

(Y/Y)	Announced Value	Announced # of Deals	Completed Value	Completed # of Deals
2010	18.4%	12.5%	5.0%	12.9%
2011	1.7%	7.5%	16.9%	8.4%
2012	-3.8%	-3.5%	-12.0%	-3.6%
2013	4.8%	-12.7%	7.5%	-12.1%
2014	30.0%	8.3%	11.1%	6.9%
2015	25.5%	-2.3%	35.2%	-1.7%
2016	-14.7%	18.7%	-3.3%	19.0%
2017	-5.1%	6.7%	-4.1%	7.0%
2018	15.7%	-1.5%	16.0%	-1.7%
2019	-4.3%	0.1%	-11.2%	0.2%
2020	-9.1%	-10.2%	-7.7%	-10.6%
2021	63.0%	14.7%	55.3%	14.7%
2022	-38.2%	-16.4%	-24.1%	-16.7%
2023	-15.3%	-12.9%	-26.9%	-15.2%

Source: Dealogic

Section II: US Capital Markets

US Equity and Debt Outstanding

(\$B)	Equity	UST	MBS	Corporates	Munis	ABS	Agency	MMs
2009	20,798.5	7,260.6	9,352.5	5,544.2	3,858.5	1,712.1	2,733.6	1,138.0
2010	24,200.9	8,853.0	9,258.4	6,193.1	3,976.3	1,507.8	2,542.4	1,057.6
2011	23,428.8	9,928.4	9,075.5	6,265.0	3,938.6	1,359.0	2,330.8	969.3
2012	26,909.9	11,046.1	8,838.1	6,714.0	3,947.7	1,280.3	2,097.0	952.3
2013	34,565.6	11,854.4	8,742.6	7,120.6	3,885.6	1,285.7	2,057.3	951.6
2014	38,282.1	12,504.8	8,842.0	7,464.5	3,849.5	1,349.4	2,028.7	930.4
2015	37,277.2	13,191.6	8,894.8	7,701.9	3,869.6	1,376.6	1,995.4	941.5
2016	40,244.3	13,908.2	9,023.2	7,954.7	3,918.7	1,391.8	1,971.7	884.9
2017	48,020.5	14,468.8	9,304.5	8,306.1	3,934.9	1,457.9	1,934.7	965.9
2018	43,870.6	15,608.0	9,732.3	8,508.3	3,889.7	1,615.6	1,842.6	996.0
2019	54,809.6	16,673.3	10,229.5	8,859.0	3,899.4	1,663.2	1,726.2	1,045.2
2020	65,541.8	20,973.1	11,214.0	9,810.0	3,983.9	1,535.5	1,688.6	986.9
2021	80,038.8	22,584.0	12,201.6	10,058.4	4,069.4	1,585.3	1,433.3	1,014.2
2022	64,735.0	23,934.5	n/a	10,446.2	4,031.3	n/a	1,935.7	1,166.1
2023	77,570.8	26,366.2	n/a	10,759.6	4,052.1	n/a	1,955.1	1,182.0
Average	45,353.0	15,277.0	9,593.0	8,113.7	3,940.3	1,470.8	2,018.2	1,012.1
Y/Y Change	19.8%	10.2%	n/a	3.0%	0.5%	n/a	1.0%	1.4%
5Y CAGR	12.1%	11.1%	n/a	4.8%	0.8%	n/a	1.2%	3.5%
10Y CAGR	8.4%	8.3%	n/a	4.2%	0.4%	n/a	-0.5%	2.2%

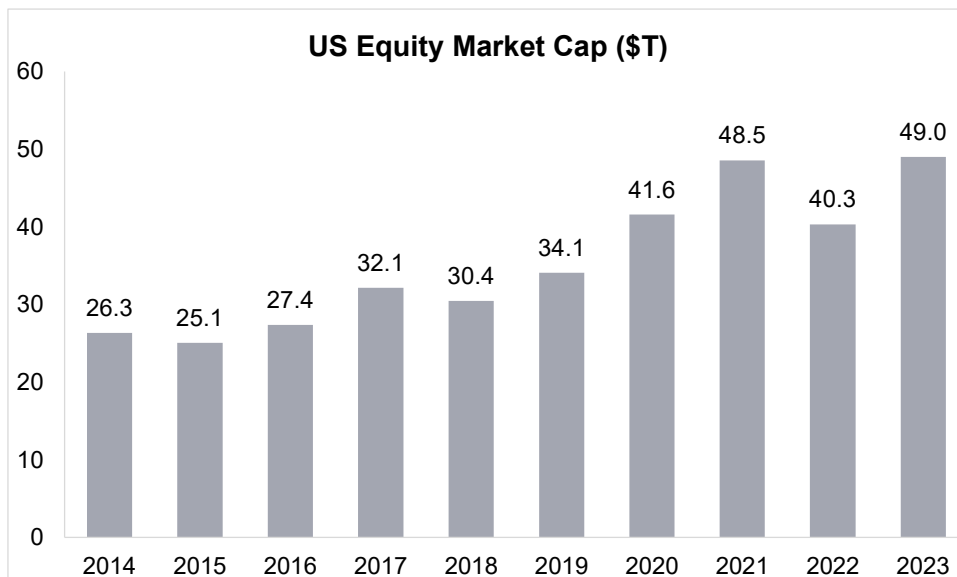
(Y/Y)	Equity	UST	MBS	Corporates	Munis	ABS	Agency	MMs
2010	16.4%	21.9%	-1.0%	11.7%	3.1%	-11.9%	-7.0%	-7.1%
2011	-3.2%	12.1%	-2.0%	1.2%	-0.9%	-9.9%	-8.3%	-8.3%
2012	14.9%	11.3%	-2.6%	7.2%	0.2%	-5.8%	-10.0%	-1.7%
2013	28.4%	7.3%	-1.1%	6.1%	-1.6%	0.4%	-1.9%	-0.1%
2014	10.8%	5.5%	1.1%	4.8%	-0.9%	5.0%	-1.4%	-2.2%
2015	-2.6%	5.5%	0.6%	3.2%	0.5%	2.0%	-1.6%	1.2%
2016	8.0%	5.4%	1.4%	3.3%	1.3%	1.1%	-1.2%	-6.0%
2017	19.3%	4.0%	3.1%	4.4%	0.4%	4.8%	-1.9%	9.2%
2018	-8.6%	7.9%	4.6%	2.4%	-1.1%	10.8%	-4.8%	3.1%
2019	24.9%	6.8%	5.1%	4.1%	0.2%	2.9%	-6.3%	4.9%
2020	19.6%	25.8%	9.6%	10.7%	2.2%	-7.7%	-2.2%	-5.6%
2021	22.1%	7.7%	8.8%	2.5%	2.1%	3.2%	-15.1%	2.8%
2022	-19.1%	6.0%	n/a	3.9%	-0.9%	n/a	35.1%	15.0%
2023	19.8%	10.2%	n/a	3.0%	0.5%	n/a	1.0%	1.4%

Source: Bloomberg, Federal Agencies, Refinitiv, SIFMA, The Federal Reserve, US Department of Treasury

Note: ABS and MBS statistics are as of 2021. Corporate equities include both listed on exchanges and closely held common and preferred shares issued by domestic corporations and US purchases of shares issued by foreign corporations; UST = US Treasuries, MBS = mortgage-backed securities, Corporates = corporate bonds, munis = municipal securities, agency = federal agency securities, ABS = asset-backed securities, MMs = money market funds

US Stock Market Capitalization

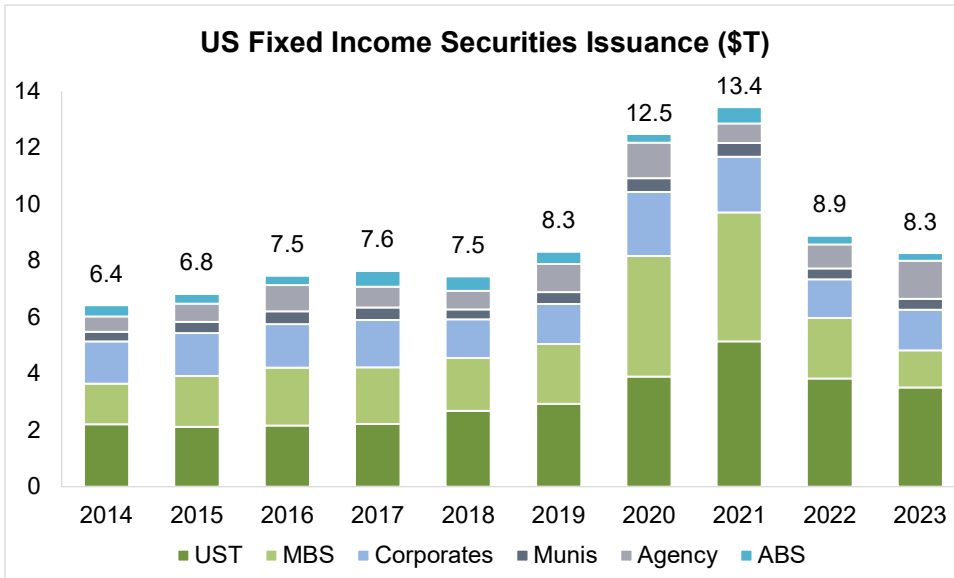
(\$B)	NYSE	Nasdaq	Total	(Y/Y)	NYSE	Nasdaq	Total
2009	11,838	3,239.5	15,077.3				
2010	13,394	3,889.4	17,283.5	2010	13.1%	20.1%	14.6%
2011	11,796	3,845.1	15,640.7	2011	-11.9%	-1.1%	-9.5%
2012	14,086	4,582.4	18,668.3	2012	19.4%	19.2%	19.4%
2013	17,950	6,085.0	24,034.9	2013	27.4%	32.8%	28.7%
2014	19,351	6,979.2	26,330.6	2014	7.8%	14.7%	9.6%
2015	17,787	7,280.8	25,067.5	2015	-8.1%	4.3%	-4.8%
2016	19,573	7,779.1	27,352.2	2016	10.0%	6.8%	9.1%
2017	22,081	10,039.3	32,120.7	2017	12.8%	29.1%	17.4%
2018	20,679	9,756.8	30,436.3	2018	-6.3%	-2.8%	-5.2%
2019	21,084	13,002.0	34,085.7	2019	2.0%	33.3%	12.0%
2020	22,509	19,060.4	41,569.9	2020	6.8%	46.6%	22.0%
2021	23,991	24,557.1	48,548.5	2021	6.6%	28.8%	16.8%
2022	24,060	16,237.6	40,298.0	2022	0.3%	-33.9%	-17.0%
2023	25,565	23,414.7	48,979.4	2023	6.3%	44.2%	21.5%
Average	19,049.7	10,649.9	29,699.6				
Y/Y Change	6.3%	44.2%	21.5%				
5Y CAGR	3.9%	12.5%	7.5%				
10Y CAGR	2.8%	12.9%	6.4%				



Source: World Federation of Exchanges

Note: Includes market capitalization of domestic companies only

US Fixed Income Securities Issuance – Chart



Source: Bloomberg, Refinitiv, Treasury, US Agencies

Note: UST = US Treasuries, MBS = mortgage-backed securities, Corporates = corporate bonds, munis = municipal securities, agency = federal agency securities, ABS = asset-backed securities. Includes long-term securities only

US Fixed Income Securities Issuance – Value

(\$B)	UST	MBS	Corporates	Munis	Agency	ABS	Total
2009	2,197.2	2,173.3	975.3	409.6	1,244.4	177.9	7,177.8
2010	2,319.7	2,012.6	1,088.4	433.3	1,362.1	125.9	7,342.0
2011	2,103.3	1,724.8	1,047.5	295.1	1,025.3	151.0	6,346.9
2012	2,304.6	2,195.1	1,394.2	382.7	925.5	259.0	7,461.1
2013	2,140.0	2,120.2	1,424.3	335.4	652.9	304.1	6,977.0
2014	2,215.5	1,439.6	1,481.7	339.1	558.7	393.4	6,428.0
2015	2,122.5	1,800.7	1,514.7	405.1	645.5	333.4	6,821.9
2016	2,169.4	2,044.2	1,547.2	451.9	927.9	325.4	7,466.1
2017	2,224.3	2,003.4	1,677.4	449.0	731.3	550.3	7,635.7
2018	2,684.7	1,873.0	1,376.3	346.9	653.6	516.9	7,451.3
2019	2,935.5	2,118.9	1,417.4	426.4	989.3	434.7	8,322.1
2020	3,895.8	4,271.0	2,274.5	485.2	1,251.3	304.3	12,482.1
2021	5,139.1	4,584.4	1,958.7	483.4	692.9	581.9	13,440.5
2022	3,826.8	2,146.1	1,368.0	391.5	845.9	302.8	8,881.1
2023	3,518.0	1,312.0	1,444.7	385.1	1,336.7	270.5	8,266.9

Average	2,786.4	2,254.6	1,466.0	401.3	922.9	335.4	8,166.7
Y/Y Change	-8.1%	-38.9%	5.6%	-1.6%	58.0%	-10.7%	-6.9%
5Y CAGR	5.6%	-6.9%	1.0%	2.1%	15.4%	-12.2%	2.1%
10Y CAGR	5.1%	-4.7%	0.1%	1.4%	7.4%	-1.2%	1.7%

(Y/Y)	UST	MBS	Corporates	Munis	Agency	ABS	Total
2010	5.6%	-7.4%	11.6%	5.8%	9.5%	-29.2%	2.3%
2011	-9.3%	-14.3%	-3.8%	-31.9%	-24.7%	19.9%	-13.6%
2012	9.6%	27.3%	33.1%	29.7%	-9.7%	71.6%	17.6%
2013	-7.1%	-3.4%	2.2%	-12.3%	-29.5%	17.4%	-6.5%
2014	3.5%	-32.1%	4.0%	1.1%	-14.4%	29.3%	-7.9%
2015	-4.2%	25.1%	2.2%	19.5%	15.5%	-15.2%	6.1%
2016	2.2%	13.5%	2.1%	11.6%	43.7%	-2.4%	9.4%
2017	2.5%	-2.0%	8.4%	-0.6%	-21.2%	69.1%	2.3%
2018	20.7%	-6.5%	-18.0%	-22.7%	-10.6%	-6.1%	-2.4%
2019	9.3%	13.1%	3.0%	22.9%	51.4%	-15.9%	11.7%
2020	32.7%	101.6%	60.5%	13.8%	26.5%	-30.0%	50.0%
2021	31.9%	7.3%	-13.9%	-0.4%	-44.6%	91.2%	7.7%
2022	-25.5%	-53.2%	-30.2%	-19.0%	22.1%	-48.0%	-33.9%
2023	-8.1%	-38.9%	5.6%	-1.6%	58.0%	-10.7%	-6.9%

Source: Bloomberg, Refinitiv, Treasury, US Agencies

Note: UST = US Treasuries, MBS = mortgage-backed securities, Corporates = corporate bonds, munis = municipal securities, agency = federal agency securities, ABS = asset-backed securities. Includes long-term securities only

US Fixed Income Securities Issuance – Number of Issues

(#)	UST	MBS	Corporates	Munis	ABS
2009	77	174	1,386	11,691	289
2010	81	210	1,661	13,804	318
2011	81	159	1,418	10,583	313
2012	87	211	1,850	13,150	503
2013	84	339	1,808	11,503	626
2014	96	389	1,667	11,141	738
2015	96	443	1,375	13,302	733
2016	93	345	1,476	13,556	740
2017	96	402	1,777	12,060	1,166
2018	99	438	1,379	9,613	1,080
2019	98	518	1,407	11,602	903
2020	105	413	2,092	13,344	604
2021	109	149	1,891	13,134	1,063
2022	105	n/a	1,030	9,196	n/a
2023	108	n/a	1,189	8,097	n/a

Average	94	322	1,560	11,718	698
Y/Y Change	2.9%	n/a	15.4%	-12.0%	n/a
5Y CAGR	1.8%	n/a	-2.9%	-3.4%	n/a
10Y CAGR	2.5%	n/a	-4.1%	-3.5%	n/a

(Y/Y)	UST	MBS	Corporates	MBS	ABS
2010	5.2%	20.7%	19.8%	18.1%	10.0%
2011	0.0%	-24.3%	-14.6%	-23.3%	-1.6%
2012	7.4%	32.7%	30.5%	24.3%	60.7%
2013	-3.4%	60.7%	-2.3%	-12.5%	24.5%
2014	14.3%	14.7%	-7.8%	-3.1%	17.9%
2015	0.0%	13.9%	-17.5%	19.4%	-0.7%
2016	-3.1%	-22.1%	7.3%	1.9%	1.0%
2017	3.2%	16.5%	20.4%	-11.0%	57.6%
2018	3.1%	9.0%	-22.4%	-20.3%	-7.4%
2019	-1.0%	18.3%	2.0%	20.7%	-16.4%
2020	7.1%	-20.3%	48.7%	15.0%	-33.1%
2021	3.8%	-63.9%	-9.6%	-1.6%	76.0%
2022	-3.7%	n/a	-45.5%	-30.0%	n/a
2023	2.9%	n/a	15.4%	-12.0%	n/a

Source: Bloomberg, Refinitiv

Note: ABS and MBS statistics are as of 2021. UST = US Treasuries, MBS = mortgage-backed securities, Corporates = corporate bonds, munis = municipal securities, ABS = asset-backed securities. Includes long-term securities only.

US Long-Term Municipal Bond Issuance – Value

(\$B)	Revenue Competitive	Revenue Negotiated	Total Public Revenue	GO Competitive	GO Negotiated	Total Public GO	Private Placements	Total
2009	11.8	239.3	251.1	46.1	108.7	154.8	3.7	409.6
2010	24.2	254.2	278.4	49.0	98.0	146.9	7.9	433.3
2011	18.7	161.4	180.1	40.8	64.2	105.1	9.9	295.1
2012	26.4	208.1	234.6	47.7	87.5	135.3	12.8	382.7
2013	18.1	170.1	188.2	51.3	73.3	124.6	22.7	335.4
2014	20.5	161.3	181.8	51.4	81.5	132.8	24.5	339.1
2015	23.3	200.3	223.6	63.9	89.8	153.8	27.8	405.1
2016	29.4	219.2	248.5	69.3	106.0	175.3	28.1	451.9
2017	29.4	218.3	247.6	68.9	91.9	160.8	40.6	449.0
2018	26.5	175.6	202.0	58.1	62.8	120.9	23.9	346.9
2019	27.2	219.1	246.2	72.0	88.5	160.5	19.6	426.4
2020	24.9	236.5	261.3	68.1	121.9	190.0	33.9	485.2
2021	28.8	252.8	281.6	70.8	104.6	175.4	26.3	483.4
2022	18.5	201.0	219.6	59.9	80.4	140.3	31.6	391.5
2023	14.6	201.3	215.9	57.2	90.4	147.6	21.6	385.1
Average	22.8	207.9	230.7	58.3	90.0	148.3	22.3	401.3
Y/Y Change	-21.3%	0.1%	-1.7%	-4.6%	12.5%	5.2%	-31.7%	-1.6%
5Y CAGR	-11.2%	2.8%	1.3%	-0.3%	7.6%	4.1%	-2.0%	2.1%
10Y CAGR	-2.1%	1.7%	1.4%	1.1%	2.1%	1.7%	-0.5%	1.4%

(Y/Y)	Revenue Competitive	Revenue Negotiated	Total Public Revenue	GO Competitive	GO Negotiated	Total Public GO	Private Placements	Total
2010	105.0%	6.2%	10.9%	6.2%	-9.9%	-5.1%	114.2%	5.8%
2011	-22.6%	-36.5%	-35.3%	-16.6%	-34.4%	-28.5%	25.2%	-31.9%
2012	41.2%	28.9%	30.2%	16.9%	36.2%	28.7%	29.6%	29.7%
2013	-31.5%	-18.3%	-19.8%	7.4%	-16.3%	-7.9%	76.7%	-12.3%
2014	13.0%	-5.1%	-3.4%	0.2%	11.1%	6.6%	8.2%	1.1%
2015	14.0%	24.2%	23.0%	24.5%	10.3%	15.8%	13.2%	19.5%
2016	25.9%	9.4%	11.2%	8.4%	18.0%	14.0%	1.2%	11.6%
2017	0.0%	-0.4%	-0.4%	-0.6%	-13.2%	-8.2%	44.4%	-0.6%
2018	-9.8%	-19.6%	-18.4%	-15.7%	-31.7%	-24.8%	-41.0%	-22.7%
2019	2.6%	24.8%	21.9%	24.0%	40.9%	32.8%	-18.0%	22.9%
2020	-8.5%	7.9%	6.1%	-5.4%	37.7%	18.3%	73.1%	13.8%
2021	15.8%	6.9%	7.8%	4.0%	-14.1%	-7.6%	-22.4%	-0.4%
2022	-35.6%	-20.5%	-22.0%	-15.4%	-23.2%	-20.0%	20.2%	-19.0%
2023	-21.3%	0.1%	-1.7%	-4.6%	12.5%	5.2%	-31.7%	-1.6%

Source: Refinitiv

Note: Includes securities issued by a state, territory, municipality, county, or certain non-profit organizations; excludes securities with maturities <13 months. GO = general obligation

US Long-Term Municipal Bond Issuance – Number of Issues

(#)	Revenue Competitive	Revenue Negotiated	Total Revenue	GO Competitive	GO Negotiated	Total GO	Private Placements	Total
2009	515	3,727	4,242	3,125	3,992	7,117	332	11,691
2010	791	4,434	5,225	3,437	4,770	8,207	372	13,804
2011	552	3,009	3,561	2,942	3,666	6,608	414	10,583
2012	760	3,541	4,301	3,530	4,731	8,261	588	13,150
2013	548	3,012	3,560	3,272	3,741	7,013	930	11,503
2014	559	2,821	3,380	3,257	3,527	6,784	977	11,141
2015	663	3,576	4,239	3,778	4,063	7,841	1,222	13,302
2016	790	3,650	4,440	3,847	3,984	7,831	1,285	13,556
2017	549	3,350	3,899	3,467	3,220	6,687	1,474	12,060
2018	516	2,760	3,276	3,201	2,072	5,273	1,064	9,613
2019	610	3,337	3,947	3,488	3,172	6,660	995	11,602
2020	601	3,520	4,121	3,761	3,967	7,728	1,495	13,344
2021	563	4,008	4,571	3,718	3,571	7,289	1,274	13,134
2022	395	2,544	2,939	2,931	2,042	4,973	1,284	9,196
2023	350	2,309	2,659	2,790	1,828	4,618	820	8,097

Average	584.1	3,306.5	3,890.7	3,369.6	3,489.7	6,859.3	968.4	11,718.4
Y/Y Change	-11.4%	-9.2%	-9.5%	-4.8%	-10.5%	-7.1%	-36.1%	-12.0%
5Y CAGR	-7.5%	-3.5%	-4.1%	-2.7%	-2.5%	-2.6%	-5.1%	-3.4%
10Y CAGR	-4.4%	-2.6%	-2.9%	-1.6%	-6.9%	-4.1%	-1.3%	-3.5%

(Y/Y)	Revenue Competitive	Revenue Negotiated	Total Revenue	GO Competitive	GO Negotiated	Total GO	Private Placements	Total
2010	53.6%	19.0%	23.2%	10.0%	19.5%	15.3%	12.0%	18.1%
2011	-30.2%	-32.1%	-31.8%	-14.4%	-23.1%	-19.5%	11.3%	-23.3%
2012	37.7%	17.7%	20.8%	20.0%	29.1%	25.0%	42.0%	24.3%
2013	-27.9%	-14.9%	-17.2%	-7.3%	-20.9%	-15.1%	58.2%	-12.5%
2014	2.0%	-6.3%	-5.1%	-0.5%	-5.7%	-3.3%	5.1%	-3.1%
2015	18.6%	26.8%	25.4%	16.0%	15.2%	15.6%	25.1%	19.4%
2016	19.2%	2.1%	4.7%	1.8%	-1.9%	-0.1%	5.2%	1.9%
2017	-30.5%	-8.2%	-12.2%	-9.9%	-19.2%	-14.6%	14.7%	-11.0%
2018	-6.0%	-17.6%	-16.0%	-7.7%	-35.7%	-21.1%	-27.8%	-20.3%
2019	18.2%	20.9%	20.5%	9.0%	53.1%	26.3%	-6.5%	20.7%
2020	-1.5%	5.5%	4.4%	7.8%	25.1%	16.0%	50.3%	15.0%
2021	-6.3%	13.9%	10.9%	-1.1%	-10.0%	-5.7%	-14.8%	-1.6%
2022	-29.8%	-36.5%	-35.7%	-21.2%	-42.8%	-31.8%	0.8%	-30.0%
2023	-11.4%	-9.2%	-9.5%	-4.8%	-10.5%	-7.1%	-36.1%	-12.0%

Source: Refinitiv

Note: Includes securities issued by a state, territory, municipality, county, or certain non-profit organizations; excludes securities with maturities <13 months. GO = general obligation

US Long-Term Municipal Bond Issuance – Number of Issuers

(#)	Total	Unique	Unique % Total	(Y/Y)	Total	Unique	Unique % Total
2009	11,691	7,361	63.0%				
2010	13,804	8,235	59.7%	2010	18.1%	11.9%	-3.3%
2011	10,583	7,143	67.5%	2011	-23.3%	-13.3%	7.8%
2012	13,150	8,839	67.2%	2012	24.3%	23.7%	-0.3%
2013	11,503	7,665	66.6%	2013	-12.5%	-13.3%	-0.6%
2014	11,141	7,397	66.4%	2014	-3.1%	-3.5%	-0.2%
2015	13,302	8,585	64.5%	2015	19.4%	16.1%	-1.9%
2016	13,556	8,891	65.6%	2016	1.9%	3.6%	1.0%
2017	12,060	7,576	62.8%	2017	-11.0%	-14.8%	-2.8%
2018	9,613	6,303	65.6%	2018	-20.3%	-16.8%	2.7%
2019	11,602	7,421	64.0%	2019	20.7%	17.7%	-1.6%
2020	13,344	8,387	62.9%	2020	15.0%	13.0%	-1.1%
2021	13,134	8,201	62.4%	2021	-1.6%	-2.2%	-0.4%
2022	9,196	6,044	65.7%	2022	-30.0%	-26.3%	3.3%
2023	8,097	5,419	66.9%	2023	-12.0%	-10.3%	1.2%
Average	11,718.4	7,564.5	0.6				
Y/Y Change	-12.0%	-10.3%	1.8%				
5Y CAGR	-3.4%	-3.0%	0.4%				
10Y CAGR	-3.5%	-3.4%	0.0%				

Source: Refinitiv

Note: Includes securities issued by a state, territory, municipality, county, or certain non-profit organizations; excludes securities with maturities <13 months

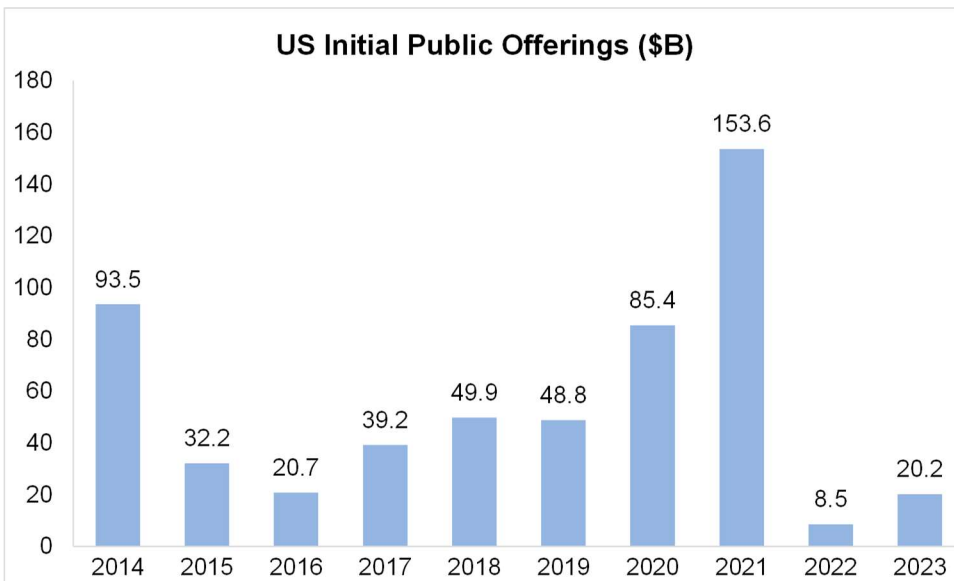
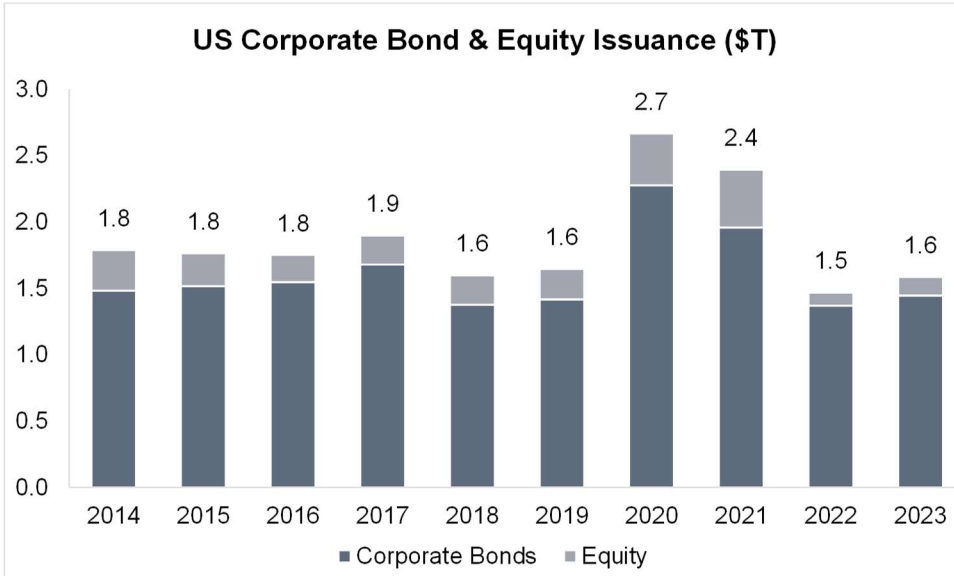
Bank Qualified US Municipal Bond Issuance

	# Deals	Total Volume (\$M)	Average Deal Size (\$M)	(Y/Y)	# Deals	Total Volume (\$M)	Average Deal Size (\$M)
2009	5,992	33,028.6	5.5				
2010	6,712	36,792.9	5.5	2010	12.0%	11.4%	-0.6%
2011	5,155	18,827.8	3.7	2011	-23.2%	-48.8%	-33.4%
2012	6,352	25,120.9	4.0	2012	23.2%	33.4%	8.3%
2013	5,247	20,249.1	3.9	2013	-17.4%	-19.4%	-2.4%
2014	4,941	20,013.3	4.1	2014	-5.8%	-1.2%	5.0%
2015	5,422	22,670.7	4.2	2015	9.7%	13.3%	3.2%
2016	5,358	22,838.8	4.3	2016	-1.2%	0.7%	1.9%
2017	4,217	17,662.0	4.2	2017	-21.3%	-22.7%	-1.7%
2018	3,070	11,962.7	3.9	2018	-27.2%	-32.3%	-7.0%
2019	3,702	14,901.2	4.0	2019	20.6%	24.6%	3.3%
2020	4,164	16,506.2	4.0	2020	12.5%	10.8%	-1.5%
2021	3,848	15,404.0	4.0	2021	-7.6%	-6.7%	1.0%
2022	2,446	9,728.0	4.0	2022	-36.4%	-36.8%	-0.6%
2023	2,209	8,550.5	3.9	2023	-9.7%	-12.1%	-2.7%
Average	4,589.0	19,617.1	4.2				
Y/Y Change	-9.7%	-12.1%	-2.7%				
5Y CAGR	-6.4%	-6.5%	-0.1%				
10Y CAGR	-8.3%	-8.3%	0.0%				

Source: Refinitiv

Note: Deal size = average. Bank qualified municipal bonds are defined as short-term and long-term municipal bonds under the Tax Reform Act of 1986 (265b) where, when purchased by a commercial bank for its portfolio, the bank may deduct a portion of interest cost of carry for the position

US Corporate Bonds and Equity Issuance – Charts



Source: Bloomberg, Dealogic, Refinitiv

Note: Corporates include underwritten, privately placed, and medium-term notes; US IPOs include rank eligible deals, exclude BDCs, SPACs, ETFs, CLEFs and rights offers

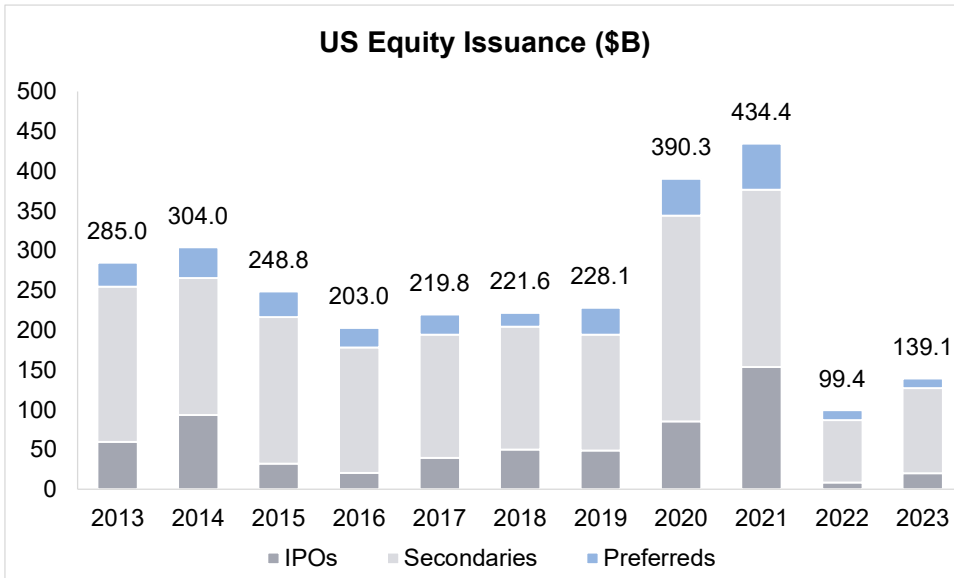
US Corporate Bond and Equity Issuance

(\$B)	Corporates	Equity	Total	(Y/Y)	Corporates	Equity	Total
2009	975.3	264.9	1,240.2				
2010	1,088.4	219.2	1,307.5	2010	11.6%	-17.3%	5.4%
2011	1,047.5	184.9	1,232.4	2011	-3.8%	-15.6%	-5.7%
2012	1,394.2	264.6	1,658.8	2012	33.1%	43.1%	34.6%
2013	1,424.3	285.0	1,709.3	2013	2.2%	7.7%	3.0%
2014	1,481.7	304.0	1,785.7	2014	4.0%	6.7%	4.5%
2015	1,514.7	248.8	1,763.5	2015	2.2%	-18.1%	-1.2%
2016	1,547.2	203.0	1,750.2	2016	2.1%	-18.4%	-0.8%
2017	1,677.4	219.8	1,897.2	2017	8.4%	8.3%	8.4%
2018	1,376.3	221.6	1,597.9	2018	-18.0%	0.8%	-15.8%
2019	1,417.4	228.1	1,645.4	2019	3.0%	2.9%	3.0%
2020	2,274.5	390.3	2,664.8	2020	60.5%	71.1%	62.0%
2021	1,958.7	434.4	2,393.2	2021	-13.9%	11.3%	-10.2%
2022	1,368.0	99.4	1,467.4	2022	-30.2%	-77.1%	-38.7%
2023	1,444.7	139.1	1,583.8	2023	5.6%	39.9%	7.9%
Average	1,466.0	247.1	1,713.2				
Y/Y Change	5.6%	39.9%	7.9%				
5Y CAGR	1.0%	-8.9%	-0.2%				
10Y CAGR	0.1%	-6.9%	-0.8%				

Source: Bloomberg, Dealogic, Refinitiv

Note: Corporates include underwritten, privately placed, and medium-term notes; US IPOs include rank eligible deals, exclude BDCs, SPACs, ETFs, CLEFs and rights offers

US Equity Issuance – Chart



Source: Dealogic

Note: Includes rank eligible deals, excludes BDCs, SPACs, ETFs, CLEFs and rights offers. IPO = initial public offering, secondaries = secondary offerings or follow-ons, preferreds = preferred stock

US Equity Issuance – Value

(\$B)	IPOs	Secondaries	Total CS	Preferreds	Total
2009	27.0	230.8	257.9	7.0	264.9
2010	43.5	169.5	213.0	6.2	219.2
2011	40.1	139.3	179.4	5.5	184.9
2012	46.2	183.7	230.0	34.6	264.6
2013	60.0	194.8	254.8	30.2	285.0
2014	93.5	171.9	265.4	38.5	304.0
2015	32.2	184.5	216.7	32.1	248.8
2016	20.7	157.3	178.1	25.0	203.0
2017	39.2	154.8	194.0	25.8	219.8
2018	49.9	154.6	204.5	17.2	221.6
2019	48.8	145.3	194.1	34.0	228.1
2020	85.4	258.3	343.7	46.6	390.3
2021	153.6	222.8	376.4	58.0	434.4
2022	8.5	78.5	87.1	12.4	99.4
2023	20.2	107.1	127.3	11.8	139.1

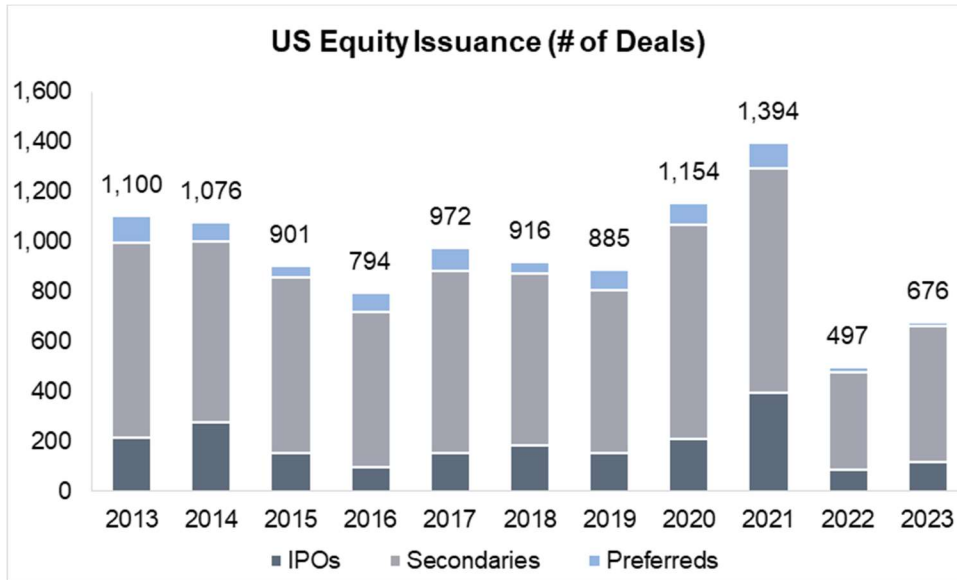
Average	51.3	170.2	221.5	25.7	247.1
Y/Y Change	136.1%	36.4%	46.2%	-4.7%	39.9%
5Y CAGR	-16.6%	-7.1%	-9.0%	-7.3%	-8.9%
10Y CAGR	-10.3%	-5.8%	-6.7%	-9.0%	-6.9%

(Y/Y)	IPOs	Secondaries	Total CS	Preferreds	Total
2010	60.8%	-26.6%	-17.4%	-11.4%	-17.3%
2011	-7.6%	-17.8%	-15.7%	-11.5%	-15.6%
2012	15.2%	31.9%	28.2%	528.9%	43.1%
2013	29.7%	6.0%	10.8%	-12.9%	7.7%
2014	55.9%	-11.7%	4.2%	27.8%	6.7%
2015	-65.6%	7.3%	-18.4%	-16.6%	-18.1%
2016	-35.5%	-14.7%	-17.8%	-22.3%	-18.4%
2017	89.2%	-1.6%	8.9%	3.4%	8.3%
2018	27.1%	-0.1%	5.4%	-33.5%	0.8%
2019	-2.1%	-6.0%	-5.1%	98.0%	2.9%
2020	75.1%	77.7%	77.1%	37.1%	71.1%
2021	79.7%	-13.7%	9.5%	24.6%	11.3%
2022	-94.4%	-64.8%	-76.9%	-78.7%	-77.1%
2023	136.1%	36.4%	46.2%	-4.7%	39.9%

Source: Dealogic

Note: Includes rank eligible deals, excludes BDCs, SPACs, ETFs, CLEFs and rights offers. IPO = initial public offering, secondaries = secondary offerings or follow-ons, CS = common stock, preferreds = preferred stock

US Equity Issuance – Number of Issues: Chart



Source: Dealogic

Note: Includes rank eligible deals, excludes BDCs, SPACs, ETFs, CLEFs and rights offers. IPO = initial public offering, secondaries = secondary offerings or follow-ons, CS = common stock, preferreds = preferred stock

US Equity Issuance – Number of Issues

(#)	IPOs	Secondaries	Total CS	Preferreds	Total
2009	63	653	716	14	730
2010	158	600	758	23	781
2011	124	502	626	37	663
2012	131	574	705	118	823
2013	215	782	997	103	1,100
2014	275	724	999	77	1,076
2015	153	701	854	47	901
2016	98	618	716	78	794
2017	154	728	882	90	972
2018	185	685	870	46	916
2019	151	652	803	82	885
2020	209	860	1,069	85	1,154
2021	394	898	1,292	102	1,394
2022	86	388	474	23	497
2023	118	543	661	15	676

Average	167.6	660.5	828.1	62.7	890.8
Y/Y Change	37.2%	39.9%	39.5%	-34.8%	36.0%
5Y CAGR	-8.6%	-4.5%	-5.3%	-20.1%	-5.9%
10Y CAGR	-5.8%	-3.6%	-4.0%	-17.5%	-4.8%

(Y/Y)	IPOs	Secondaries	Total CS	Preferreds	Total
2010	150.8%	-8.1%	5.9%	64.3%	7.0%
2011	-21.5%	-16.3%	-17.4%	60.9%	-15.1%
2012	5.6%	14.3%	12.6%	218.9%	24.1%
2013	64.1%	36.2%	41.4%	-12.7%	33.7%
2014	27.9%	-7.4%	0.2%	-25.2%	-2.2%
2015	-44.4%	-3.2%	-14.5%	-39.0%	-16.3%
2016	-35.9%	-11.8%	-16.2%	66.0%	-11.9%
2017	57.1%	17.8%	23.2%	15.4%	22.4%
2018	20.1%	-5.9%	-1.4%	-48.9%	-5.8%
2019	-18.4%	-4.8%	-7.7%	78.3%	-3.4%
2020	38.4%	31.9%	33.1%	3.7%	30.4%
2021	88.5%	4.4%	20.9%	20.0%	20.8%
2022	-78.2%	-56.8%	-63.3%	-77.5%	-64.3%
2023	37.2%	39.9%	39.5%	-34.8%	36.0%

Source: Dealogic

Note: Includes rank eligible deals, excludes BDCs, SPACs, ETFs, CLEFs and rights offers. IPO = initial public offering, secondaries = secondary offerings or follow-ons, CS = common stock, preferreds = preferred stock

US Private Placements – Value

(\$B)	Debt	Equity	Total	(Y/Y)	Debt	Equity	Total	(% Total)	Debt	Equity
2009	157.9	8.2	166.0					2009	95.1%	4.9%
2010	140.3	27.2	167.6	2010	-11.1%	234.1%	0.9%	2010	83.7%	16.3%
2011	114.4	25.9	140.2	2011	-18.5%	-5.0%	-16.3%	2011	81.6%	18.4%
2012	135.1	13.4	148.5	2012	18.1%	-48.1%	5.9%	2012	91.0%	9.0%
2013	132.2	45.4	177.6	2013	-2.1%	238.1%	19.6%	2013	74.4%	25.6%
2014	130.9	7.8	138.7	2014	-0.9%	-82.9%	-21.9%	2014	94.4%	5.6%
2015	139.7	12.0	151.7	2015	6.7%	54.7%	9.4%	2015	92.1%	7.9%
2016	132.9	19.2	152.1	2016	-4.9%	59.9%	0.3%	2016	87.4%	12.6%
2017	221.1	14.2	235.2	2017	66.3%	-26.2%	54.6%	2017	94.0%	6.0%
2018	213.0	12.3	225.3	2018	-3.6%	-13.4%	-4.2%	2018	94.6%	5.4%
2019	283.0	20.3	303.3	2019	32.9%	65.5%	34.6%	2019	93.3%	6.7%
2020	313.6	15.8	329.4	2020	10.8%	-22.1%	8.6%	2020	95.2%	4.8%
2021	415.1	18.3	433.4	2021	32.4%	15.8%	31.6%	2021	95.8%	4.2%
2022	176.3	6.9	183.2	2022	-57.5%	-62.2%	-57.7%	2022	96.2%	3.8%
2023	162.0	5.6	167.6	2023	-8.1%	-18.9%	-8.5%	2023	96.7%	3.3%
Average	191.2	16.8	208.0					Average	91.0%	9.0%
Y/Y Change	-8.1%	-18.9%	-8.5%					Y/Y Change	0.4%	-11.3%
5Y CAGR	-5.3%	-14.5%	-5.7%							
10Y CAGR	2.1%	-18.9%	-0.6%							

Source: Refinitiv

Note: Includes private placements in the U.S. from all issuers

US Private Placements – Number of Issues

(#)	Debt	Equity	Total	(Y/Y)	Debt	Equity	Total	(% Total)	Debt	Equity
2009	495	523	1,018					2009	48.6%	51.4%
2010	536	652	1,188	2010	8.3%	24.7%	16.7%	2010	45.1%	54.9%
2011	482	547	1,029	2011	-10.1%	-16.1%	-13.4%	2011	46.8%	53.2%
2012	500	347	847	2012	3.7%	-36.6%	-17.7%	2012	59.0%	41.0%
2013	549	206	755	2013	9.8%	-40.6%	-10.9%	2013	72.7%	27.3%
2014	491	127	618	2014	-10.6%	-38.3%	-18.1%	2014	79.4%	20.6%
2015	483	192	675	2015	-1.6%	51.2%	9.2%	2015	71.6%	28.4%
2016	460	248	708	2016	-4.8%	29.2%	4.9%	2016	65.0%	35.0%
2017	601	102	703	2017	30.7%	-58.9%	-0.7%	2017	85.5%	14.5%
2018	580	42	622	2018	-3.5%	-58.8%	-11.5%	2018	93.2%	6.8%
2019	652	57	709	2019	12.4%	35.7%	14.0%	2019	92.0%	8.0%
2020	646	55	701	2020	-0.9%	-3.5%	-1.1%	2020	92.2%	7.8%
2021	809	35	844	2021	25.2%	-36.4%	20.4%	2021	95.9%	4.1%
2022	474	21	495	2022	-41.4%	-40.0%	-41.4%	2022	95.8%	4.2%
2023	403	23	426	2023	-15.0%	9.5%	-13.9%	2023	94.6%	5.4%
Average	544.1	211.8	755.9					Average	75.8%	24.2%
Y/Y Change	-15.0%	9.5%	-13.9%					Y/Y Change	-1.2%	27.3%
5Y CAGR	-7.0%	-11.3%	-7.3%							
10Y CAGR	-3.0%	-19.7%	-5.6%							

Source: Refinitiv

Note: Includes private placements in the U.S. from all issuers

US Fixed Income Securities Average Daily Trading Volume (ADV)

(\$B)	UST	MBS	Corporates	Munis	Agency	ABS
2009	409.8	299.9	19.9	12.5	n/a	n/a
2010	523.8	320.6	20.5	13.3	11.5	n/a
2011	571.0	249.5	20.6	11.3	9.9	1.5
2012	519.5	284.4	22.6	11.3	10.7	1.5
2013	546.5	225.9	24.7	11.2	7.3	1.3
2014	505.0	181.1	26.7	9.9	6.0	1.5
2015	490.0	195.3	27.9	8.6	5.2	1.4
2016	519.1	212.3	30.0	11.1	5.4	1.3
2017	505.2	211.0	30.9	10.8	4.2	1.4
2018	547.8	220.6	31.5	11.6	3.5	1.4
2019	593.6	250.4	34.3	11.5	4.2	1.5
2020	603.2	293.0	38.9	12.0	5.3	1.9
2021	624.1	280.7	37.0	8.8	3.2	1.4
2022	614.3	242.0	38.6	14.1	2.5	1.6
2023	760.5	256.0	40.5	13.2	3.9	1.7

Average	555.6	248.2	29.7	11.4	5.9	1.5
Y/Y Change	23.8%	5.8%	5.0%	-6.7%	55.9%	5.9%
5Y CAGR	6.8%	3.0%	5.1%	2.5%	2.3%	4.0%
10Y CAGR	3.4%	1.3%	5.1%	1.6%	-6.0%	3.0%

(Y/Y)	UST	MBS	Corporates	Munis	Agency	ABS
2010	27.8%	6.9%	2.5%	6.9%	n/a	n/a
2011	9.0%	-22.2%	1.0%	-15.2%	-13.4%	n/a
2012	-9.0%	14.0%	9.5%	-0.3%	7.8%	3.6%
2013	5.2%	-20.6%	9.2%	-0.8%	-31.9%	-15.7%
2014	-7.6%	-19.8%	8.1%	-11.7%	-17.1%	16.9%
2015	-3.0%	7.9%	4.7%	-12.7%	-13.2%	-4.4%
2016	5.9%	8.7%	7.4%	28.4%	3.0%	-7.6%
2017	-2.7%	-0.6%	3.1%	-2.7%	-23.2%	6.5%
2018	8.4%	4.5%	1.9%	7.9%	-15.9%	0.4%
2019	8.4%	13.5%	8.7%	-1.0%	19.3%	7.5%
2020	1.6%	17.0%	13.7%	4.2%	28.3%	23.2%
2021	3.5%	-4.2%	-5.0%	-26.4%	-39.6%	-26.5%
2022	-1.6%	-13.8%	4.3%	59.8%	-22.1%	17.8%
2023	23.8%	5.8%	5.0%	-6.7%	55.9%	5.9%

Source: Federal Reserve Bank of New York, Municipal Securities Rulemaking Board, FINRA TRACE

Note: UST = U.S. Treasuries, trading volumes from U.S. primary dealers. MBS = mortgage-backed securities; starting in 2011 includes non-agency MBS and CMBS, daily figures include 144A trades but not subcategories with <5 trades per day; new issue transactions sometimes included. Corporates = corporate bonds, includes public and 144A trades. Munis = municipal securities, annual daily average figures. Agency = federal agency securities. ABS = asset-backed securities; do not include CMBS but do include CDOs and other, daily figures include 144A trades but not subcategories with <5 trades per day, new issue transactions sometimes included

US Municipal Bond Average Daily Trading – Dollar Volume

(\$M)	Retail	Institutional	Total	(Y/Y)	Retail	Institutional	Total
2009	1,107.2	13,937.9	15,045.1				
2010	1,101.3	13,778.8	14,880.1	2010	-0.5%	-1.1%	-1.1%
2011	1,084.6	11,953.7	13,038.3	2011	-1.5%	-13.2%	-12.4%
2012	1,028.8	11,772.0	12,800.8	2012	-5.1%	-1.5%	-1.8%
2013	1,119.6	11,260.6	12,380.2	2013	8.8%	-4.3%	-3.3%
2014	928.3	10,076.6	11,004.9	2014	-17.1%	-10.5%	-11.1%
2015	979.2	8,616.8	9,596.0	2015	5.5%	-14.5%	-12.8%
2016	992.9	11,448.0	12,440.9	2016	1.4%	32.9%	29.6%
2017	1,048.5	10,824.7	11,873.2	2017	5.6%	-5.4%	-4.6%
2018	1,080.4	11,186.2	12,266.6	2018	3.0%	3.3%	3.3%
2019	893.7	11,066.9	11,960.6	2019	-17.3%	-1.1%	-2.5%
2020	834.2	11,575.5	12,409.7	2020	-6.7%	4.6%	3.8%
2021	747.2	8,217.6	8,964.8	2021	-10.4%	-29.0%	-27.8%
2022	1,339.9	13,135.4	14,475.3	2022	79.3%	59.8%	61.5%
2023	1,387.3	12,044.7	13,432.0	2023	66.3%	4.1%	8.2%

Average	1,044.9	11,393.0	12,437.9
Y/Y Change	3.5%	-8.3%	-7.2%
5Y CAGR	5.1%	1.5%	1.8%
10Y CAGR	2.2%	0.7%	0.8%

(% Total)	Retail	Institutional
2009	7.4%	92.6%
2010	7.4%	92.6%
2011	8.3%	91.7%
2012	8.0%	92.0%
2013	9.0%	91.0%
2014	8.4%	91.6%
2015	10.2%	89.8%
2016	8.0%	92.0%
2017	8.8%	91.2%
2018	8.8%	91.2%
2019	7.5%	92.5%
2020	6.7%	93.3%
2021	8.3%	91.7%
2022	9.3%	90.7%
2023	10.3%	89.7%

Average	8.4%	91.6%
Y/Y Change	1.1%	-1.1%

Source: Municipal Securities Rulemaking Board

Note: Institutional trades defined as trade sizes greater than \$100,000

US Municipal Bond Average Daily Trading – Number of Trades

(#)	Retail	Institutional	Total	(Y/Y)	Retail	Institutional	Total
2009	33,304	7,805	41,109				
2010	33,941	7,716	41,657	2010	1.9%	-1.1%	1.3%
2011	34,030	7,226	41,256	2011	0.3%	-6.4%	-1.0%
2012	31,148	7,396	38,544	2012	-8.5%	2.4%	-6.6%
2013	35,008	7,180	42,188	2013	12.4%	-2.9%	9.5%
2014	28,764	6,596	35,360	2014	-17.8%	-8.1%	-16.2%
2015	29,921	6,814	36,735	2015	4.0%	3.3%	3.9%
2016	29,712	7,422	37,134	2016	-0.7%	8.9%	1.1%
2017	31,745	7,652	39,397	2017	6.8%	3.1%	6.1%
2018	32,638	7,736	40,374	2018	2.8%	1.1%	2.5%
2019	27,252	7,486	34,738	2019	-16.5%	-3.2%	-14.0%
2020	26,199	7,404	33,603	2020	-3.9%	-1.1%	-3.3%
2021	24,253	6,094	30,347	2021	-7.4%	-17.7%	-9.7%
2022	41,483	9,110	50,593	2022	71.0%	49.5%	66.7%
2023	43,289	9,189	52,478	2023	4.4%	0.9%	3.7%

Average	32,179.1	7,521.7	39,700.9
Y/Y Change	4.4%	0.9%	3.7%
5Y CAGR	5.8%	3.5%	5.4%
10Y CAGR	2.1%	2.5%	2.2%

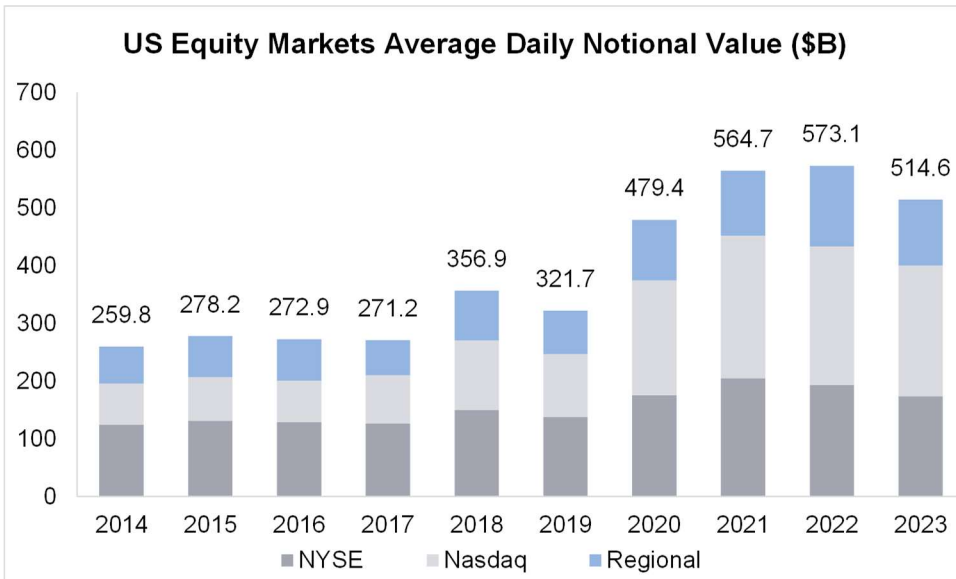
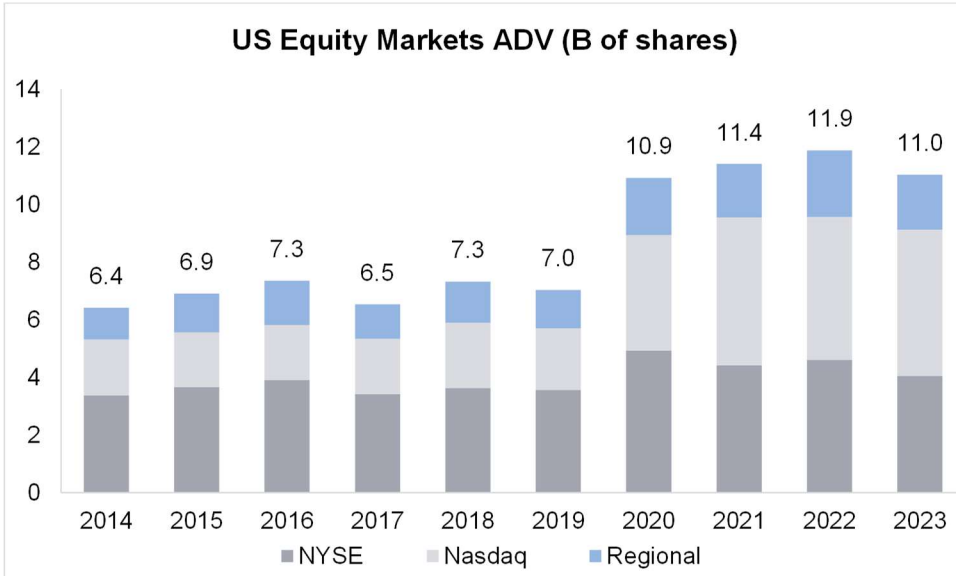
(% Total)	Retail	Institutional
2009	81.0%	19.0%
2010	81.5%	18.5%
2011	82.5%	17.5%
2012	80.8%	19.2%
2013	83.0%	17.0%
2014	81.3%	18.7%
2015	81.5%	18.5%
2016	80.0%	20.0%
2017	80.6%	19.4%
2018	80.8%	19.2%
2019	78.5%	21.5%
2020	78.0%	22.0%
2021	79.9%	20.1%
2022	82.0%	18.0%
2023	82.5%	17.5%

Average	80.9%	19.1%
Y/Y Change	0.5%	-0.5%

Source: Municipal Securities Rulemaking Board

Note: Institutional trades defined as trade sizes greater than \$100,000

US Equity Markets Average Daily Trading Volume (ADV) – Charts



Source: Cboe Global Markets

US Equity Markets Average Daily Trading Volume - Value

(\$B)	NYSE	Regional	Nasdaq	Total	(Y/Y)	NYSE	Regional	Nasdaq	Total
2009	111.1	67.7	41.7	220.5					
2010	117.3	66.5	50.8	234.6	2010	5.6%	-1.8%	21.9%	6.4%
2011	121.2	76.7	55.2	253.1	2011	3.3%	15.4%	8.7%	7.9%
2012	102.7	54.7	53.5	210.8	2012	-15.3%	-28.7%	-3.2%	-16.7%
2013	108.0	58.2	56.4	222.7	2013	5.3%	6.5%	5.5%	5.6%
2014	124.9	64.0	70.8	259.8	2014	15.6%	10.1%	25.5%	16.7%
2015	131.2	71.6	75.4	278.2	2015	5.0%	11.7%	6.5%	7.1%
2016	129.0	72.4	71.5	272.9	2016	-1.7%	1.2%	-5.2%	-1.9%
2017	126.4	61.3	83.4	271.2	2017	-2.0%	-15.3%	16.7%	-0.6%
2018	149.5	86.3	121.1	356.9	2018	18.2%	40.8%	45.1%	31.6%
2019	137.9	75.2	108.6	321.7	2019	-7.7%	-12.9%	-10.3%	-9.8%
2020	175.8	104.6	199.0	479.4	2020	27.5%	39.2%	83.2%	49.0%
2021	205.3	112.3	247.1	564.7	2021	16.8%	7.3%	24.2%	17.8%
2022	193.7	139.9	239.5	573.1	2022	-5.7%	24.6%	-3.1%	1.5%
2023	174.0	114.5	226.1	514.6	2023	-15.2%	2.0%	-8.5%	-8.9%
Average	140.5	81.7	113.3	335.6					
Y/Y Change	-10.1%	-18.1%	-5.6%	-10.2%					
5Y CAGR	3.1%	5.8%	13.3%	7.6%					

Source: Cboe Global Markets

Note: Average daily notional value

US Equity Markets Average Daily Trading Volume

(#B)	NYSE	Regional	Nasdaq	Total	(Y/Y)	NYSE	Regional	Nasdaq	Total
2009	5.6	1.9	2.2	9.8					
2010	4.8	1.5	2.2	8.5	2010	-14.4%	-23.0%	-1.9%	-13.2%
2011	4.3	1.5	2.0	7.8	2011	-10.1%	1.3%	-7.8%	-7.5%
2012	3.6	1.1	1.7	6.4	2012	-16.3%	-28.5%	-13.5%	-17.9%
2013	3.4	1.1	1.8	6.2	2013	-7.4%	0.7%	0.7%	-3.9%
2014	3.4	1.1	2.0	6.4	2014	-0.1%	3.6%	10.8%	3.7%
2015	3.7	1.4	1.9	6.9	2015	8.9%	23.4%	-3.1%	7.8%
2016	3.9	1.5	1.9	7.3	2016	6.6%	13.4%	0.7%	6.3%
2017	3.4	1.2	1.9	6.5	2017	-12.4%	-22.7%	0.7%	-11.2%
2018	3.6	1.4	2.3	7.3	2018	6.3%	20.9%	17.3%	12.2%
2019	3.6	1.3	2.1	7.0	2019	-2.1%	-7.7%	-4.6%	-4.0%
2020	4.9	2.0	4.0	10.9	2020	38.3%	50.2%	86.9%	55.4%
2021	4.4	1.9	5.1	11.4	2021	-10.3%	-6.4%	27.7%	4.4%
2022	4.6	2.3	5.0	11.9	2022	4.2%	23.8%	-3.1%	4.1%
2023	4.1	1.9	5.1	11.0	2023	-8.2%	2.4%	-0.9%	-3.2%
Average	4.1	1.5	2.7	8.4					
Y/Y Change	-11.9%	-17.3%	2.2%	-7.1%					
5Y CAGR	2.2%	5.8%	17.7%	8.6%					
10Y CAGR	1.9%	6.0%	11.2%	6.0%					

Source: Cboe Global Markets

Trading Activity of NYSE Listed Stocks

	Annual Volume (M shares)	Annual Notional Value (\$B)	ADV (M shares)	Average Daily Notional Value (\$B)
2009	1,420,980.0	27,997.2	5,638.8	111.1
2010	1,216,840.7	29,563.7	4,828.7	117.3
2011	1,094,331.9	30,543.8	4,342.6	121.2
2012	908,892.1	25,663.6	3,635.6	102.7
2013	848,097.9	27,227.2	3,365.5	108.0
2014	847,593.6	31,475.1	3,363.5	124.9
2015	923,306.2	33,055.9	3,663.9	131.2
2016	984,312.3	32,510.2	3,906.0	129.0
2017	858,465.0	31,738.4	3,420.2	126.4
2018	912,321.7	37,583.6	3,634.7	149.5
2019	896,772.6	34,756.3	3,558.6	137.9
2020	1,245,380.7	44,481.4	4,922.5	175.8
2021	1,113,120.5	51,734.3	4,417.1	205.3
2022	1,155,350.7	48,611.2	4,603.0	193.7
2023	1,013,238.3	43,511.5	4,053.0	174.0
Average	1,029,266.9	35,363.6	4,090.2	140.5
Y/Y Change	-12.3%	-10.5%	-11.9%	-10.1%
5Y CAGR	2.1%	3.0%	2.2%	3.1%
10Y CAGR	1.8%	4.8%	1.9%	4.9%

(Y/Y)	Annual Volume (M shares)	Annual Notional Value (\$B)	ADV (M shares)	Average Daily Notional Value (\$B)
2010	-14.4%	5.6%	-14.4%	5.6%
2011	-10.1%	3.3%	-10.1%	3.3%
2012	-16.9%	-16.0%	-16.3%	-15.3%
2013	-6.7%	6.1%	-7.4%	5.3%
2014	-0.1%	15.6%	-0.1%	15.6%
2015	8.9%	5.0%	8.9%	5.0%
2016	6.6%	-1.7%	6.6%	-1.7%
2017	-12.8%	-2.4%	-12.4%	-2.0%
2018	6.3%	18.4%	6.3%	18.2%
2019	-1.7%	-7.5%	-2.1%	-7.7%
2020	38.9%	28.0%	38.3%	27.5%
2021	-10.6%	16.3%	-10.3%	16.8%
2022	3.8%	-6.0%	4.2%	-5.7%
2023	-12.3%	-10.5%	-11.9%	-10.1%

Source: Cboe Global Markets, Nasdaq

Trading Activity of Nasdaq-listed Stocks

	Annual Volume (M shares)	Annual Notional Value (\$B)	ADV (M shares)	Average Daily Notional Value (\$B)
2008	563,398.0	10,512.4	2,235.7	41.7
2009	552,466.0	12,810.7	2,192.3	50.8
2010	509,522.9	13,919.7	2,021.9	55.2
2011	437,351.9	13,373.2	1,749.4	53.5
2012	444,114.3	14,223.1	1,762.4	56.4
2013	492,188.1	17,852.2	1,953.1	70.8
2014	477,057.8	19,009.6	1,893.1	75.4
2015	480,484.2	18,014.8	1,906.7	71.5
2016	481,992.6	20,934.5	1,920.3	83.4
2017	565,172.6	30,406.8	2,251.7	121.1
2018	541,092.0	27,374.8	2,147.2	108.6
2019	1,015,286.6	50,345.0	4,013.0	199.0
2020	1,291,448.8	62,259.1	5,124.8	247.1
2021	1,246,601.6	60,114.0	4,966.5	239.5
2023	1,269,183.9	56,513.4	5,076.7	226.1
Average	691,157.4	28,510.9	2,747.7	113.3
Y/Y Change	1.8%	-6.0%	2.2%	-5.6%
5Y CAGR	17.6%	13.2%	17.7%	13.3%
10Y CAGR	11.1%	14.8%	11.2%	14.9%

(Y/Y)	Annual Volume (M shares)	Annual Notional Value (\$B)	ADV (M shares)	Average Daily Notional Value (\$B)
2009	-1.9%	21.9%	-1.9%	21.9%
2010	-7.8%	8.7%	-7.8%	8.7%
2011	-14.2%	-3.9%	-13.5%	-3.2%
2012	1.5%	6.4%	0.7%	5.5%
2013	10.8%	25.5%	10.8%	25.5%
2014	-3.1%	6.5%	-3.1%	6.5%
2015	0.7%	-5.2%	0.7%	-5.2%
2016	0.3%	16.2%	0.7%	16.7%
2017	17.3%	45.2%	17.3%	45.1%
2018	-4.3%	-10.0%	-4.6%	-10.3%
2019	87.6%	83.9%	86.9%	83.2%
2020	27.2%	23.7%	27.7%	24.2%
2021	-3.5%	-3.4%	-3.1%	-3.1%
2023	1.8%	-6.0%	2.2%	-5.6%

Source: Cboe Global Markets, Nasdaq

Futures Contracts Traded on US Exchanges

(#M)	Agriculture	Currency	Energy	Equity Index	Individual Equity	Interest Rates	Precious Metals	Non-Precious Metals	Other	Total
2009	196.6	156.3	313.1	744.7	2.7	854.6	48.8	6.4	4.8	2,328.1
2010	239.5	229.0	350.6	740.6	4.8	1,123.0	63.8	10.4	3.1	2,764.8
2011	265.9	231.6	374.1	813.9	3.6	1,277.6	76.3	12.6	1.0	3,056.5
2012	280.7	210.7	428.3	650.8	6.4	1,008.3	63.7	16.2	0.9	2,666.0
2013	264.5	208.9	627.4	663.0	6.7	1,202.0	68.6	17.2	0.9	3,059.3
2014	273.9	186.0	553.8	675.0	8.0	1,401.9	60.2	14.7	1.1	3,174.8
2015	315.8	212.0	619.7	667.3	8.8	1,312.5	61.3	17.3	1.5	3,216.3
2016	333.4	205.4	746.6	731.0	9.7	1,440.4	82.9	21.9	1.7	3,573.0
2017	342.0	220.0	778.8	639.6	12.2	1,524.8	103.8	27.4	2.7	3,651.4
2018	382.4	243.8	751.1	816.6	5.9	1,900.5	113.6	33.1	2.9	4,249.9
2019	383.1	211.9	694.9	822.0	6.3	1,911.5	124.6	24.4	2.7	4,181.3
2020	375.8	217.5	713.2	1,358.9	2.5	1,572.7	134.8	24.9	2.1	4,402.4
2021	345.9	207.1	646.0	1,303.3	0.0	1,819.0	100.1	25.3	2.3	4,449.0
2022	329.8	277.3	627.6	1,720.3	0.0	2,141.1	92.5	23.1	2.6	5,214.2
2023	385.2	287.6	636.6	1,415.2	0.0	2,400.6	101.5	28.8	2.6	5,258.3
Average	314.3	220.3	590.8	917.5	5.2	1,526.0	86.4	20.3	2.2	3,683.0
Y/Y Change	16.8%	3.7%	1.4%	-17.7%	N/A	12.1%	9.8%	24.7%	1.4%	0.8%
5Y CAGR	0.1%	3.4%	-3.3%	11.6%	-100.0%	4.8%	-2.2%	-2.7%	-2.0%	4.3%
10Y CAGR	3.8%	3.2%	0.1%	7.9%	-100.0%	7.2%	4.0%	5.3%	11.4%	5.6%

(Y/Y)	Agriculture	Currency	Energy	Equity Index	Individual Equity	Interest Rates	Precious Metals	Non-Precious Metals	Other	Total
2010	21.8%	46.5%	12.0%	-0.5%	76.1%	31.4%	30.9%	61.3%	-36.7%	18.8%
2011	11.0%	1.1%	6.7%	9.9%	-24.2%	13.8%	19.6%	21.3%	-68.5%	10.6%
2012	5.6%	-9.0%	14.5%	-20.0%	76.6%	-21.1%	-16.6%	29.2%	-10.2%	-12.8%
2013	-5.8%	-0.9%	46.5%	1.9%	4.8%	19.2%	7.8%	6.1%	3.3%	14.8%
2014	3.5%	-11.0%	-11.7%	1.8%	18.8%	16.6%	-12.3%	-14.7%	25.6%	3.8%
2015	15.3%	14.0%	11.9%	-1.1%	9.8%	-6.4%	1.9%	17.3%	32.2%	1.3%
2016	5.6%	-3.1%	20.5%	9.5%	10.2%	9.7%	35.2%	27.1%	12.5%	11.1%
2017	2.6%	7.1%	4.3%	-12.5%	26.1%	5.9%	25.1%	25.0%	61.1%	2.2%
2018	11.8%	10.8%	-3.6%	27.7%	-51.5%	24.6%	9.5%	20.8%	8.1%	16.4%
2019	0.2%	-13.1%	-7.5%	0.7%	5.3%	0.6%	9.7%	-26.1%	-8.2%	-1.6%
2020	-1.9%	2.7%	2.6%	65.3%	-60.3%	-17.7%	8.2%	1.8%	-23.0%	5.3%
2021	-8.0%	-4.7%	-9.4%	-4.1%	-100.0%	15.7%	-25.7%	1.6%	9.7%	1.1%
2022	-4.7%	33.9%	-2.8%	32.0%	N/A	17.7%	-7.6%	-8.5%	15.0%	17.2%
2023	16.8%	3.7%	1.4%	-17.7%	N/A	12.1%	9.8%	24.7%	1.4%	0.8%

Source: Futures Industry Association

Options Contracts Traded on US Exchanges

(#M)	Agriculture	Currency	Energy	Equity Index	Individual Equity	Interest Rates	Precious Metals	Non-Precious Metals	Other	Total
2009	43.3	6.2	64.5	276.1	3,367.0	223.9	5.8	0.0	0.3	3,987.1
2010	56.0	11.9	71.3	328.3	3,610.4	268.7	9.4	0.0	0.3	4,356.5
2011	68.1	10.9	74.2	398.7	4,224.6	274.0	12.4	0.0	0.2	5,063.2
2012	70.6	11.0	84.3	381.6	3,681.8	227.8	11.5	0.0	0.2	4,468.9
2013	61.9	16.3	119.5	1,930.2	2,273.8	285.9	13.1	0.1	0.1	4,700.8
2014	69.0	18.8	104.6	2,054.2	2,342.9	364.9	10.8	0.0	0.1	4,965.5
2015	75.1	24.7	117.4	2,105.3	2,180.3	388.2	9.1	0.1	0.1	4,900.2
2016	76.0	23.5	126.3	2,251.0	1,975.5	454.3	11.7	0.1	0.1	4,918.6
2017	70.5	26.7	131.6	2,269.1	2,092.1	531.2	11.8	0.2	0.1	5,133.3
2018	79.2	27.8	117.0	2,781.9	2,565.7	607.7	14.4	0.4	0.1	6,194.1
2019	77.6	20.4	89.7	2,422.9	2,641.0	696.4	19.2	0.7	0.2	5,968.0
2020	75.6	21.3	108.9	3,212.1	4,438.3	459.6	17.5	0.4	0.0	8,333.8
2021	82.6	21.3	101.8	3,395.1	6,668.8	499.9	12.4	0.8	0.1	10,782.7
2022	82.5	20.8	121.2	5,039.5	5,588.2	574.8	14.4	1.1	0.1	11,442.5
2023	92.2	19.8	149.7	5,795.9	5,614.9	729.1	18.4	1.5	0.5	12,421.9

Average	72.0	18.8	105.5	2,309.5	3,551.0	439.1	12.8	0.4	0.2	6,509.1
Y/Y Change	11.7%	-4.5%	23.5%	15.0%	0.5%	26.8%	27.9%	39.3%	710.2%	8.6%
5Y CAGR	3.1%	-6.5%	5.0%	15.8%	17.0%	3.7%	5.0%	33.5%	42.0%	14.9%
10Y CAGR	4.1%	2.0%	2.3%	11.6%	9.5%	9.8%	3.4%	39.6%	14.6%	10.2%

(Y/Y)	Agriculture	Currency	Energy	Equity Index	Individual Equity	Interest Rates	Precious Metals	Non-Precious Metals	Other	Total
2010	29.4%	93.8%	10.5%	18.9%	7.2%	20.0%	-1.2%	61.2%	2.2%	9.3%
2011	21.4%	-8.3%	4.2%	21.4%	17.0%	2.0%	-11.6%	32.1%	-27.2%	16.2%
2012	3.7%	1.0%	13.5%	-4.3%	-12.8%	-16.9%	127.0%	-7.4%	-34.1%	-11.7%
2013	-12.3%	47.3%	41.8%	405.8%	-38.2%	25.5%	49.9%	14.0%	-23.0%	5.2%
2014	11.5%	15.7%	-12.5%	6.4%	3.0%	27.6%	-9.5%	-17.9%	4.2%	5.6%
2015	8.7%	31.4%	12.2%	2.5%	-6.9%	6.4%	135.5%	-15.7%	-9.0%	-1.3%
2016	1.3%	-4.8%	7.6%	6.9%	-9.4%	17.0%	3.0%	28.6%	-35.9%	0.4%
2017	-7.3%	13.7%	4.2%	0.8%	5.9%	16.9%	35.8%	1.4%	19.6%	4.4%
2018	12.4%	3.8%	-11.1%	22.6%	22.6%	14.4%	121.8%	21.7%	-7.2%	20.7%
2019	-2.0%	-26.4%	-23.4%	-12.9%	2.9%	14.6%	97.7%	33.4%	85.3%	-3.6%
2020	-2.5%	4.3%	21.4%	32.6%	68.1%	-34.0%	-38.3%	-9.0%	-78.5%	39.6%
2021	9.2%	-0.2%	-6.5%	5.7%	50.3%	8.8%	71.6%	-28.9%	165.2%	29.4%
2022	-0.1%	-2.4%	19.1%	48.4%	-16.2%	15.0%	45.5%	15.7%	-32.5%	6.1%
2023	11.7%	-4.5%	23.5%	15.0%	0.5%	26.8%	39.3%	27.9%	710.2%	8.6%

Source: Futures Industry Association

US Stock Market Indices

(\$)	DJIA	S&P 500	Nasdaq	Russell 2000
2009	10,428.05	1,115.10	2,269.15	625.39
2010	11,577.51	1,257.64	2,652.87	783.65
2011	12,217.56	1,257.61	2,605.15	740.92
2012	13,104.14	1,426.19	3,019.51	849.35
2013	16,576.66	1,848.36	4,176.59	1,163.64
2014	17,823.07	2,058.90	4,736.05	1,204.70
2015	17,425.03	2,043.94	5,007.41	1,135.89
2016	19,762.60	2,238.83	5,383.12	1,357.13
2017	24,719.22	2,673.61	6,903.39	1,535.51
2018	23,327.46	2,506.85	6,635.28	1,348.56
2019	28,538.44	3,230.78	8,972.60	1,668.47
2020	30,606.48	3,756.07	12,888.28	1,974.86
2021	36,338.30	4,766.18	15,644.97	2,245.31
2022	33,147.25	3,839.50	10,466.48	1,761.25
2023	37,689.54	4,769.83	15,011.35	2,027.07
Average	22,218.8	2,586.0	7,091.5	1,361.4
Y/Y Change	13.7%	24.2%	43.4%	15.1%
5Y CAGR	10.1%	13.7%	17.7%	8.5%
10Y CAGR	8.6%	9.9%	13.6%	5.7%

(Y/Y)	DJIA	S&P 500	Nasdaq	Russell 2000
2010	11.0%	12.8%	16.9%	25.3%
2011	5.5%	0.0%	-1.8%	-5.5%
2012	7.3%	13.4%	15.9%	14.6%
2013	26.5%	29.6%	38.3%	37.0%
2014	7.5%	11.4%	13.4%	3.5%
2015	-2.2%	-0.7%	5.7%	-5.7%
2016	13.4%	9.5%	7.5%	19.5%
2017	25.1%	19.4%	28.2%	13.1%
2018	-5.6%	-6.2%	-3.9%	-12.2%
2019	22.3%	28.9%	35.2%	23.7%
2020	7.2%	16.3%	43.6%	18.4%
2021	18.7%	26.9%	21.4%	13.7%
2022	-8.8%	-19.4%	-33.1%	-21.6%
2023	13.7%	24.2%	43.4%	15.1%

Source: Bloomberg

Note: DJIA = Dow Jones Industrial Average

US Interest Rates and Bond Yields

	3M UST	2Y UST	10Y UST	30Y UST	Aaa Corporates	Baa Corporates	20Y HG Munis	Prime	Fed Funds
2009	0.151	0.958	3.264	4.077	5.31	7.29	4.64	3.25	0.160
2010	0.138	0.703	3.215	4.251	4.94	6.04	4.16	3.24	0.177
2011	0.053	0.449	2.782	3.911	4.64	5.66	4.29	3.25	0.102
2012	0.088	0.276	1.803	2.922	3.67	4.94	3.25	3.25	0.142
2013	0.057	0.307	2.350	3.446	4.23	5.10	3.96	3.25	0.108
2014	0.033	0.462	2.540	3.338	4.16	4.85	3.78	3.25	0.089
2015	0.053	0.687	2.138	2.841	3.89	5.00	3.48	3.26	0.134
2016	0.319	0.834	1.837	2.594	3.66	4.71	3.07	3.51	0.395
2017	0.949	1.399	2.329	2.894	3.74	4.44	3.36	4.08	1.004
2018	1.972	2.527	2.911	3.112	3.93	4.80	3.53	4.88	1.831
2019	2.106	1.969	2.141	2.580	3.39	4.37	3.38	5.29	2.163
2020	0.360	0.389	0.889	1.556	2.48	3.60	2.41	3.53	0.363
2021	0.045	0.265	1.447	2.056	2.71	3.40	2.01	3.24	0.079
2022	2.085	2.986	2.951	3.113	4.08	5.08	3.85	4.83	1.676
2023	5.279	4.583	3.959	4.095	4.81	5.87	4.31	8.20	5.026

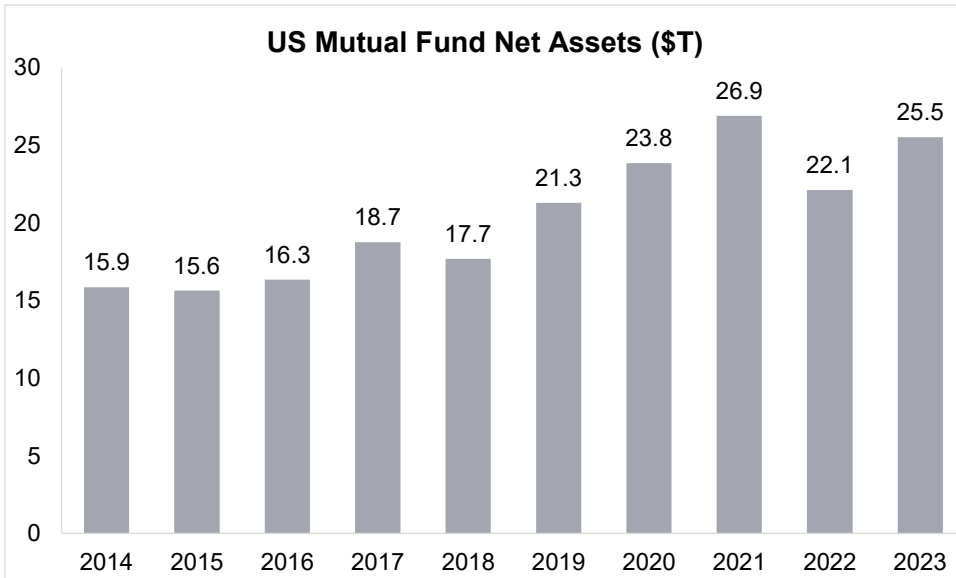
Average	0.912	1.253	2.437	3.119	3.976	5.010	3.565	4.020	0.897
Y/Y Change	3.193	1.597	1.008	0.982	0.737	0.790	0.460	3.371	3.350
5Y CAGR	21.8%	12.6%	6.3%	5.6%	4.2%	4.1%	4.1%	10.9%	22.4%
10Y CAGR	57.3%	31.0%	5.4%	1.7%	1.3%	1.4%	0.8%	9.7%	46.8%

(Y/Y)	3M UST	2Y UST	10Y UST	30Y UST	Aaa Corporates	Baa Corporates	20Y HG Munis	Prime	Fed Funds
2010	(0.012)	(0.255)	(0.049)	0.174	(0.37)	(1.25)	(0.48)	(0.01)	0.017
2011	(0.086)	(0.254)	(0.433)	(0.340)	(0.30)	(0.38)	0.13	0.01	(0.075)
2012	0.035	(0.173)	(0.978)	(0.989)	(0.97)	(0.72)	(1.04)	0.00	0.040
2013	(0.031)	0.031	0.547	0.524	0.56	0.16	0.71	0.00	(0.034)
2014	(0.024)	0.155	0.189	(0.108)	(0.07)	(0.25)	(0.18)	0.00	(0.019)
2015	0.020	0.225	(0.401)	(0.497)	(0.27)	0.15	(0.30)	0.01	0.045
2016	0.267	0.147	(0.301)	(0.247)	(0.23)	(0.29)	(0.41)	0.25	0.260
2017	0.630	0.565	0.492	0.300	0.08	(0.27)	0.29	0.57	0.609
2018	1.023	1.128	0.582	0.218	0.19	0.36	0.17	0.80	0.827
2019	0.134	(0.558)	(0.770)	(0.531)	(0.54)	(0.43)	(0.15)	0.40	0.332
2020	(1.745)	(1.580)	(1.252)	(1.024)	(0.91)	(0.77)	(0.97)	(1.76)	(1.800)
2021	(0.315)	(0.123)	0.558	0.499	0.23	(0.21)	(0.40)	(0.29)	(0.284)
2022	2.040	2.721	1.504	1.058	1.37	1.68	1.85	1.59	1.597
2023	3.193	1.597	1.008	0.982	0.74	0.79	0.46	3.37	3.350

Source: Federal Reserve Board, St. Louis Federal Reserve Bank, S&P Dow Jones Indices

Note: UST = U.S. Treasuries. HG = high grade. Rated by Moody's = Aaa, Baa corporates. Rated by S&P = 20Y HG munis. Prime = the interest rate banks lend to customers with good credit

US Mutual Funds: Total Net Assets – Chart



Source: Investment Company Institute

Note: Data for funds that invest primarily in other mutual funds were excluded

US Mutual Fund Net Assets

(\$B)	Equity	Hybrid	Bond	MM	Total	(Y/Y)	Equity	Hybrid	Bond	MM	Total
2009	4,871.5	717.3	2,204.0	3,315.9	11,108.7						
2010	5,596.2	841.7	2,589.2	2,803.5	11,830.5	2010	14.9%	17.3%	17.5%	-15.5%	6.5%
2011	5,212.9	883.4	2,842.6	2,690.9	11,629.8	2011	-6.8%	5.0%	9.8%	-4.0%	-1.7%
2012	5,938.9	1,031.7	3,389.1	2,693.2	13,052.8	2012	13.9%	16.8%	19.2%	0.1%	12.2%
2013	7,762.7	1,283.8	3,283.7	2,717.8	15,048.0	2013	30.7%	24.4%	-3.1%	0.9%	15.3%
2014	8,305.5	1,378.3	3,458.6	2,724.6	15,867.1	2014	7.0%	7.4%	5.3%	0.3%	5.4%
2015	8,140.5	1,340.6	3,411.9	2,754.7	15,647.7	2015	-2.0%	-2.7%	-1.4%	1.1%	-1.4%
2016	8,567.0	1,399.1	3,648.1	2,728.1	16,342.3	2016	5.2%	4.4%	6.9%	-1.0%	4.4%
2017	10,290.8	1,545.3	4,065.2	2,847.3	18,748.6	2017	20.1%	10.5%	11.4%	4.4%	14.7%
2018	9,215.6	1,381.9	4,060.9	3,037.0	17,695.4	2018	-10.4%	-10.6%	-0.1%	6.7%	-5.6%
2019	11,362.4	1,577.2	4,704.3	3,632.0	21,275.9	2019	23.3%	14.1%	15.8%	19.6%	20.2%
2020	12,714.9	1,568.8	5,213.9	4,333.3	23,830.9	2020	11.9%	-0.5%	10.8%	19.3%	12.0%
2021	14,712.7	1,805.1	5,625.4	4,755.7	26,898.9	2021	15.7%	15.1%	7.9%	9.7%	12.9%
2022	11,352.9	1,485.4	4,492.1	4,776.7	22,107.0	2022	-22.8%	-17.7%	-20.1%	0.4%	-17.8%
2023	13,305.0	1,550.4	4,744.3	5,919.4	25,519.1	2023	17.2%	4.4%	5.6%	23.9%	15.4%
Average	9,156.6	1,319.3	3,848.9	3,448.7	17,773.5						
Y/Y Change	17.2%	4.4%	5.6%	23.9%	15.4%						
5Y CAGR	7.6%	2.3%	3.2%	14.3%	7.6%						
10Y CAGR	5.5%	1.9%	3.7%	8.1%	5.4%						

Source: Investment Company Institute

Note: Data for funds that invest primarily in other mutual funds were excluded. MM = money market

US Mutual Fund Net New Cash Flow

(\$B)	Equity	Hybrid	Bond	MM	Total
2009	2.2	19.6	371.4	-539.2	-146.0
2010	-24.4	35.5	232.4	-525.1	-281.6
2011	-129.5	39.6	118.0	-124.1	-96.0
2012	-152.7	46.2	306.5	-0.2	199.9
2013	159.5	74.7	-71.2	15.1	178.1
2014	25.1	30.4	43.9	6.2	105.6
2015	-75.8	-19.0	-24.9	21.5	-98.2
2016	-258.3	-41.8	107.0	-30.2	-223.4
2017	-159.7	-28.7	259.7	106.9	178.1
2018	-257.2	-91.7	2.1	158.8	-188.0
2019	-362.5	-49.6	312.4	552.7	453.0
2020	-645.2	-87.8	244.4	690.8	202.2
2021	-435.5	-19.1	389.4	422.1	356.9
2022	-471.2	-103.7	-542.0	-13.3	-1,130.1
2023	-518.0	-108.5	-38.2	957.0	292.4

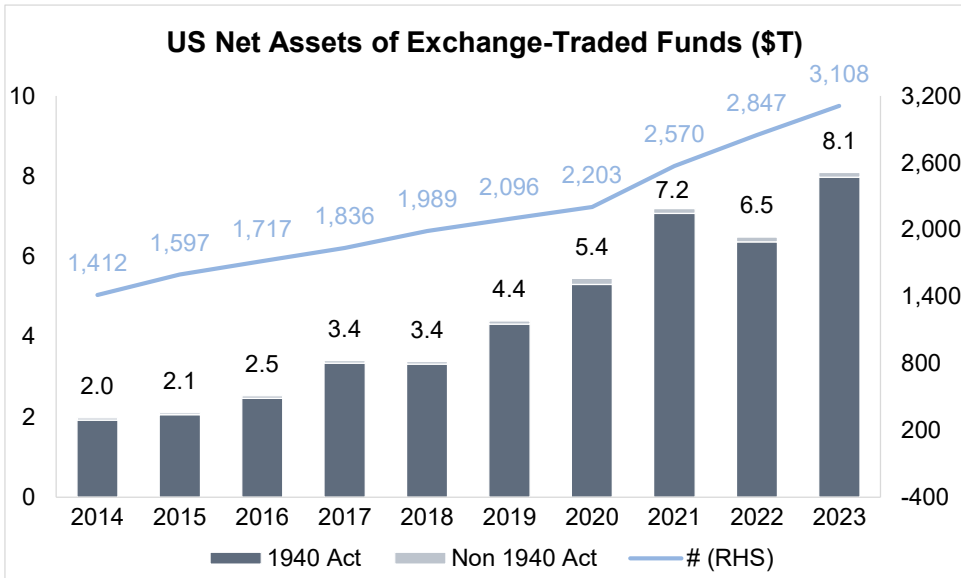
Average	-220.2	-20.3	114.1	113.3	-13.1
Y/Y Change	-9.9%	-4.7%	93.0%	7286.0%	125.9%

(Y/Y)	Equity	Hybrid	Bond	MM	Total
2010	-1234.1%	80.7%	-37.4%	2.6%	-92.9%
2011	-431.2%	11.7%	-49.2%	76.4%	65.9%
2012	-17.9%	16.6%	159.7%	99.9%	308.2%
2013	204.4%	61.7%	-123.2%	8601.1%	-10.9%
2014	-84.3%	-59.3%	161.7%	-58.8%	-40.7%
2015	-401.8%	-162.4%	-156.8%	244.2%	-193.0%
2016	-240.9%	-120.2%	528.9%	-240.9%	-127.4%
2017	38.2%	31.3%	142.8%	453.4%	179.8%
2018	-61.0%	-219.7%	-99.2%	48.6%	-205.6%
2019	-40.9%	46.0%	14531.2%	248.0%	341.0%
2020	-78.0%	-77.2%	-21.7%	25.0%	-55.4%
2021	32.5%	78.3%	59.3%	-38.9%	76.5%
2022	-8.2%	-443.2%	-239.2%	-103.2%	-416.6%
2023	-9.9%	-4.7%	93.0%	7286.0%	125.9%

Source: Investment Company Institute

Note: Net new cash flow is the dollar value of new sales minus redemptions, combined with net exchanges. Data for funds that invest primarily in other mutual funds were excluded. MM = money market

US Exchange-Traded Funds (ETFs): Net Assets and Number – Chart



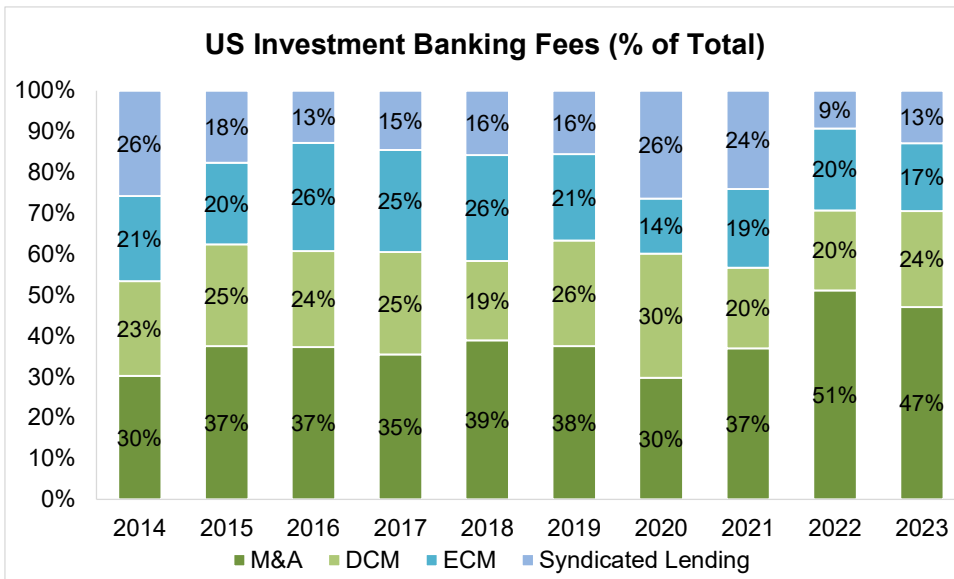
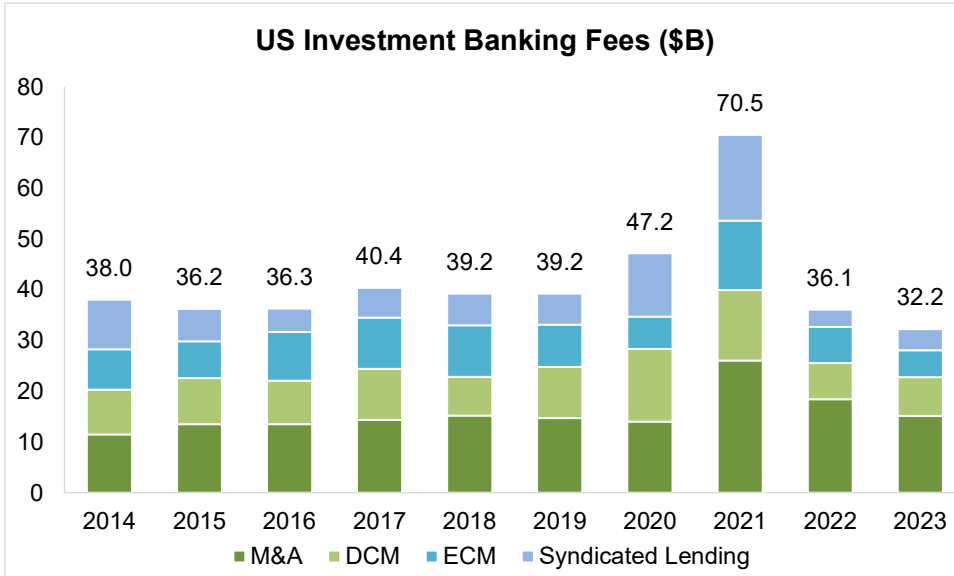
Source: Investment Company Institute and Strategic Insight Simfund

Net Assets and Number of Exchange-Traded Funds (ETFs)

(\$B)	1940 Act	Non 1940 Act	Total		#
2009	702.6	74.5	777.1	2009	797
2010	890.9	101.1	992.0	2010	923
2011	939.3	108.9	1,048.1	2011	1,135
2012	1,217.2	119.9	1,337.1	2012	1,195
2013	1,610.8	63.9	1,674.7	2013	1,295
2014	1,918.0	56.5	1,974.6	2014	1,412
2015	2,052.2	48.5	2,100.7	2015	1,597
2016	2,462.9	61.6	2,524.5	2016	1,717
2017	3,333.7	67.3	3,401.0	2017	1,836
2018	3,308.7	62.4	3,371.2	2018	1,989
2019	4,314.6	81.6	4,396.2	2019	2,096
2020	5,304.3	145.1	5,449.4	2020	2,203
2021	7,065.4	125.2	7,190.5	2021	2,570
2022	6,357.5	119.4	6,476.9	2022	2,847
2023	7,964.7	120.7	8,085.4	2023	3,108
Average	3,296.2	90.4	3,386.6	Average	1,781.3
Y/Y Change	25.3%	1.0%	24.8%	Y/Y Change	9.2%
5Y CAGR	19.2%	14.1%	19.1%	5Y CAGR	9.3%
10Y CAGR	17.3%	6.6%	17.1%	10Y CAGR	9.1%

Source: Investment Company Institute and Strategic Insight Simfund

US Investment Banking Revenues by Product – Charts



Source: Dealogic Investment Banking Revenue Analytics

Note: M&A = mergers & acquisitions; DCM = debt capital markets; ECM = equity capital markets, synd lend = syndicated lending

US Mergers and Acquisitions – Announced and Completed

Announced			Completed		
	Value (\$ Billions)	# of Deals		Value (\$ Billions)	# of Deals
2009	802.9	7,492	2009	794.2	7,380
2010	898.3	10,217	2010	820.9	10,225
2011	998.9	10,678	2011	992.9	10,657
2012	978.9	12,434	2012	1,043.2	12,317
2013	1,126.5	10,316	2013	1,030.2	10,370
2014	1,510.3	10,924	2014	1,251.2	10,759
2015	2,075.9	10,674	2015	1,766.0	10,612
2016	1,759.7	12,182	2016	1,719.6	12,243
2017	1,440.7	13,511	2017	1,663.2	13,602
2018	1,816.9	13,252	2018	1,961.8	13,193
2019	1,901.9	13,830	2019	1,795.2	13,890
2020	1,582.2	12,010	2020	1,535.3	12,037
2021	2,788.1	15,549	2021	2,769.3	15,460
2022	1,553.1	12,515	2022	1,712.3	12,520
2023	1,477.2	10,611	2023	1,434.8	10,462
Average	1,514.1	11,746.3	Average	1,486.0	11,715.1
Y/Y Change	-4.9%	-15.2%	Y/Y Change	-16.2%	-16.4%
5Y CAGR	-4.1%	-4.3%	5Y CAGR	-6.1%	-4.5%
10Y CAGR	2.7%	0.3%	10Y CAGR	3.4%	0.1%

(Y/Y)	Announced Value	Announced # of Deals	Completed Value	Completed # of Deals
2010	11.9%	36.4%	3.4%	38.6%
2011	11.2%	4.5%	21.0%	4.2%
2012	-2.0%	16.4%	5.1%	15.6%
2013	15.1%	-17.0%	-1.2%	-15.8%
2014	34.1%	5.9%	21.4%	3.8%
2015	37.5%	-2.3%	41.1%	-1.4%
2016	-15.2%	14.1%	-2.6%	15.4%
2017	-18.1%	10.9%	-3.3%	11.1%
2018	26.1%	-1.9%	18.0%	-3.0%
2019	4.7%	4.4%	-8.5%	5.3%
2020	-16.8%	-13.2%	-14.5%	-13.3%
2021	76.2%	29.5%	80.4%	28.4%
2022	-44.3%	-19.5%	-38.2%	-19.0%
2023	-4.9%	-15.2%	-16.2%	-16.4%

Source: Dealogic

Section III: US Investor Participation

US Holdings of Equities – Value

(\$B)	Households	Institutions	Total	(Y/Y)	Households	Institutions	Total
2009	7,356.2	13,442.3	20,798.5				
2010	8,688.0	15,513.0	24,200.9	2010	18.1%	15.4%	16.4%
2011	8,213.1	15,215.6	23,428.8	2011	-5.5%	-1.9%	-3.2%
2012	9,484.3	17,425.6	26,909.9	2012	15.5%	14.5%	14.9%
2013	12,312.8	22,252.8	34,565.6	2013	29.8%	27.7%	28.4%
2014	14,136.1	24,146.0	38,282.1	2014	14.8%	8.5%	10.8%
2015	13,833.6	23,443.6	37,277.2	2015	-2.1%	-2.9%	-2.6%
2016	15,295.6	24,948.7	40,244.3	2016	10.6%	6.4%	8.0%
2017	18,101.8	29,918.7	48,020.5	2017	18.3%	19.9%	19.3%
2018	16,477.4	27,393.2	43,870.6	2018	-9.0%	-8.4%	-8.6%
2019	21,176.7	33,632.9	54,809.6	2019	28.5%	22.8%	24.9%
2020	26,055.1	39,486.7	65,541.8	2020	23.0%	17.4%	19.6%
2021	31,684.7	48,354.1	80,038.8	2021	21.6%	22.5%	22.1%
2022	26,474.6	38,260.4	64,735.0	2022	-16.4%	-20.9%	-19.1%
2023	31,583.8	45,987.0	77,570.8	2023	19.3%	20.2%	19.8%
Average	17,391.6	27,961.4	45,353.0				
Y/Y Change	19.3%	20.2%	19.8%				
5Y CAGR	13.9%	10.9%	12.1%				
10Y CAGR	9.9%	7.5%	8.4%				

(% Total)	Households	Institutions
2009	35.4%	64.6%
2010	35.9%	64.1%
2011	35.1%	64.9%
2012	35.2%	64.8%
2013	35.6%	64.4%
2014	36.9%	63.1%
2015	37.1%	62.9%
2016	38.0%	62.0%
2017	37.7%	62.3%
2018	37.6%	62.4%
2019	38.6%	61.4%
2020	39.8%	60.2%
2021	39.6%	60.4%
2022	40.9%	59.1%
2023	40.7%	59.3%

Average	37.6%	62.4%
Y/Y Change	-0.2%	0.2%

Source: The Federal Reserve - Financial Accounts of the United States

Note: Market value. Household sector includes nonprofit organizations; includes only directly held equities

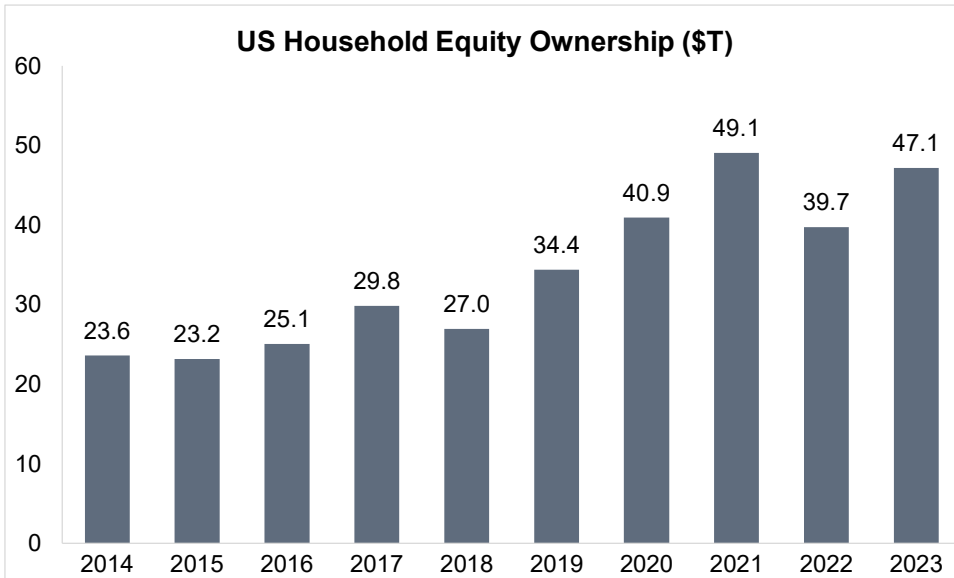
US Household Stock Ownership

	2001	2004	2007	2010	2013	2016	2019	2022	Average
Families with stock holdings, direct or indirect (% of all families)	53.0%	50.3%	53.2%	49.8%	48.8%	51.9%	52.7%	58.0%	52.2%
Median value of stock held among families (thousands of 2022 dollars)	35.0	32.9	34.0	29.0	35.8	40.0	40.0	52.0	37.3
Stock held by families (% of total family financial assets)	56.7%	51.3%	53.6%	46.8%	51.3%	53.2%	54.6%	56.4%	53.0%

Source: The Federal Reserve, 2019 Survey of Consumer Finances (triennial survey)

Note: Includes both directly and indirectly held publicly traded stock (i.e. through mutual funds or retirement accounts); 2019 is the latest data available at the time of publication. The 2022 survey results is expected to be published in late 2023.

US Household Equity Ownership – Value



	\$ Billions
2009	12,779.3
2010	15,007.4
2011	14,184.7
2012	16,319.9
2013	21,237.6
2014	23,609.5
2015	23,159.9
2016	25,093.3
2017	29,840.8
2018	26,971.8
2019	34,378.8
2020	40,917.0
2021	49,065.4
2022	39,736.1
2023	47,130.4

Average	27,962.1
Y/Y Change	18.6%
5Y CAGR	11.8%
10Y CAGR	8.3%

Source: The Federal Reserve - Financial Accounts of the United States

Note: Household sector includes nonprofit organizations; includes both directly and indirectly held equities (i.e. through mutual funds)

US Household Liquid Financial Assets – Value

(\$B)	Equities	Deposits	MFs	UST, Agency	Munis	MMFs	Corporates	Total
2009	7,356.2	6,689.8	4,045.2	787.1	1,867.2	1,962.3	970.3	23,678.1
2010	8,688.0	6,664.0	4,730.1	1,025.0	1,901.1	1,790.0	1,119.3	25,917.4
2011	8,213.1	7,322.8	4,710.9	1,076.4	2,062.5	1,711.7	1,306.1	26,403.6
2012	9,484.3	7,682.4	5,578.2	1,161.6	2,039.6	1,749.3	1,296.1	28,991.6
2013	12,312.8	7,989.5	6,637.2	797.6	1,856.3	1,680.3	852.9	32,126.6
2014	14,136.1	8,501.1	7,105.4	705.5	1,968.0	1,676.8	928.2	35,021.2
2015	13,833.6	9,184.3	6,997.7	1,215.4	1,935.3	1,723.6	428.3	35,318.2
2016	15,295.6	9,825.2	7,350.0	1,247.4	1,919.2	1,580.2	178.1	37,395.9
2017	18,101.8	10,177.2	8,707.6	1,228.4	1,936.3	1,653.1	190.7	41,995.0
2018	16,477.4	10,433.7	8,047.9	1,919.1	1,890.2	1,826.4	192.4	40,787.0
2019	21,176.7	11,046.0	10,010.1	2,180.6	1,918.4	2,271.8	211.8	48,815.4
2020	26,055.1	13,484.0	10,996.3	1,634.1	1,945.3	2,689.4	249.6	57,053.8
2021	31,684.7	15,211.3	12,829.6	888.1	1,811.1	2,802.9	350.3	65,578.0
2022	26,474.6	14,814.3	9,739.4	2,534.8	1,620.1	3,080.0	280.9	58,544.2
2023	31,583.8	14,109.0	10,950.0	3,644.6	1,773.9	3,982.7	310.5	66,354.5

Average	17,391.6	10,209.0	7,895.7	1,469.7	1,896.3	2,145.4	591.0	41,598.7
Y/Y Change	19.3%	-4.8%	12.4%	43.8%	9.5%	29.3%	10.5%	13.3%
5Y CAGR	13.9%	6.2%	6.4%	13.7%	-1.3%	16.9%	10.1%	10.2%
10Y CAGR	9.9%	5.9%	5.1%	16.4%	-0.5%	9.0%	-9.6%	7.5%

(Y/Y)	Equities	Deposits	MFs	UST, Agency	Munis	MMFs	Corporates	Total
2010	18.1%	-0.4%	16.9%	30.2%	1.8%	-8.8%	15.4%	9.5%
2011	-5.5%	9.9%	-0.4%	5.0%	8.5%	-4.4%	16.7%	1.9%
2012	15.5%	4.9%	18.4%	7.9%	-1.1%	2.2%	-0.8%	9.8%
2013	29.8%	4.0%	19.0%	-31.3%	-9.0%	-3.9%	-34.2%	10.8%
2014	14.8%	6.4%	7.1%	-11.5%	6.0%	-0.2%	8.8%	9.0%
2015	-2.1%	8.0%	-1.5%	72.3%	-1.7%	2.8%	-53.9%	0.8%
2016	10.6%	7.0%	5.0%	2.6%	-0.8%	-8.3%	-58.4%	5.9%
2017	18.3%	3.6%	18.5%	-1.5%	0.9%	4.6%	7.0%	12.3%
2018	-9.0%	2.5%	-7.6%	56.2%	-2.4%	10.5%	0.9%	-2.9%
2019	28.5%	5.9%	24.4%	13.6%	1.5%	24.4%	10.1%	19.7%
2020	23.0%	22.1%	9.9%	-25.1%	1.4%	18.4%	17.9%	16.9%
2021	21.6%	12.8%	16.7%	-45.7%	-6.9%	4.2%	40.3%	14.9%
2022	-16.4%	-2.6%	-24.1%	185.4%	-10.5%	9.9%	-19.8%	-10.7%
2023	19.3%	-4.8%	12.4%	43.8%	9.5%	29.3%	10.5%	13.3%

Source: The Federal Reserve - Financial Accounts of the United States

Note: Market value. Households include nonprofit organizations. Liquid financial assets exclude pension fund reserves, equity in non-corporate business, etc. Deposits = bank deposits and CDs; MFs = mutual funds; UST (U.S. Treasuries), Agency includes GSE securities; Munis = municipal bonds; MMFs = money market funds

US Household Liquid Financial Assets – Share of Total

(% Total)	Equities	Deposits	MFs	UST, Agency	Munis	MMFs	Corporates
2009	31.1%	28.3%	17.1%	3.3%	7.9%	8.3%	4.1%
2010	33.5%	25.7%	18.3%	4.0%	7.3%	6.9%	4.3%
2011	31.1%	27.7%	17.8%	4.1%	7.8%	6.5%	4.9%
2012	32.7%	26.5%	19.2%	4.0%	7.0%	6.0%	4.5%
2013	38.3%	24.9%	20.7%	2.5%	5.8%	5.2%	2.7%
2014	40.4%	24.3%	20.3%	2.0%	5.6%	4.8%	2.7%
2015	39.2%	26.0%	19.8%	3.4%	5.5%	4.9%	1.2%
2016	40.9%	26.3%	19.7%	3.3%	5.1%	4.2%	0.5%
2017	43.1%	24.2%	20.7%	2.9%	4.6%	3.9%	0.5%
2018	40.4%	25.6%	19.7%	4.7%	4.6%	4.5%	0.5%
2019	43.4%	22.6%	20.5%	4.5%	3.9%	4.7%	0.4%
2020	45.7%	23.6%	19.3%	2.9%	3.4%	4.7%	0.4%
2021	48.3%	23.2%	19.6%	1.4%	2.8%	4.3%	0.5%
2022	45.2%	25.3%	16.6%	4.3%	2.8%	5.3%	0.5%
2023	47.6%	21.3%	16.5%	5.5%	2.7%	6.0%	0.5%
Average	40.1%	25.0%	19.1%	3.5%	5.1%	5.3%	1.9%
Y/Y Change	2.4%	-4.0%	-0.1%	1.2%	-0.1%	0.7%	0.0%

Source: The Federal Reserve - Financial Accounts of the United States

Note: Households include nonprofit organizations. Liquid financial assets exclude pension fund reserves, equity in non-corporate business, etc. Deposits = bank deposits and CDs; MFs = mutual funds; UST (U.S. Treasuries), Agency includes GSE securities; Munis = municipal bonds; MMFs = money market funds

US Holdings of Equities by Type of Holder – Value

(\$B)	2018	2019	2020	2021	2022	2023	Y/Y %		
							Average	Change	5-Year CAGR
Households	16,477.4	21,176.7	26,055.1	31,684.7	26,474.6	31,583.8	25,575.4	19.3%	13.9%
Institutions	27,393.2	33,632.9	39,486.7	48,354.1	38,260.4	45,987.0	38,852.4	20.2%	10.9%
Mutual Funds	9,657.5	11,934.5	13,391.1	15,533.8	11,867.0	13,882.1	12,711.0	17.0%	7.5%
Foreign	6,629.5	8,278.5	10,673.4	13,898.3	10,799.1	13,276.2	10,592.5	22.9%	14.9%
Exchange-Traded Funds	2,659.0	3,476.2	4,229.4	5,803.3	5,059.1	6,433.1	4,610.0	27.2%	19.3%
Private Pension Funds	2,448.0	2,961.8	3,378.8	3,869.8	2,931.4	3,456.8	3,174.4	17.9%	7.1%
State & Local Gov't Retirement Funds	2,478.6	2,555.4	2,906.1	3,374.2	3,006.5	3,282.9	2,934.0	9.2%	5.8%
Nonfinancial corporate business	1,789.9	2,317.7	2,543.2	3,144.9	2,397.6	3,064.7	2,543.0	27.8%	11.4%
Life Insurance Companies	573.7	683.5	771.1	811.5	659.8	697.5	699.5	5.7%	4.0%
Property Casualty Companies	392.1	493.9	518.6	642.8	532.9	596.3	529.4	11.9%	8.7%
Federal Gov't Retirement Funds	292.1	370.7	418.6	524.0	418.7	533.9	426.3	27.5%	12.8%
Broker/Dealers	147.7	167.0	214.3	233.9	170.3	283.4	202.8	66.5%	13.9%
State & Local Governments	169.6	214.1	250.0	306.4	239.3	293.2	245.4	22.5%	11.6%
U.S. Chartered Depository Institutions	31.2	39.0	44.3	54.8	46.4	53.5	44.9	15.3%	11.4%
Closed-End Funds	91.2	107.2	105.9	123.4	99.0	100.2	104.5	1.2%	1.9%
Federal Government	33.2	33.2	33.2	33.2	33.2	33.2	33.2	0.0%	0.0%
Other	0.0	0.0	8.8	0.0	0.0	0.0	1.5	n/a	n/a
Monetary Authority	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n/a	n/a
Total US Holdings	43,870.6	54,809.6	65,541.8	80,038.8	64,735.0	77,570.8	64,427.8	19.8%	12.1%

Source: The Federal Reserve - Financial Accounts of the United States

Note: Market value. Households include non-profit organizations. Other contains foreign banking offices in the U.S. and funding corporations

US Holdings of Equities by Type of Holder – Share of Total

(% Total)	2018	2019	2020	2021	2022	2023	Y/Y	
							Average	Change
Households	37.6%	38.6%	39.8%	39.6%	40.9%	40.7%	39.5%	-0.2%
Institutions	62.4%	61.4%	60.2%	60.4%	59.1%	59.3%	60.5%	0.2%
Mutual Funds	22.0%	21.8%	20.4%	19.4%	18.3%	17.9%	20.0%	-0.4%
Foreign	15.1%	15.1%	16.3%	17.4%	16.7%	17.1%	16.3%	0.4%
Exchange-Traded Funds	6.1%	6.3%	6.5%	7.3%	7.8%	8.3%	7.0%	0.5%
Private Pension Funds	5.6%	5.4%	5.2%	4.8%	4.5%	4.5%	5.0%	-0.1%
State & Local Gov't Retirement Funds	5.6%	4.7%	4.4%	4.2%	4.6%	4.2%	4.6%	-0.4%
Nonfinancial corporate business	4.1%	4.2%	3.9%	3.9%	3.7%	4.0%	4.0%	0.2%
Life Insurance Companies	1.3%	1.2%	1.2%	1.0%	1.0%	0.9%	1.1%	-0.1%
Property Casualty Companies	0.9%	0.9%	0.8%	0.8%	0.8%	0.8%	0.8%	-0.1%
Federal Gov't Retirement Funds	0.7%	0.7%	0.6%	0.7%	0.6%	0.7%	0.7%	0.0%
Broker/Dealers	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.3%	0.1%
State & Local Governments	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.0%
U.S. Chartered Depository Institutions	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%
Closed-End Funds	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	0.2%	0.0%
Federal Government	0.1%	0.1%	0.1%	0.0%	0.1%	0.0%	0.1%	0.0%
Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Monetary Authority	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: The Federal Reserve - Financial Accounts of the United States

Note: Households include non-profit organizations. Other contains foreign banking offices in the US and funding corporations

US Net Acquisitions of Corporate Equities by Type of Holder

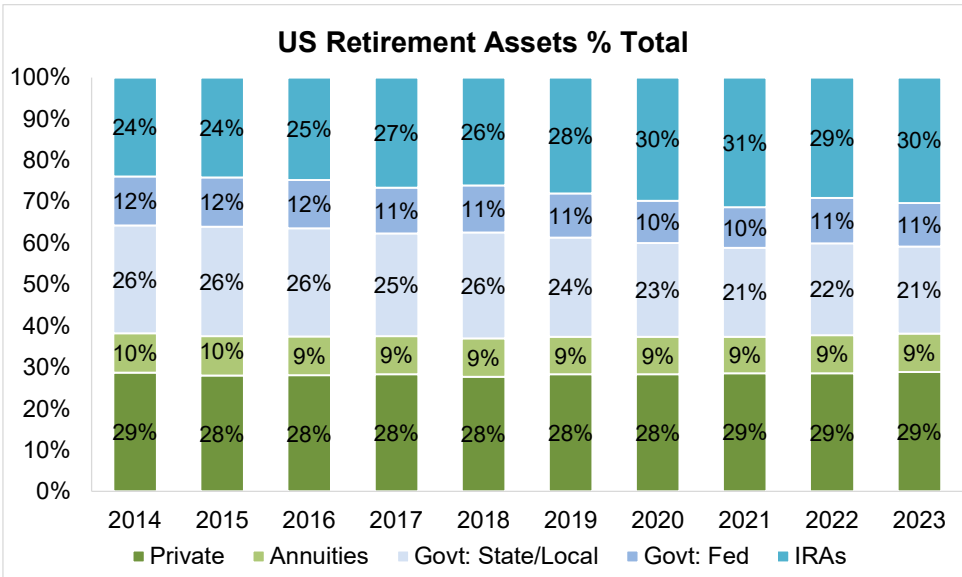
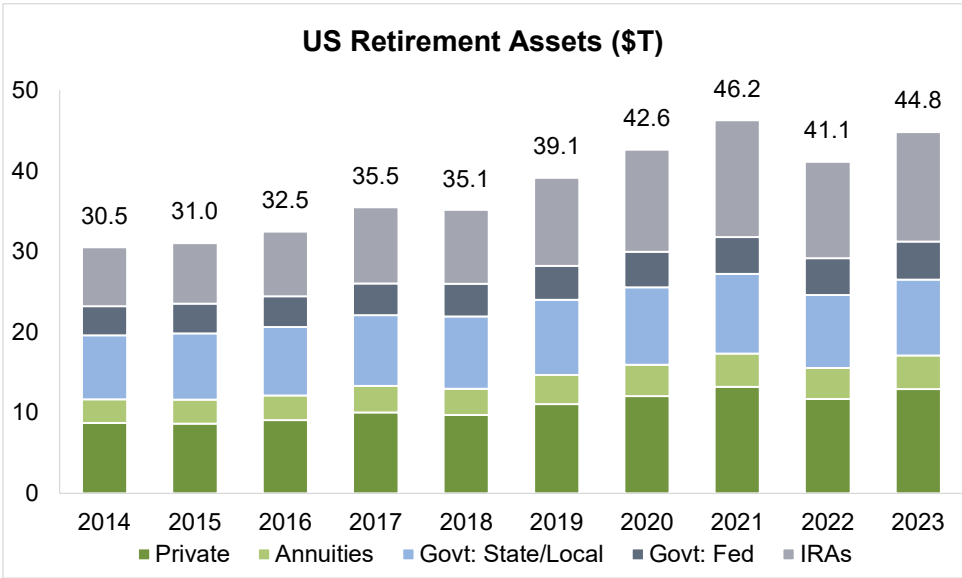
(\$B)	2018	2019	2020	2021	2022	2023	Y/Y %	
							Average	Change
Households	-201.3	327.5	649.3	1,182.8	593.7	-230.3	386.9	138.8%
Institutions	-71.8	-538.1	141.4	-306.6	-475.6	82.7	-194.7	117.4%
Foreign	111.0	-249.2	669.3	-112.4	-199.5	162.3	63.6	181.3%
Mutual Funds	-121.0	-219.4	-481.3	-316.7	-388.3	-316.8	-307.3	18.4%
Exchange-Traded Funds	204.2	166.0	260.2	731.6	416.1	399.9	363.0	3.9%
Nonfinancial corporate business	-40.7	10.2	-136.0	-101.4	-136.2	56.1	-58.0	141.2%
Private Pension Funds	-80.0	-168.8	-112.4	-295.0	-135.4	-164.9	-159.4	21.8%
Federal Gov't Retirement Funds	-21.6	-5.0	-23.9	10.2	-6.2	11.4	-5.8	284.5%
Property Casualty Companies	20.1	-1.8	-21.8	2.6	38.5	-24.8	2.1	164.3%
Other	0.0	0.0	8.8	-8.8	0.0	0.0	0.0	n/a
Broker/Dealers	-19.9	-22.4	6.8	-33.7	-13.7	63.6	-3.2	565.7%
State & Local Gov't Retirement Funds	-82.3	-45.3	-28.8	-111.8	-42.5	-38.3	-58.2	10.0%
State & Local Governments	-3.4	-3.4	-3.4	-3.4	-3.4	-3.4	-3.4	0.0%
U. S. Chartered Depository Institutions	2.5	0.8	2.9	2.4	-1.9	2.5	1.6	234.7%
Closed-End Funds	-0.4	2.6	1.9	8.0	0.1	0.1	2.1	61.9%
Life Insurance Companies	-44.3	-2.6	-0.9	-78.4	-3.3	-65.1	-32.4	1899.9%
Federal Government	4.0	0.0	0.0	0.0	0.0	0.0	0.7	n/a
Monetary Authority	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n/a
Total US Holdings	-273.0	-210.7	790.7	876.1	118.1	-147.6	192.3	225.0%

Source: The Federal Reserve - Financial Accounts of the United States

Note: Households include non-profit organizations. Other contains foreign banking offices in the US and funding corporations

Section IV: US Savings & Investment

US Retirement Assets – Charts



Source: The Federal Reserve - Financial Accounts of the United States

Note: Private = defined benefit and contribution pension plans, includes claims of pension funds on sponsor (unfunded defined benefit entitlements). Annuities = annuity reserves held by life insurance companies. Govt = government pension plans. Fed = federal. IRA = individual retirement account

US Retirement Assets

(\$B)	Private	Annuities	Govt:			Total
			State/Local	Govt: Fed	IRAs	
2009	5,988.2	2,109.9	5,788.3	2,911.2	4,488.0	21,285.6
2010	6,640.7	2,326.1	6,275.0	3,143.7	5,029.0	23,414.5
2011	6,774.1	2,326.7	6,443.1	3,243.6	5,153.0	23,940.5
2012	7,295.8	2,522.1	6,646.9	3,366.8	5,785.0	25,616.5
2013	8,457.1	2,800.9	7,602.6	3,524.9	6,819.0	29,204.5
2014	8,756.4	2,920.1	7,929.9	3,612.4	7,292.0	30,510.9
2015	8,686.0	2,962.5	8,194.8	3,709.2	7,477.0	31,029.5
2016	9,110.1	3,057.5	8,468.0	3,808.3	8,015.0	32,458.9
2017	10,056.7	3,279.9	8,788.4	3,925.4	9,439.0	35,489.4
2018	9,732.4	3,234.7	8,998.9	4,013.3	9,135.0	35,114.3
2019	11,097.4	3,566.9	9,337.1	4,195.7	10,949.0	39,146.1
2020	12,079.1	3,876.6	9,615.5	4,383.3	12,661.0	42,615.4
2021	13,203.1	4,109.9	9,898.0	4,559.5	14,460.0	46,230.5
2022	11,729.0	3,822.8	9,067.8	4,529.6	11,950.0	41,099.2
2023	12,941.6	4,162.0	9,407.2	4,724.4	13,556.0	44,791.2

Average	9,503.2	3,138.6	8,164.1	3,843.4	8,813.9	33,463.1
Y/Y Change	10.3%	8.9%	3.7%	4.3%	13.4%	9.0%
5Y CAGR	5.9%	5.2%	0.9%	3.3%	8.2%	5.0%
10Y CAGR	4.3%	4.0%	2.2%	3.0%	7.1%	4.4%

(Y/Y)	Private	Annuities	Govt:			Total
			State/Local	Govt: Fed	IRAs	
2010	10.9%	10.2%	8.4%	8.0%	12.1%	10.0%
2011	2.0%	0.0%	2.7%	3.2%	2.5%	2.2%
2012	7.7%	8.4%	3.2%	3.8%	12.3%	7.0%
2013	15.9%	11.1%	14.4%	4.7%	17.9%	14.0%
2014	3.5%	4.3%	4.3%	2.5%	6.9%	4.5%
2015	-0.8%	1.5%	3.3%	2.7%	2.5%	1.7%
2016	4.9%	3.2%	3.3%	2.7%	7.2%	4.6%
2017	10.4%	7.3%	3.8%	3.1%	17.8%	9.3%
2018	-3.2%	-1.4%	2.4%	2.2%	-3.2%	-1.1%
2019	14.0%	10.3%	3.8%	4.5%	19.9%	11.5%
2020	8.8%	8.7%	3.0%	4.5%	15.6%	8.9%
2021	9.3%	6.0%	2.9%	4.0%	14.2%	8.5%
2022	-11.2%	-7.0%	-8.4%	-0.7%	-17.4%	-11.1%
2023	10.3%	8.9%	3.7%	4.3%	13.4%	9.0%

Source: The Federal Reserve - Financial Accounts of the United States

Note: Private = defined benefit and contribution pension plans, includes claims of pension funds on sponsor (unfunded defined benefit entitlements). Annuities = annuity reserves held by life insurance companies. Govt = government pension plans. Fed = federal. IRA = individual retirement account

US Retirement Assets

(% Total)	Private	Annuities	Govt:		IRAs
			State/Local	Govt: Fed	
2009	28.1%	9.9%	27.2%	13.7%	21.1%
2010	28.4%	9.9%	26.8%	13.4%	21.5%
2011	28.3%	9.7%	26.9%	13.5%	21.5%
2012	28.5%	9.8%	25.9%	13.1%	22.6%
2013	29.0%	9.6%	26.0%	12.1%	23.3%
2014	28.7%	9.6%	26.0%	11.8%	23.9%
2015	28.0%	9.5%	26.4%	12.0%	24.1%
2016	28.1%	9.4%	26.1%	11.7%	24.7%
2017	28.3%	9.2%	24.8%	11.1%	26.6%
2018	27.7%	9.2%	25.6%	11.4%	26.0%
2019	28.3%	9.1%	23.9%	10.7%	28.0%
2020	28.3%	9.1%	22.6%	10.3%	29.7%
2021	28.6%	8.9%	21.4%	9.9%	31.3%
2022	28.5%	9.3%	22.1%	11.0%	29.1%
2023	28.9%	9.3%	21.0%	10.5%	30.3%
Average	28.4%	9.4%	24.8%	11.8%	25.6%
Y/Y Change	0.4%	0.0%	-1.1%	-0.5%	1.2%

Source: The Federal Reserve - Financial Accounts of the United States

Note: Private = defined benefit and contribution pension plans, includes claims of pension funds on sponsor (unfunded defined benefit entitlements). Annuities = annuity reserves held by life insurance companies. Govt = government pension plans. Fed = federal. IRA = individual retirement accounts

US Private Pension Fund Assets

(\$B)	Defined Benefit	Defined Contribution	Total	(Y/Y)	Defined Benefit	Defined Contribution	Total
2009	2,652.9	3,335.4	5,988.2				
2010	2,872.2	3,768.4	6,640.7	2010	8.3%	13.0%	10.9%
2011	2,983.8	3,790.3	6,774.1	2011	3.9%	0.6%	2.0%
2012	3,055.4	4,240.4	7,295.8	2012	2.4%	11.9%	7.7%
2013	3,451.3	5,005.8	8,457.1	2013	13.0%	18.0%	15.9%
2014	3,463.6	5,292.9	8,756.4	2014	0.4%	5.7%	3.5%
2015	3,436.3	5,249.7	8,686.0	2015	-0.8%	-0.8%	-0.8%
2016	3,469.5	5,640.6	9,110.1	2016	1.0%	7.4%	4.9%
2017	3,516.0	6,540.6	10,056.7	2017	1.3%	16.0%	10.4%
2018	3,532.3	6,200.1	9,732.4	2018	0.5%	-5.2%	-3.2%
2019	3,670.6	7,426.8	11,097.4	2019	3.9%	19.8%	14.0%
2020	3,665.9	8,413.2	12,079.1	2020	-0.1%	13.3%	8.8%
2021	3,714.0	9,489.2	13,203.1	2021	1.3%	12.8%	9.3%
2022	3,765.2	7,963.7	11,729.0	2022	1.4%	-16.1%	-11.2%
2023	3,796.1	9,145.5	12,941.6	2023	0.8%	14.8%	10.3%
Average	3,403.0	6,100.2	9,503.2				
Y/Y Change	0.8%	14.8%	10.3%				
5Y CAGR	1.5%	8.1%	5.9%				
10Y CAGR	1.0%	6.2%	4.3%				
Total Private	29.3%	70.7%					
Total Assets	8.5%	20.4%	28.9%				

(% Total)	Defined Benefit	Defined Contribution
2009	44.3%	55.7%
2010	43.3%	56.7%
2011	44.0%	56.0%
2012	41.9%	58.1%
2013	40.8%	59.2%
2014	39.6%	60.4%
2015	39.6%	60.4%
2016	38.1%	61.9%
2017	35.0%	65.0%
2018	36.3%	63.7%
2019	33.1%	66.9%
2020	30.3%	69.7%
2021	28.1%	71.9%
2022	32.1%	67.9%
2023	29.3%	70.7%
Average	37.0%	63.0%
Y/Y Change	-2.8%	2.8%

Source: The Federal Reserve - Financial Accounts of the United States

Note: Includes claims of pension funds on sponsor (i.e. unfunded defined benefit pension entitlements)

US Private Pension Fund Assets Investment Mix

(\$B)	Equity	Bonds	MFs	Cash	Claims	Other	Total	(Y/Y)	Equity	Bonds	MFs	Cash	Claims	Other	Total
2009	863.8	517.9	321.9	106.7	466.0	339.9	2,616.3								
2010	1,010.7	577.8	348.1	102.8	437.2	358.9	2,835.4	2010	17.0%	11.6%	8.1%	-3.7%	-6.2%	5.6%	8.4%
2011	929.5	665.9	356.3	106.5	497.5	391.1	2,946.8	2011	-8.0%	15.3%	2.3%	3.6%	13.8%	9.0%	3.9%
2012	1,048.0	746.6	359.3	94.2	377.2	392.9	3,018.1	2012	12.7%	12.1%	0.8%	-11.6%	-24.2%	0.4%	2.4%
2013	1,165.0	750.5	407.9	109.6	591.3	389.9	3,414.1	2013	11.2%	0.5%	13.5%	16.3%	56.8%	-0.8%	13.1%
2014	1,137.9	835.5	425.6	118.3	503.4	405.6	3,426.4	2014	-2.3%	11.3%	4.3%	8.0%	-14.9%	4.0%	0.4%
2015	1,086.9	804.6	382.9	105.9	608.3	410.5	3,399.0	2015	-4.5%	-3.7%	-10.1%	-10.5%	20.8%	1.2%	-0.8%
2016	1,099.1	829.5	385.1	102.5	581.5	434.4	3,432.1	2016	1.1%	3.1%	0.6%	-3.2%	-4.4%	5.8%	1.0%
2017	1,210.9	946.7	411.5	115.3	325.8	468.4	3,478.5	2017	10.2%	14.1%	6.9%	12.5%	-44.0%	7.8%	1.4%
2018	1,055.5	972.1	344.9	96.8	601.0	424.7	3,495.0	2018	-12.8%	2.7%	-16.2%	-16.1%	84.5%	-9.3%	0.5%
2019	1,210.1	1,079.6	360.9	101.7	413.9	467.3	3,633.4	2019	14.6%	11.1%	4.6%	5.1%	-31.1%	10.0%	4.0%
2020	1,331.1	1,163.6	406.6	120.3	127.7	479.5	3,628.8	2020	10.0%	7.8%	12.7%	18.2%	-69.1%	2.6%	-0.1%
2021	1,403.4	1,209.2	414.9	121.7	53.4	472.8	3,675.5	2021	5.4%	3.9%	2.0%	1.2%	-58.2%	-1.4%	1.3%
2022	1,022.5	1,063.8	327.4	127.5	720.1	464.3	3,725.6	2022	-27.1%	-12.0%	-21.1%	4.8%	1247.5%	-1.8%	1.4%
2023	1,144.7	1,189.7	361.0	134.7	458.0	467.1	3,755.3	2023	12.0%	11.8%	10.3%	5.7%	-36.4%	0.6%	0.8%
Average	1,114.6	890.2	374.3	111.0	450.8	424.5	3,365.4								
Y/Y Change	12.0%	11.8%	10.3%	5.7%	-36.4%	0.6%	0.8%								
5Y CAGR	1.6%	4.1%	0.9%	6.8%	-5.3%	1.9%	1.4%								
10Y CAGR	-0.2%	4.7%	-1.2%	2.1%	-2.5%	1.8%	1.0%								

(% Total)	Equity	Bonds	MFs	Cash	Claims	Other
2009	33.0%	19.8%	12.3%	4.1%	17.8%	13.0%
2010	35.6%	20.4%	12.3%	3.6%	15.4%	12.7%
2011	31.5%	22.6%	12.1%	3.6%	16.9%	13.3%
2012	34.7%	24.7%	11.9%	3.1%	12.5%	13.0%
2013	34.1%	22.0%	11.9%	3.2%	17.3%	11.4%
2014	33.2%	24.4%	12.4%	3.5%	14.7%	11.8%
2015	32.0%	23.7%	11.3%	3.1%	17.9%	12.1%
2016	32.0%	24.2%	11.2%	3.0%	16.9%	12.7%
2017	34.8%	27.2%	11.8%	3.3%	9.4%	13.5%
2018	30.2%	27.8%	9.9%	2.8%	17.2%	12.2%
2019	33.3%	29.7%	9.9%	2.8%	11.4%	12.9%
2020	36.7%	32.1%	11.2%	3.3%	3.5%	13.2%
2021	38.2%	32.9%	11.3%	3.3%	1.5%	12.9%
2022	27.4%	28.6%	8.8%	3.4%	19.3%	12.5%
2023	30.5%	31.7%	9.6%	3.6%	12.2%	12.4%

Average	33.2%	26.1%	11.2%	3.3%	13.6%	12.6%
Y/Y Change	3.0%	3.1%	0.8%	0.2%	-7.1%	0.0%

Source: The Federal Reserve - Financial Accounts of the United States

Note: Bonds include UST, Agency, GSE-backed securities, corporate & foreign bonds. MF = mutual funds. Cash includes checkable deposits and currency, time and savings deposits, money market mutual fund shares, repo and reverse repo agreements, and commercial paper. Claims include total liabilities of pension entitlements. Other = mortgages, unallocated insurance contracts, contributions receivable, and unidentified miscellaneous assets

US Defined Benefit Plans Asset Investment Mix

(\$B)	Equity	Bonds	MFs	Cash	Claims	Other	Total	(Y/Y)	Equity	Bonds	MFs	Cash	Claims	Other	Total
2009	863.8	517.9	321.9	106.7	466.0	339.9	2,616.3								
2010	1,010.7	577.8	348.1	102.8	437.2	358.9	2,835.4	2010	17.0%	11.6%	8.1%	-3.7%	-6.2%	5.6%	8.4%
2011	929.5	665.9	356.3	106.5	497.5	391.1	2,946.8	2011	-8.0%	15.3%	2.3%	3.6%	13.8%	9.0%	3.9%
2012	1,048.0	746.6	359.3	94.2	377.2	392.9	3,018.1	2012	12.7%	12.1%	0.8%	-11.6%	-24.2%	0.4%	2.4%
2013	1,165.0	750.5	407.9	109.6	591.3	389.9	3,414.1	2013	11.2%	0.5%	13.5%	16.3%	56.8%	-0.8%	13.1%
2014	1,137.9	835.5	425.6	118.3	503.4	405.6	3,426.4	2014	-2.3%	11.3%	4.3%	8.0%	-14.9%	4.0%	0.4%
2015	1,086.9	804.6	382.9	105.9	608.3	410.5	3,399.0	2015	-4.5%	-3.7%	-10.1%	-10.5%	20.8%	1.2%	-0.8%
2016	1,099.1	829.5	385.1	102.5	581.5	434.4	3,432.1	2016	1.1%	3.1%	0.6%	-3.2%	-4.4%	5.8%	1.0%
2017	1,210.9	946.7	411.5	115.3	325.8	468.4	3,478.5	2017	10.2%	14.1%	6.9%	12.5%	-44.0%	7.8%	1.4%
2018	1,055.5	972.1	344.9	96.8	601.0	424.7	3,495.0	2018	-12.8%	2.7%	-16.2%	-16.1%	84.5%	-9.3%	0.5%
2019	1,210.1	1,079.6	360.9	101.7	413.9	467.3	3,633.4	2019	14.6%	11.1%	4.6%	5.1%	-31.1%	10.0%	4.0%
2020	1,331.1	1,163.6	406.6	120.3	127.7	479.5	3,628.8	2020	10.0%	7.8%	12.7%	18.2%	-69.1%	2.6%	-0.1%
2021	1,403.4	1,209.2	414.9	121.7	53.4	472.8	3,675.5	2021	5.4%	3.9%	2.0%	1.2%	-58.2%	-1.4%	1.3%
2022	1,022.5	1,063.8	327.4	127.5	720.1	464.3	3,725.6	2022	-27.1%	-12.0%	-21.1%	4.8%	1247.5%	-1.8%	1.4%
2023	1,144.7	1,189.7	361.0	134.7	458.0	467.1	3,755.3	2023	12.0%	11.8%	10.3%	5.7%	-36.4%	0.6%	0.8%
Average	1,114.6	890.2	374.3	111.0	450.8	424.5	3,365.4								
Y/Y Change	12.0%	11.8%	10.3%	5.7%	-36.4%	0.6%	0.8%								
5Y CAGR	1.6%	4.1%	0.9%	6.8%	-5.3%	1.9%	1.4%								
10Y CAGR	-0.2%	4.7%	-1.2%	2.1%	-2.5%	1.8%	1.0%								

(% Total)	Equity	Bonds	MFs	Cash	Claims	Other
2009	33.0%	19.8%	12.3%	4.1%	17.8%	13.0%
2010	35.6%	20.4%	12.3%	3.6%	15.4%	12.7%
2011	31.5%	22.6%	12.1%	3.6%	16.9%	13.3%
2012	34.7%	24.7%	11.9%	3.1%	12.5%	13.0%
2013	34.1%	22.0%	11.9%	3.2%	17.3%	11.4%
2014	33.2%	24.4%	12.4%	3.5%	14.7%	11.8%
2015	32.0%	23.7%	11.3%	3.1%	17.9%	12.1%
2016	32.0%	24.2%	11.2%	3.0%	16.9%	12.7%
2017	34.8%	27.2%	11.8%	3.3%	9.4%	13.5%
2018	30.2%	27.8%	9.9%	2.8%	17.2%	12.2%
2019	33.3%	29.7%	9.9%	2.8%	11.4%	12.9%
2020	36.7%	32.1%	11.2%	3.3%	3.5%	13.2%
2021	38.2%	32.9%	11.3%	3.3%	1.5%	12.9%
2022	27.4%	28.6%	8.8%	3.4%	19.3%	12.5%
2023	30.5%	31.7%	9.6%	3.6%	12.2%	12.4%

Average	33.2%	26.1%	11.2%	3.3%	13.6%	12.6%
Y/Y Change	3.0%	3.1%	0.8%	0.2%	-7.1%	0.0%

Source: The Federal Reserve - Financial Accounts of the United States

Note: Bonds include UST, Agency, GSE-backed securities, corporate & foreign bonds. MF = mutual funds. Cash includes checkable deposits and currency, time and savings deposits, money market mutual fund shares, repo and reverse repo agreements, and commercial paper. Claims include total liabilities of pension entitlements. Other = mortgages, unallocated insurance contracts, contributions receivable, and unidentified miscellaneous assets

US Defined Contribution Plan Asset Investment Mix

(\$B)	Equity	Bonds	MFs	Cash	Other	Total	(Y/Y)	Equity	Bonds	MFs	Cash	Other	Total
2009	640.6	205.0	1,633.4	130.1	726.3	3,335.4							
2010	767.4	251.4	1,872.0	123.3	754.3	3,768.4	2010	19.8%	22.7%	14.6%	-5.2%	3.8%	13.0%
2011	750.9	249.2	1,843.7	146.1	800.4	3,790.3	2011	-2.1%	-0.9%	-1.5%	18.5%	6.1%	0.6%
2012	842.7	302.9	2,122.2	131.0	841.5	4,240.4	2012	12.2%	21.6%	15.1%	-10.3%	5.1%	11.9%
2013	1,078.8	295.0	2,598.9	138.4	894.6	5,005.8	2013	28.0%	-2.6%	22.5%	5.7%	6.3%	18.0%
2014	1,146.4	331.0	2,764.6	138.3	912.6	5,292.9	2014	6.3%	12.2%	6.4%	-0.1%	2.0%	5.7%
2015	1,133.5	331.7	2,745.0	142.1	897.4	5,249.7	2015	-1.1%	0.2%	-0.7%	2.7%	-1.7%	-0.8%
2016	1,230.8	363.0	2,967.7	145.9	933.1	5,640.6	2016	8.6%	9.5%	8.1%	2.7%	4.0%	7.4%
2017	1,502.1	401.6	3,475.1	146.2	1,015.6	6,540.6	2017	22.0%	10.6%	17.1%	0.2%	8.8%	16.0%
2018	1,392.5	406.4	3,249.7	148.5	1,003.1	6,200.1	2018	-7.3%	1.2%	-6.5%	1.5%	-1.2%	-5.2%
2019	1,751.7	451.1	3,959.2	167.8	1,097.0	7,426.8	2019	25.8%	11.0%	21.8%	13.0%	9.4%	19.8%
2020	2,047.7	511.1	4,493.7	180.0	1,180.6	8,413.2	2020	16.9%	13.3%	13.5%	7.3%	7.6%	13.3%
2021	2,466.5	570.0	5,015.1	192.5	1,245.0	9,489.2	2021	20.4%	11.5%	11.6%	6.9%	5.5%	12.8%
2022	1,908.9	573.5	4,054.9	205.0	1,221.5	7,963.7	2022	-22.6%	0.6%	-19.1%	6.5%	-1.9%	-16.1%
2023	2,312.0	661.2	4,698.6	214.6	1,259.1	9,145.5	2023	21.1%	15.3%	15.9%	4.7%	3.1%	14.8%
Average	1,398.2	393.6	3,166.3	156.7	985.5	6,100.2							
Y/Y Change	21.1%	15.3%	15.9%	4.7%	3.1%	14.8%							
5Y CAGR	10.7%	10.2%	7.7%	7.7%	4.6%	8.1%							
10Y CAGR	7.9%	8.4%	6.1%	4.5%	3.5%	6.2%							

(% Total)	Equity	Bonds	MFs	Cash	Other
2009	19.2%	6.1%	49.0%	3.9%	21.8%
2010	20.4%	6.7%	49.7%	3.3%	20.0%
2011	19.8%	6.6%	48.6%	3.9%	21.1%
2012	19.9%	7.1%	50.0%	3.1%	19.8%
2013	21.6%	5.9%	51.9%	2.8%	17.9%
2014	21.7%	6.3%	52.2%	2.6%	17.2%
2015	21.6%	6.3%	52.3%	2.7%	17.1%
2016	21.8%	6.4%	52.6%	2.6%	16.5%
2017	23.0%	6.1%	53.1%	2.2%	15.5%
2018	22.5%	6.6%	52.4%	2.4%	16.2%
2019	23.6%	6.1%	53.3%	2.3%	14.8%
2020	24.3%	6.1%	53.4%	2.1%	14.0%
2021	26.0%	6.0%	52.9%	2.0%	13.1%
2022	24.0%	7.2%	50.9%	2.6%	15.3%
2023	25.3%	7.2%	51.4%	2.3%	13.8%

Average	22.3%	6.4%	51.6%	2.7%	16.9%
Y/Y Change	1.3%	0.0%	0.5%	-0.2%	-1.6%

Source: The Federal Reserve - Financial Accounts of the United States

Note: Bonds include UST, Agency, GSE-backed securities, corporate & foreign bonds. MF = mutual funds. Cash includes checkable deposits and currency, time and savings deposits, money market mutual fund shares, repo and reverse repo agreements, and commercial paper. Claims include total liabilities of pension entitlements. Other = mortgages, unallocated insurance contracts, contributions receivable, and unidentified miscellaneous assets

US Individual Retirement Account (IRA) Assets

(\$B)	MFs	Deposits	Annuities	Other	Total
2009	2,114	431	291	1,652	4,488
2010	2,418	461	314	1,837	5,030
2011	2,409	482	309	1,953	5,153
2012	2,752	508	324	2,200	5,784
2013	3,322	508	352	2,638	6,820
2014	3,524	506	369	2,892	7,291
2015	3,493	523	385	3,077	7,478
2016	3,708	561	398	3,348	8,015
2017	4,279	548	418	4,194	9,439
2018	3,994	568	431	4,141	9,134
2019	4,820	558	470	5,101	10,949
2020	5,459	685	521	5,997	12,662
2021	6,222	676	554	7,008	14,460
2022	5,055	643	560	5,692	11,950
2023	5,838	544	614	6,561	13,557

Average	3,960	547	421	3,886	8,814
Y/Y Change	15.5%	-15.4%	9.6%	15.3%	13.4%
5Y CAGR	7.9%	-0.9%	7.3%	9.6%	8.2%
10Y CAGR	5.8%	0.7%	5.7%	9.5%	7.1%

(% Total)	MFs	Deposits	Annuities	Other
2009	47.1%	9.6%	6.5%	36.8%
2010	48.1%	9.2%	6.2%	36.5%
2011	46.7%	9.4%	6.0%	37.9%
2012	47.6%	8.8%	5.6%	38.0%
2013	48.7%	7.4%	5.2%	38.7%
2014	48.3%	6.9%	5.1%	39.7%
2015	46.7%	7.0%	5.1%	41.1%
2016	46.3%	7.0%	5.0%	41.8%
2017	45.3%	5.8%	4.4%	44.4%
2018	43.7%	6.2%	4.7%	45.3%
2019	44.0%	5.1%	4.3%	46.6%
2020	43.1%	5.4%	4.1%	47.4%
2021	43.0%	4.7%	3.8%	48.5%
2022	42.3%	5.4%	4.7%	47.6%
2023	43.1%	4.0%	4.5%	48.4%

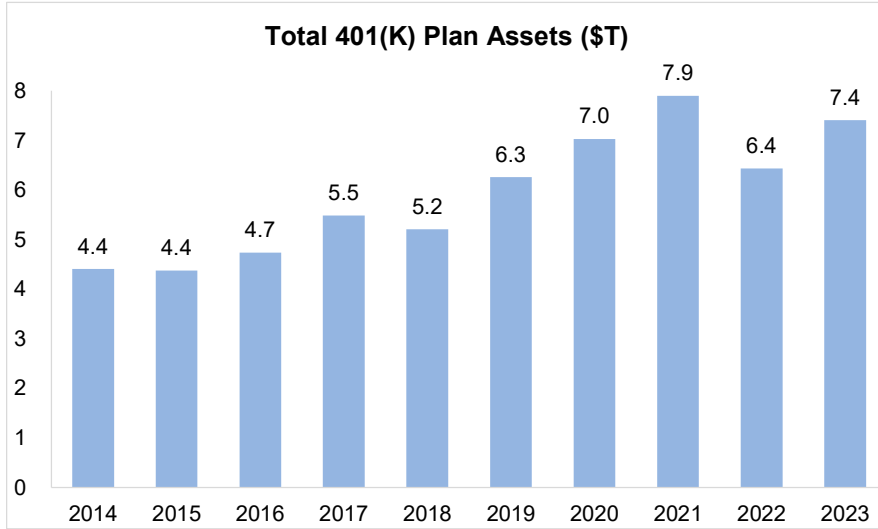
Average	45.6%	6.8%	5.0%	42.6%
Y/Y Change	0.8%	-1.4%	-0.2%	0.8%

Source: Investment Company Institute

Note: Bank and thrift deposits include Keogh deposits; 2021 and 2022 data are estimates. Other was not identified

(Y/Y)	MFs	Deposits	Annuities	Other	Total
2010	14.4%	7.0%	7.9%	11.2%	12.1%
2011	-0.4%	4.6%	-1.6%	6.3%	2.4%
2012	14.2%	5.4%	4.9%	12.6%	12.2%
2013	20.7%	0.0%	8.6%	19.9%	17.9%
2014	6.1%	-0.4%	4.8%	9.6%	6.9%
2015	-0.9%	3.4%	4.3%	6.4%	2.6%
2016	6.2%	7.3%	3.4%	8.8%	7.2%
2017	15.4%	-2.3%	5.0%	25.3%	17.8%
2018	-6.7%	3.6%	3.1%	-1.3%	-3.2%
2019	20.7%	-1.8%	9.0%	23.2%	19.9%
2020	13.3%	22.8%	10.9%	17.6%	15.6%
2021	14.0%	-1.3%	6.3%	16.9%	14.2%
2022	-18.8%	-4.9%	1.1%	-18.8%	-17.4%
2023	15.5%	-15.4%	9.6%	15.3%	13.4%

US 401(K) Assets



	\$ Billions
2009	2,718
2010	3,119
2011	3,112
2012	3,495
2013	4,148
2014	4,406
2015	4,377
2016	4,741
2017	5,486
2018	5,207
2019	6,256
2020	7,033
2021	7,899
2022	6,435
2023	7,410

Average	5,056
Y/Y Change	15.2%
5Y CAGR	7.3%
10Y CAGR	6.0%

Source: Investment Company Institute

US Household Saving Rates versus Other Major Nations

	US	Canada	France	Germany	Japan	UK
2009	6.1%	4.5%	10.6%	10.4%	4.3%	5.7%
2010	6.5%	4.3%	10.5%	10.3%	3.3%	6.8%
2011	7.0%	4.2%	9.9%	10.0%	3.6%	4.2%
2012	8.9%	4.7%	10.0%	9.7%	2.3%	3.4%
2013	6.3%	4.7%	8.5%	9.3%	0.1%	2.9%
2014	7.3%	3.5%	8.9%	9.8%	-0.8%	1.8%
2015	7.8%	4.1%	8.3%	10.1%	0.1%	4.4%
2016	7.2%	1.6%	8.2%	10.2%	1.9%	0.7%
2017	7.5%	1.9%	8.4%	10.6%	1.6%	-0.6%
2018	7.8%	0.7%	8.6%	11.3%	1.8%	-0.6%
2019	9.1%	2.0%	9.2%	10.9%	3.4%	-0.5%
2020	17.5%	13.9%	15.2%	16.5%	11.4%	11.2%
2021	12.4%	10.5%	13.1%	14.9%	7.8%	6.7%
2022	9.8%	5.8%	11.2%	11.1%	5.4%	2.0%
2023	10.4%	4.2%	n/a	11.7%	4.2%	n/a
Average	8.8%	4.7%	10.0%	11.1%	3.4%	3.4%
Y/Y Change	0.6%	-1.5%	n/a	0.6%	-1.2%	n/a

(Y/Y)	US	Canada	France	Germany	Japan	UK
2010	0.4%	-0.2%	-0.1%	-0.1%	-1.0%	1.1%
2011	0.5%	-0.1%	-0.5%	-0.3%	0.3%	-2.7%
2012	1.8%	0.6%	0.1%	-0.4%	-1.2%	-0.8%
2013	-2.5%	0.0%	-1.5%	-0.4%	-2.3%	-0.5%
2014	1.0%	-1.2%	0.3%	0.5%	-0.8%	-1.1%
2015	0.5%	0.5%	-0.5%	0.2%	0.9%	2.6%
2016	-0.6%	-2.5%	-0.1%	0.1%	1.8%	-3.7%
2017	0.3%	0.2%	0.2%	0.4%	-0.3%	-1.3%
2018	0.3%	-1.2%	0.3%	0.7%	0.2%	0.0%
2019	1.3%	1.4%	0.6%	-0.4%	1.6%	0.1%
2020	8.4%	11.8%	6.0%	5.7%	8.1%	11.7%
2021	-5.1%	-3.3%	-2.1%	-1.6%	-3.7%	-4.5%
2022	-2.6%	-4.8%	-1.9%	-3.8%	-2.4%	-4.7%
2023	0.6%	-1.5%	n/a	0.6%	-1.2%	n/a

Source: OECD Database, OECD Economic Outlook

Note: Net savings rate; 2023 data for France and UK not available at the time of publication

US Economic Indicators

	CPI	Core CPI	UE Rate	Savings Rate	Nominal GDP (\$B)	Real GDP (\$B)
2009	2.7%	1.8%	9.3%	5.7%	14,478.1	16,349.1
2010	1.5%	0.8%	9.6%	5.9%	15,049.0	16,789.8
2011	3.0%	2.2%	9.0%	6.5%	15,599.7	17,052.4
2012	1.7%	1.9%	8.1%	7.9%	16,254.0	17,442.8
2013	1.5%	1.7%	7.4%	5.0%	16,880.7	17,812.2
2014	0.8%	1.6%	6.2%	5.5%	17,608.1	18,261.7
2015	0.7%	2.1%	5.3%	5.8%	18,295.0	18,799.6
2016	2.1%	2.2%	4.9%	5.4%	18,804.9	19,141.7
2017	2.1%	1.8%	4.4%	5.8%	19,612.1	19,612.1
2018	1.9%	2.2%	3.9%	6.4%	20,656.5	20,193.9
2019	2.3%	2.3%	3.7%	7.4%	21,521.4	20,692.1
2020	1.4%	1.6%	8.1%	15.4%	21,323.0	20,234.1
2021	7.0%	5.5%	5.4%	11.4%	23,594.0	21,407.7
2022	6.5%	5.7%	3.7%	3.3%	25,744.1	21,822.0
2023	3.4%	3.9%	3.6%	4.5%	27,360.9	22,376.9
Average	2.6%	2.5%	6.2%	6.8%	19,518.8	19,199.2
Y/Y Change	-3.1%	-1.8%	0.0%	1.2%	6.3%	2.5%
5Y CAGR					5.8%	2.1%
10Y CAGR					4.9%	2.3%

(Y/Y)	CPI	Core CPI	UE Rate	Savings Rate	Nominal GDP (\$B)	Real GDP (\$B)
2010	-1.2%	-1.0%	0.3%	0.2%	3.9%	2.7%
2011	1.5%	1.4%	-0.7%	0.6%	3.7%	1.6%
2012	-1.2%	-0.3%	-0.9%	1.4%	4.2%	2.3%
2013	-0.2%	-0.2%	-0.7%	-2.9%	3.9%	2.1%
2014	-0.7%	-0.1%	-1.2%	0.5%	4.3%	2.5%
2015	0.0%	0.5%	-0.9%	0.3%	3.9%	2.9%
2016	1.3%	0.1%	-0.4%	-0.4%	2.8%	1.8%
2017	0.0%	-0.4%	-0.5%	0.4%	4.3%	2.5%
2018	-0.2%	0.4%	-0.4%	0.6%	5.3%	3.0%
2019	0.4%	0.1%	-0.2%	1.0%	4.2%	2.5%
2020	-0.9%	-0.6%	4.4%	8.0%	-0.9%	-2.2%
2021	5.7%	3.8%	-2.7%	-4.0%	10.7%	5.8%
2022	-0.6%	0.3%	-1.7%	-8.1%	9.1%	1.9%
2023	-3.1%	-1.8%	0.0%	1.2%	6.3%	2.5%

Source: U.S. Bureau of Economic Analysis; U.S. Department of Labor

Note: CPI, unemployment not seasonally adjusted. CPI = consumer price index, % change Y/Y. UE = unemployment rate for civilians. Savings rate = personal, % of disposable income. GDP = gross domestic product, real GDP = 2012

US Federal Receipts, Outlays, Deficit, and Debt

	GDP	Receipts	Outlays	Surplus/ (Deficit)	Total Debt	Debt Held by Public
2009	14,467.3	2,105.0	3,517.7	-1,412.7	11,875.9	7,544.7
2010	14,884.4	2,162.7	3,457.1	-1,294.4	13,528.8	9,018.9
2011	15,466.5	2,303.5	3,603.1	-1,299.6	14,764.2	10,128.2
2012	16,109.4	2,450.0	3,526.6	-1,076.6	16,050.9	11,281.1
2013	16,687.8	2,775.1	3,454.9	-679.8	16,719.4	11,982.7
2014	17,428.1	3,021.5	3,506.3	-484.8	17,794.5	12,779.9
2015	18,164.3	3,249.9	3,691.9	-442.0	18,120.1	13,116.7
2016	18,641.3	3,268.0	3,852.6	-584.7	19,539.5	14,167.6
2017	19,375.2	3,316.2	3,981.6	-665.5	20,205.7	14,665.4
2018	20,436.3	3,329.9	4,109.0	-779.1	21,462.3	15,749.6
2019	21,275.3	3,463.4	4,447.0	-983.6	22,669.5	16,800.7
2020	21,292.4	3,421.2	6,553.6	-3,132.5	26,902.5	21,016.7
2021	22,936.5	4,047.1	6,822.5	-2,775.4	28,385.6	22,284.0
2022	25,305.7	4,897.3	6,273.3	-1,375.9	30,838.6	24,253.4
2023	26,982.4	4,440.9	6,134.7	-1,693.7	32,989.0	26,235.6

Average	19,296.9	3,216.8	4,462.1	-1,245.4	20,789.8	15,401.7
Y/Y Change	6.6%	-9.3%	-2.2%	23.1%	7.0%	8.2%
5Y CAGR	5.7%	5.9%	8.3%	16.8%	9.0%	10.7%
10Y CAGR	4.9%	4.8%	5.9%	9.6%	7.0%	8.2%

(Y/Y)	GDP	Receipts	Outlays	Surplus/ (Deficit)	Total Debt	Debt Held by Public
2010	2.9%	2.7%	-1.7%	-8.4%	13.9%	19.5%
2011	3.9%	6.5%	4.2%	0.4%	9.1%	12.3%
2012	4.2%	6.4%	-2.1%	-17.2%	8.7%	11.4%
2013	3.6%	13.3%	-2.0%	-36.9%	4.2%	6.2%
2014	4.4%	8.9%	1.5%	-28.7%	6.4%	6.7%
2015	4.2%	7.6%	5.3%	-8.8%	1.8%	2.6%
2016	2.6%	0.6%	4.4%	32.3%	7.8%	8.0%
2017	3.9%	1.5%	3.3%	13.8%	3.4%	3.5%
2018	5.5%	0.4%	3.2%	17.1%	6.2%	7.4%
2019	4.1%	4.0%	8.2%	26.2%	5.6%	6.7%
2020	0.1%	-1.2%	47.4%	218.5%	18.7%	25.1%
2021	7.7%	18.3%	4.1%	-11.4%	5.5%	6.0%
2022	10.3%	21.0%	-8.0%	-50.4%	8.6%	8.8%
2023	6.6%	-9.3%	-2.2%	23.1%	7.0%	8.2%

Source: Economic Report of the President

Note: Fiscal year data. GDP = gross domestic product

US Federal Receipts, Outlays, Deficit, and Debt – % of GDP

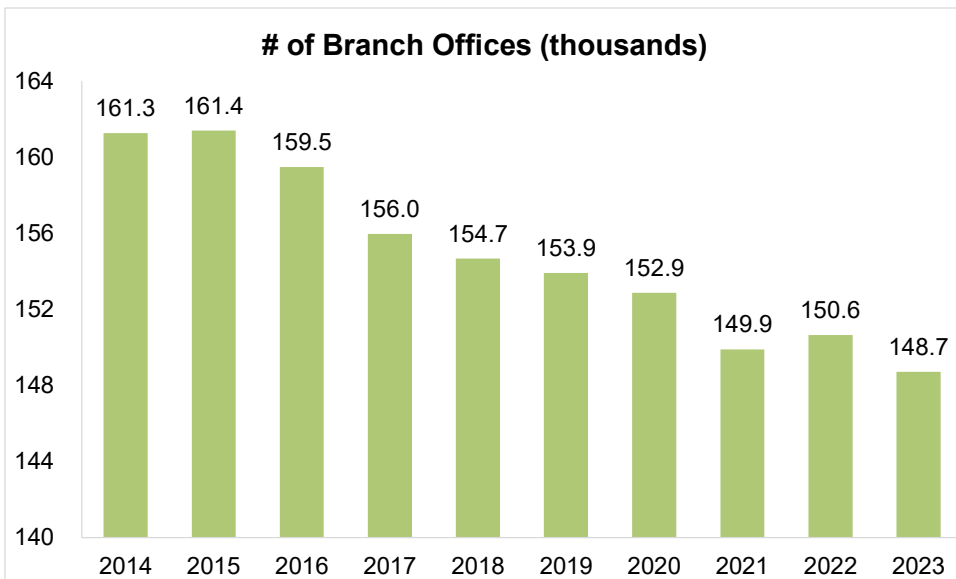
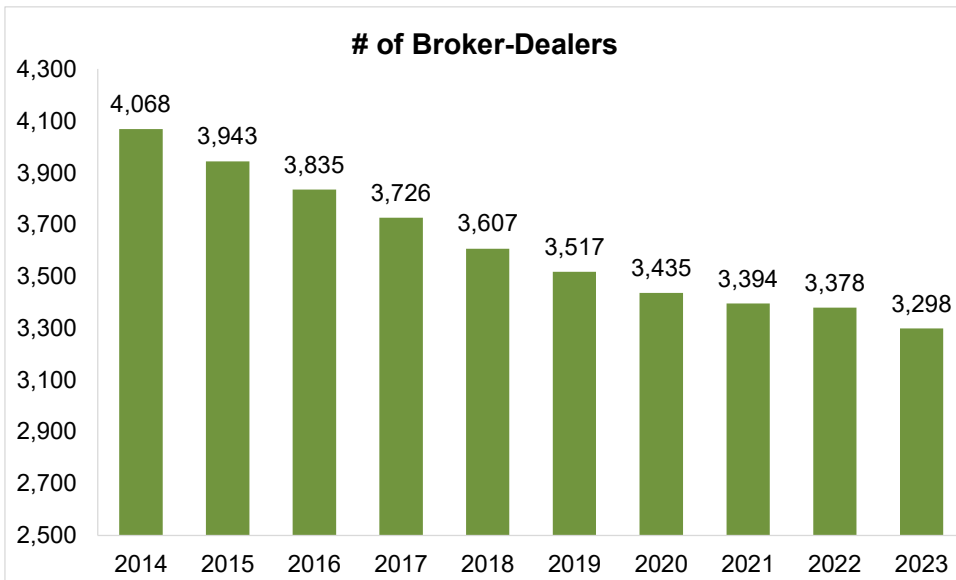
	Total Debt	Debt Held by Public
2009	82.1%	52.2%
2010	90.9%	60.6%
2011	95.5%	65.5%
2012	99.6%	70.0%
2013	100.2%	71.8%
2014	102.1%	73.3%
2015	99.8%	72.2%
2016	104.8%	76.0%
2017	104.3%	75.7%
2018	105.0%	77.1%
2019	106.6%	79.0%
2020	126.3%	98.7%
2021	123.8%	97.2%
2022	121.9%	95.8%
2023	122.3%	97.2%
Average	105.7%	77.5%
Y/Y Change	0.4%	1.4%

Source: Economic Report of the President

Note: Fiscal year data. GDP = gross domestic product

Section V: US Securities Industry

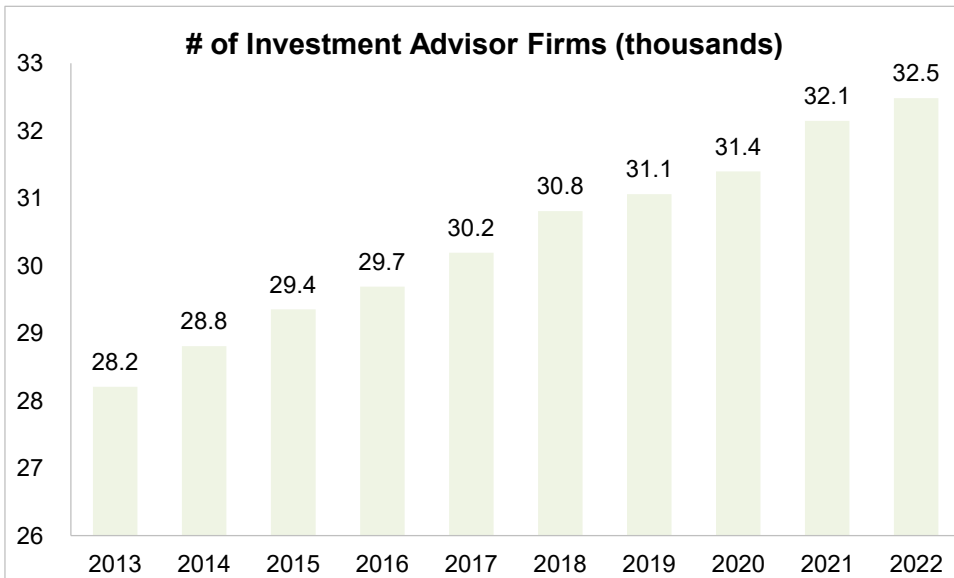
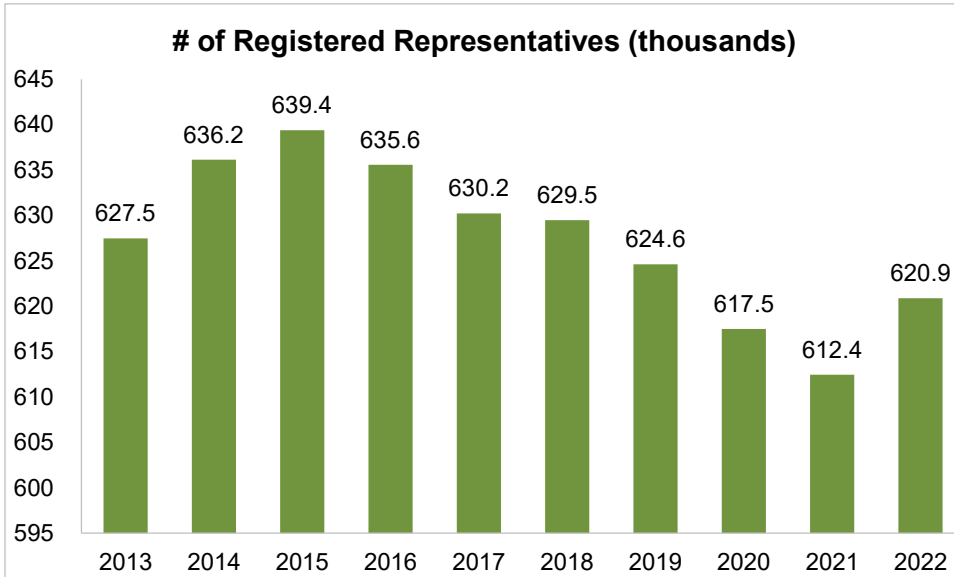
FINRA Registered Firms and Representatives – Broker Dealers



Source: FINRA

Note: Includes all FINRA registered broker-dealers doing business in the US

FINRA Registered Firms and Representatives – Registered Reps & Investment Advisors



Source: FINRA

Broker-Dealers & Registered Representatives Data

	Broker-Dealers	Branch Offices	Investment Advisor Firms	Registered Representatives
2009	4,717	166,699	25,587	630,896
2010	4,577	162,711	26,159	628,453
2011	4,455	160,403	26,306	627,055
2012	4,289	161,149	27,875	627,472
2013	4,146	160,478	28,209	627,468
2014	4,068	161,446	28,812	636,151
2015	3,943	161,392	29,352	639,409
2016	3,835	159,464	29,690	635,588
2017	3,726	155,967	30,196	630,205
2018	3,607	154,661	30,808	629,465
2019	3,517	153,907	31,063	624,609
2020	3,435	152,861	31,396	617,495
2021	3,394	149,887	32,149	612,423
2022	3,378	150,647	32,484	620,873
2023	3,298	148,718	32,402	628,392

Average	3,892.3	157,359.3	29,499.2	627,730.3
Y/Y Change	-2.4%	-1.3%	-0.3%	1.2%
5Y CAGR	-1.8%	-0.8%	1.0%	0.0%
10Y CAGR	-2.3%	-0.8%	1.4%	0.0%

(Y/Y)	Broker-Dealers	Branch Offices	Investment Advisor Firms	Registered Representatives
2010	-3.0%	-2.4%	2.2%	-0.4%
2011	-2.7%	-1.4%	0.6%	-0.2%
2012	-3.7%	0.5%	6.0%	0.1%
2013	-3.3%	-0.4%	1.2%	0.0%
2014	-1.9%	0.6%	2.1%	1.4%
2015	-3.1%	0.0%	1.9%	0.5%
2016	-2.7%	-1.2%	1.2%	-0.6%
2017	-2.8%	-2.2%	1.7%	-0.8%
2018	-3.2%	-0.8%	2.0%	-0.1%
2019	-2.5%	-0.5%	0.8%	-0.8%
2020	-2.3%	-0.7%	1.1%	-1.1%
2021	-1.2%	-1.9%	2.4%	-0.8%
2022	-0.5%	0.5%	1.0%	1.4%
2023	-2.4%	-1.3%	-0.3%	1.2%

Source: FINRA

Note: Includes all FINRA registered broker-dealers doing business in the U.S.

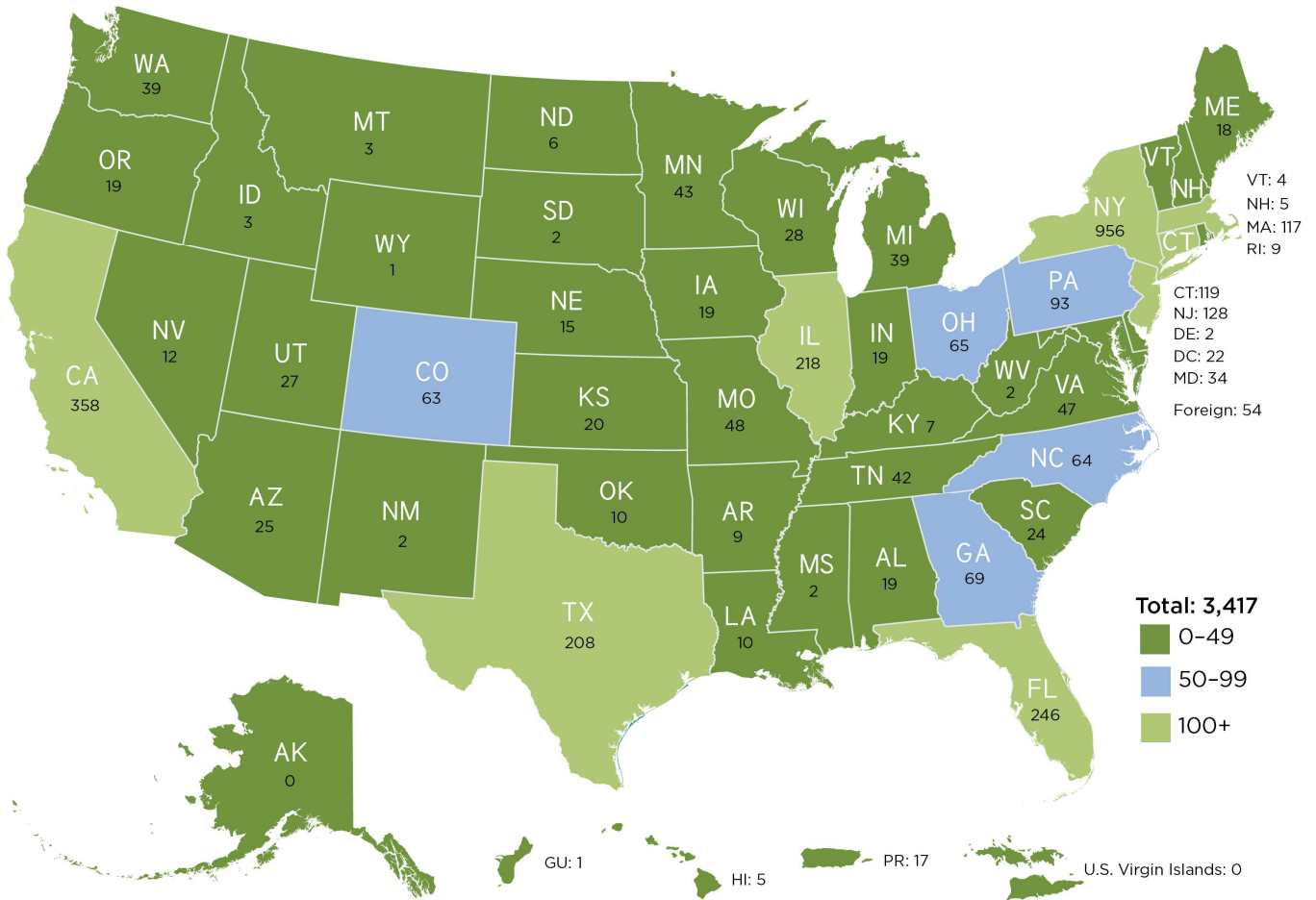
US Securities Industry Employment

(#K)	US	NYS	NYC	(Y/Y)	US	NYS	NYC	% Total	NYS	NYC
2009	854.2	187.0	165.3					2009	21.9%	19.4%
2010	852.7	192.1	169.8	2010	-0.2%	2.7%	2.7%	2010	22.5%	19.9%
2011	862.7	192.8	171.6	2011	1.2%	0.4%	1.1%	2011	22.3%	19.9%
2012	858.0	188.6	167.9	2012	-0.5%	-2.2%	-2.2%	2012	22.0%	19.6%
2013	872.6	189.2	168.2	2013	1.7%	0.3%	0.2%	2013	21.7%	19.3%
2014	892.3	193.4	171.3	2014	2.3%	2.2%	1.8%	2014	21.7%	19.2%
2015	923.6	198.3	176.5	2015	3.5%	2.5%	3.0%	2015	21.5%	19.1%
2016	931.4	198.2	176.6	2016	0.8%	-0.1%	0.1%	2016	21.3%	19.0%
2017	944.8	201.4	179.0	2017	1.4%	1.6%	1.4%	2017	21.3%	18.9%
2018	962.2	202.7	182.6	2018	1.8%	0.6%	2.0%	2018	21.1%	19.0%
2019	967.3	203.6	183.3	2019	0.5%	0.4%	0.4%	2019	21.0%	18.9%
2020	972.3	199.5	179.8	2020	0.5%	-2.0%	-1.9%	2020	20.5%	18.5%
2021	1,029.8	203.8	183.3	2021	5.9%	2.2%	1.9%	2021	19.8%	17.8%
2022	1,085.9	216.2	195.7	2022	5.4%	6.1%	6.8%	2022	19.9%	18.0%
2023	1,120.0	220.0	199.1	2023	3.1%	1.8%	1.7%	2023	19.6%	17.8%
Average	942.0	199.1	178.0					Average	21.2%	18.9%
Y/Y Change	3.1%	1.8%	1.7%					Y/Y % Change	-0.3%	-0.2%
5Y CAGR	3.1%	1.7%	1.7%							
10Y CAGR	2.5%	1.5%	1.7%							

Source: U.S. Department of Labor, Bureau of Labor Statistics

Note: Year end data, not seasonally adjusted, as per NAICS code 523; nationwide data is based on securities, commodity contracts, investments, and funds and trusts industry while state and city data is based on financial investments and related activities including financial vehicles industry. NYS = New York State, NYC = New York City

FINRA Registered Broker-Dealers by State – Map

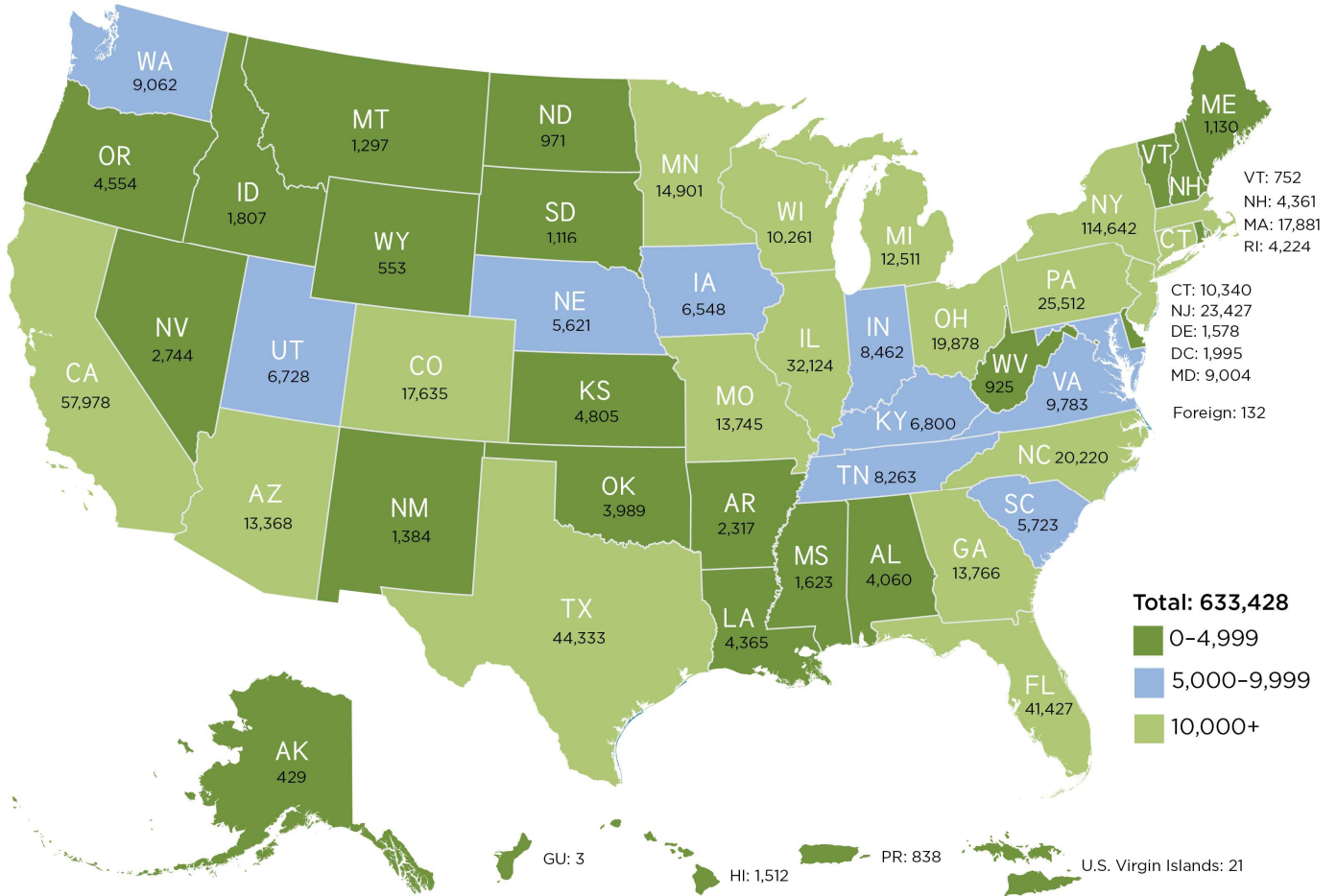


Note: Based on main office location. Totals differ from FINRA-reported data due to data source.
Source: Discovery Data

Source: Discovery Data

Note: Based on main office location. Totals differ from FINRA-reported data due to data source.

FINRA Registered Representatives by State – Map

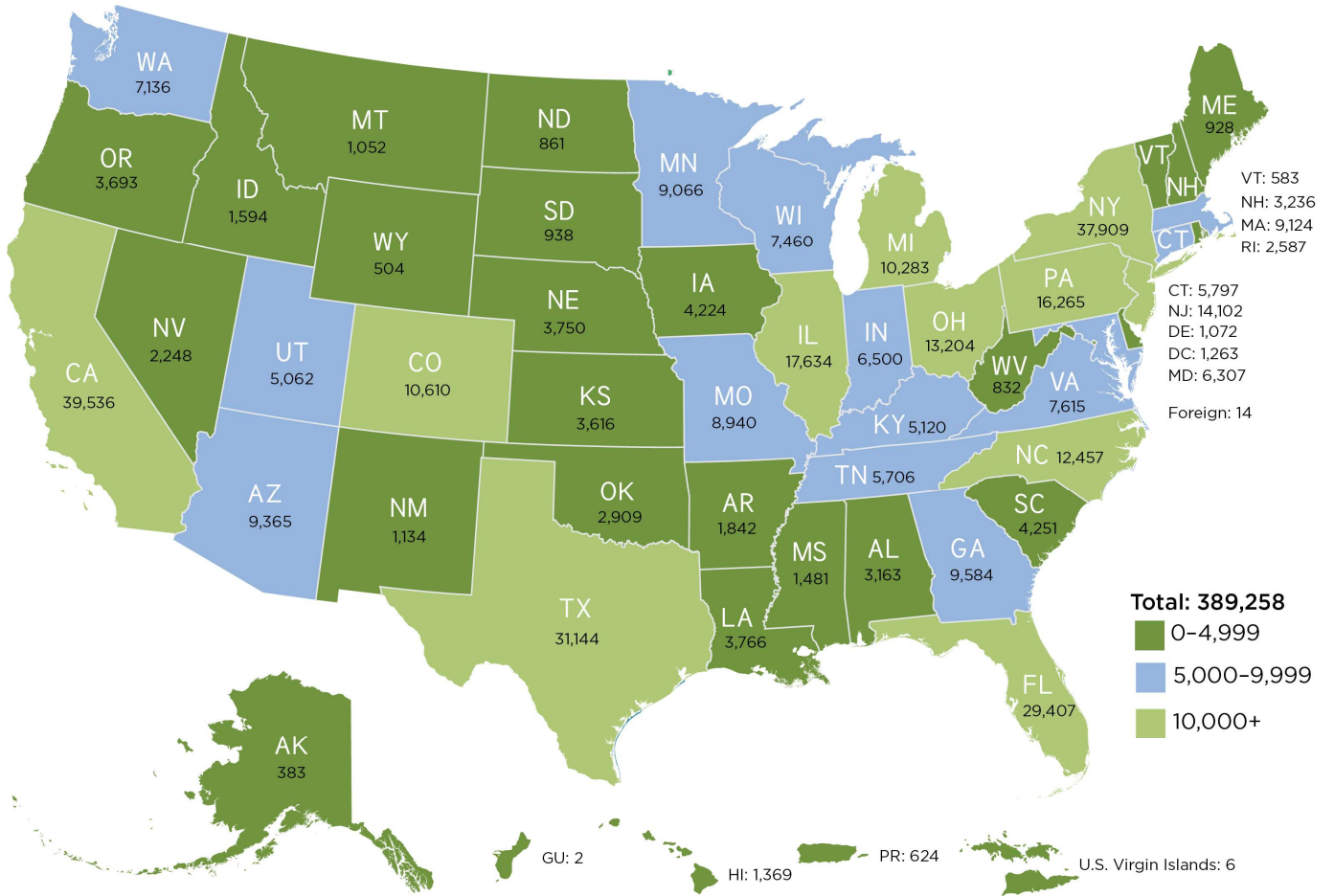


Note: Based on branch office location. Totals differ from FINRA-reported data due to data source.
Source: Discovery Data

Source: Discovery Data

Note: Based on branch office location. Totals differ from FINRA-reported data due to data source.

SEC and State Registered Investment Advisors by State – Map

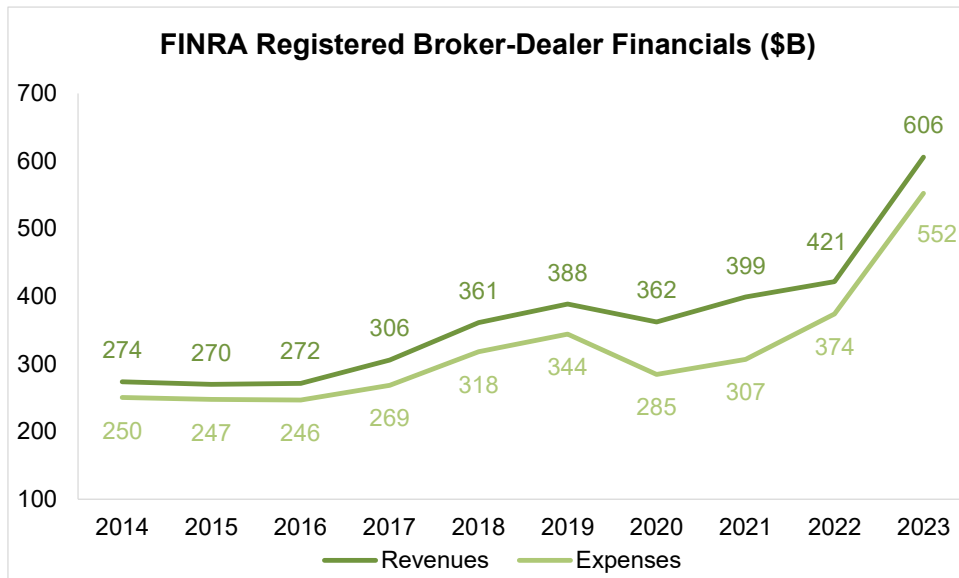


Note: Based on main office location. Includes both SEC- and state-registered investment advisors.
Source: Discovery Data

Source: Discovery Data

Note: Based on branch office location. Totals differ from FINRA-reported data due to data source.

FINRA Registered Broker-Dealer Financial Results



(\$B)	Revenues	Expenses	Pre-Tax Net Income	# Firms	(Y/Y)	Revenues	Expenses	Pre-Tax Net Income	# Firms
2009	278.9	207.3	71.7	4,717	2010	-8.7%	6.1%	-51.4%	-3.0%
2010	254.8	220.0	34.8	4,577	2011	-6.2%	2.2%	-59.2%	-2.7%
2011	238.9	224.7	14.2	4,455	2012	7.5%	0.1%	125.6%	-3.7%
2012	256.9	224.9	32.1	4,289	2013	2.9%	6.1%	-19.5%	-3.3%
2013	264.3	238.5	25.8	4,146	2014	3.6%	4.8%	-8.2%	-1.9%
2014	273.7	250.0	23.7	4,068	2015	-1.3%	-1.0%	-4.4%	-3.1%
2015	270.0	247.4	22.6	3,943	2016	0.6%	-0.5%	11.9%	-2.7%
2016	271.5	246.2	25.3	3,835	2017	12.6%	9.1%	46.4%	-2.8%
2017	305.7	268.6	37.1	3,726	2018	18.1%	18.5%	15.4%	-3.2%
2018	361.1	318.3	42.8	3,607	2019	7.5%	8.1%	2.7%	-2.5%
2019	388.2	344.2	43.9	3,517	2020	-6.7%	-17.3%	75.8%	-2.3%
2020	362.0	284.7	77.3	3,435	2021	10.1%	7.8%	18.6%	-1.2%
2021	398.5	306.9	91.6	3,394	2022	5.7%	21.8%	-48.4%	-0.5%
2022	421.3	373.9	47.3	3,378	2023	43.8%	47.6%	13.5%	-2.4%
2023	605.8	552.1	53.7	3,298					
Average	330.1	287.2	42.9	3,892.3					
Y/Y Change	43.8%	47.6%	13.5%	-2.4%					
5Y CAGR	10.9%	11.6%	4.6%	-1.8%					
10Y CAGR	8.6%	8.8%	7.6%	-2.3%					

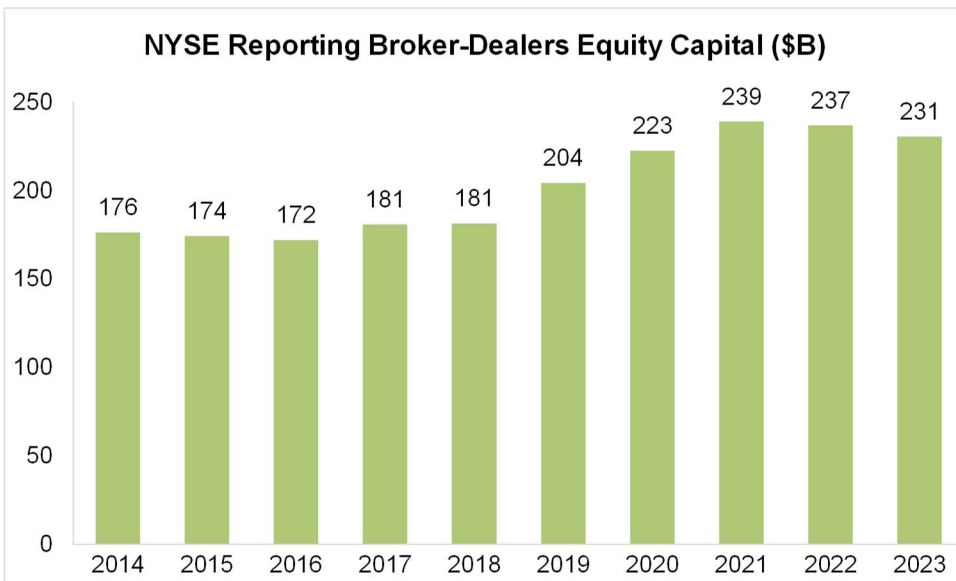
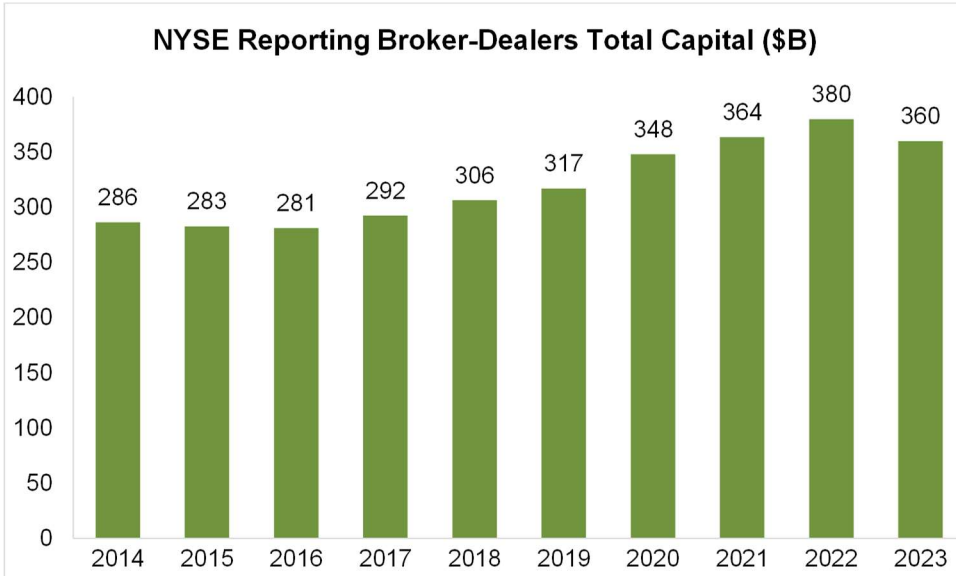
Source: FINRA Financial and Operational Combined Uniform Single (FOCUS) Reports

NYSE Member Firms Aggregate Financial Results

(\$M)	Revenue	Pre-Tax Profit	Pre-Tax Profit Margin	Pre-Tax ROE
2009	185,267	58,576	31.6%	40.3%
2010	159,767	25,092	15.7%	15.3%
2011	147,283	7,747	5.3%	5.0%
2012	161,456	23,878	14.8%	14.0%
2013	162,359	16,719	10.3%	9.5%
2014	164,628	15,965	9.7%	9.1%
2015	161,886	14,288	8.8%	8.2%
2016	166,653	17,295	10.4%	10.1%
2017	189,702	24,526	12.9%	13.6%
2018	228,091	27,308	12.0%	15.1%
2019	250,379	28,086	11.2%	13.8%
2020	219,324	50,894	23.2%	22.9%
2021	232,598	58,358	25.3%	24.4%
2022	260,555	25,525	9.8%	10.8%
2023	414,136	26,598	6.3%	11.4%
Average	206,938.9	28,057.0	13.8%	14.9%
Y/Y Change	58.9%	4.2%	-3.5%	0.6%
5Y CAGR	12.7%	-0.5%		
10Y CAGR	9.8%	4.8%		

Source: Intercontinental Exchange (ICE), FINRA

NYSE Member Firms Aggregate Total and Equity Capital – Charts



Source: Intercontinental Exchange (ICE), FINRA

NYSE Member Firms Aggregate Total and Equity Capital – Value

(\$B)	Total Capital	Equity Capital	(Y/Y)	Total Capital	Equity Capital
2009	256.8	145.4			
2010	280.8	164.3	2010	9.4%	13.0%
2011	267.8	154.8	2011	-4.6%	-5.8%
2012	280.1	170.3	2012	4.6%	10.0%
2013	281.5	175.8	2013	0.5%	3.3%
2014	286.2	176.3	2014	1.7%	0.3%
2015	282.6	174.2	2015	-1.3%	-1.2%
2016	281.1	172.0	2016	-0.5%	-1.3%
2017	292.3	180.7	2017	4.0%	5.1%
2018	306.2	181.4	2018	4.7%	0.4%
2019	317.0	204.2	2019	3.5%	12.6%
2020	347.9	222.6	2020	9.8%	9.0%
2021	363.7	238.9	2021	4.6%	7.3%
2022	379.9	236.8	2022	4.4%	-0.9%
2023	359.8	230.6	2023	-5.3%	-2.6%
Average	305.6	188.6			
Y/Y Change	-5.3%	-2.6%			
5Y CAGR	3.3%	4.9%			
10Y CAGR	2.5%	2.7%			

Source: Intercontinental Exchange (ICE), SIFMA DataBank

Appendix: Definitions & Purpose

Equity & Related

Capital markets are split into primary and secondary markets. Companies may need capital for various business purposes – invest in growth, fund mergers and acquisitions, etc. – and firms have several ways they can generate capital. Primary markets are where securities are created (capital formation), i.e., where firms sell stocks to investors through an initial public offering (IPO), to generate funds for operations or growth. IPOs allow businesses to grow, innovate and better serve their customers.

Secondary markets are where existing stocks and bonds are traded among investors, without the issuing companies' involvement. The U.S. equity markets continue to be among the deepest, most liquid and most efficient in the world, with investors enjoying narrow spreads, low transaction costs and fast execution speeds. There is also plenty of opportunity for price improvement, especially for retail investors.

- **Capital Formation:** Companies may need capital for various business purposes. Earlier stage companies may need additional capital to grow to the next stage in the business life cycle. Companies also may need capital to expand organically or via acquisition, for example product or regional diversification. Companies utilize capital markets to acquire capital in many ways. Some of the equity issuance vehicles include:
 - Initial public offering (IPO): A private company raises capital by offering its common stock (equity) to the public in the primary markets for the first time. Securities are issued at an established price, and the process is facilitated by investment banks acting as financial intermediaries. Shares then continue to trade in the secondary market on exchanges or other trading venues.
 - Secondary offering (secondaries, or follow-ons): Sale of shares by a company that has already IPOd. A non-dilutive offering is when one or more major shareholders sell all or a large portion of their holdings; proceeds from this sale are paid to the selling shareholders. A dilutive offering involves creating new shares and offering them for sale to the public; proceeds go to the company.
 - Preferred stock (preferreds): Give owners a priority claim to dividends, providing investors a more stable cash flow relative to common stock. While cash flows present more bond-like traits – without the commitment to repay principal – shares behave more like common stock.
 - Special purpose acquisition companies (SPAC): Have no commercial operations – often called blank check companies – and are established solely to raise capital through an IPO for the purpose of acquiring unspecified existing companies.

- **Market Performance**

- Dow Jones Industrial Average (DJIA): A price weighted index that tracks 30 large, publicly owned companies trading on U.S. exchanges. It had historically been a widely watched benchmark index for U.S. blue-chip stocks.
- S&P 500: A market capitalization weighted index of the 500+ largest U.S. publicly traded companies. The index is regarded as the best gauge of large-cap U.S. equities.
- Nasdaq Composite (Nasdaq): A market capitalization weighted index made up of over 3,000 equities listed on the Nasdaq stock exchange. Its composition remains over 50% technology stocks (this percentage has come down over the years).
- Russell 2000: A market capitalization weighted index representing 10% (the bottom two-thirds aggregate market cap) of the Russell 3000 index, a larger index of 3,000 publicly traded companies that represents 97% of the investable U.S. stock market. The index is regarded as a gauge of small cap, U.S. centric companies.

- **Volatility**

- CBOE Volatility Index (VIX): A real-time market index that represents the market's expectation of 30-day forward looking volatility, as derived from the price inputs of S&P 500 index options. It measures market risk and investor sentiment (fear, stress) and is often called the fear index.

- **Volumes**

- The U.S. equity markets are the largest and among the deepest, most liquid, and most efficient in the world. Investors enjoy narrow spreads, low transaction costs and fast execution speeds, with plenty of opportunity for price improvement, especially for retail investors.
- Exchange-traded funds (ETFs), or pooled investment vehicles holding an underlying basket of securities (equities, bonds, commodities, currencies), provide investors a multitude of choices to meet different investment objectives.
- Options, or a contract granting the right to buy or sell an underlying security (stocks, ETFs) at a specified price on or before a given date, are frequently used as risk management tools by investors to hedge positions and limit portfolio losses. They also provide flexibility, enabling an investor to tailor their portfolio to investment objectives and market environment.

Fixed Income

In general, fixed income securities are borrowed capital for the issuer to fund government operations, public projects, or corporate investments, thereby fueling economic growth. The diversity of fixed income products both increases the amount of funds available to borrow and spreads credit risk across multiple market participants.

- **U.S. Treasury Securities (UST)** – UST are debt obligations of the federal government used to fund its operations. Since UST are backed by the full faith and credit of the U.S. government, these securities are considered by market participants as the benchmark credit. As such, UST have a diversity of holders, in both institutional and retail, and domestic and foreign. UST include the following securities:
 - Treasury Bills (T-Bills): Non-interest bearing (zero-coupon) short-term securities with maturities of only a few days or 4, 8, 13, 17, 26, or 52 weeks. They are purchased at a discount to par (face) value and paid out at par value at maturity.
 - Treasury Notes (T-Notes): These are fixed-principal securities with maturities of 2, 3, 5, 7, and 10 years. Interest is paid semiannually, with the principal paid at maturity.
 - Treasury Bonds (T-Bonds): These are fixed-principal, long-term securities issued with a maturity of 20 or 30 years. Outstanding T-bonds have remaining maturities of 10 to 30 years. Interest is paid semiannually, with the principal paid at maturity.
 - Treasury Inflation Protected Securities (TIPS): These are indexed to inflation, as measured by the Consumer Price Index (CPI), acting as a hedge against the negative effects of inflation. They come in 5, 10, and 30 year maturities, and interest is paid semiannually. TIPS are considered a low-risk investment since the par value rises with inflation, while the interest rate remains fixed.
 - Floating Rate Notes (FRN): These are debt instruments with a 2 to 5 year maturity and a variable interest rate. Its interest rate is tied to a benchmark (U.S. T-Bill rate, Fed Funds rate).
- **Repurchase Agreements (Repos)** – Repos are financial transactions in which one party sells an asset to another party with a promise to repurchase the asset at a pre-specified later date (a reverse repo is the same transaction seen from the perspective of the security buyer). Repos can be overnight (duration one day) or term (duration up to one year; some are up to two years, but the majority are three months or less). The repo market enables market participants to provide collateralized loans to one another, and financial institutions predominantly use repos to manage short-term fluctuations in cash holdings, rather than general balance sheet funding. In general, repos aid secondary market liquidity for the cash markets (for example, U.S. Treasuries/UST), allowing dealers to act as market makers in a very efficient manner.

- **Corporate Bonds (Corporates)** – Corporates are debt securities issued by public and private corporations. They are issued to raise money to fund investments or expansion plans. Corporates are considered riskier than UST and commonly receive ratings from credit ratings agencies that help investors determine creditworthiness, i.e. the probability of repayment of debt according to its terms.
 - Corporates include the following categories of securities:
 - Publicly Traded: SEC-registered bonds.
 - 144A: Securities Act Rule 144A creates a mechanism for the sale of bonds that are not registered with the SEC, if certain conditions are met.
 - High Yield: Bonds rated by the credit rating agencies below BBB, indicating a higher risk of default.
 - Investment Grade: Bonds rated by the credit rating agencies as BBB or higher, indicating a lower risk of default.
 - The securities may have one or more of the following structural features:
 - Fixed Rate: These pay the same rate of interest for its entire term, i.e. a guaranteed interest rate throughout maturity.
 - Floating Rate: These pay a variable interest rate, typically tied to a benchmark rate, such as the U.S. Treasury bill rate, Fed Funds rate, SOFR, or the prime rate.
 - Callable: These resemble standard bonds, but the issuer has an option to recall (retire) and prepay the bonds. Otherwise, the bond retires at the originally specified maturity date.
 - Non-Callable: These cannot be redeemed early by the issuer except with the payment of a penalty.
 - Convertible: These can be converted into a predetermined amount of the underlying company's equity at certain times during the bond's life, usually at the bondholder's discretion.

- **Mortgage-Backed Securities (MBS)** – A mortgage is a debt instrument collateralized by a specified real estate property(ies). Mortgages may be related to residential or commercial properties. A typical residential mortgage has a term of 15 or 30 years, fully amortizing, and is freely prepayable by the borrower. Commercial mortgages may have varying terms, and typically feature a bullet maturity as opposed to being fully amortizing. A pool of mortgages will serve as collateral for, and the source of repayment of, MBS. MBS include the following securities:
 - Agency MBS: Issued by Fannie Mae, Freddie Mac, or Ginnie Mae. Can be residential or commercial. Many residential agency MBS are traded in the so-called TBA market, where securities are sold on a forward basis, and provide an important hedging mechanism for mortgage lenders, and allow borrowers to get free or low-cost rate locks when they shop for loans.
 - Non-Agency MBS: Issued by private entities, such as finance companies or banks. Can be residential or commercial.
 - Passthrough: The security simply "passes through" payments made by borrowers to security holders (subject to customary fees, such as servicing fees).
 - Collateralized Mortgage Obligation: Cashflows from a pool of mortgage loans are structured in to multiple classes of bonds which may have varying terms, and levels of prepayment, credit, or other risks.
 - Residential MBS (RMBS): A bond collateralized by residential mortgages on 1-4 family homes.
 - Commercial MBS (CMBS): A bond collateralized by commercial and/or multifamily mortgages.
 - Fixed-Rate Mortgage: The borrowers on the mortgage that collateralize the MBS pay the same interest rate for the life of their loans, i.e. monthly principal and interest payment never change.
 - Adjustable-Rate Mortgage (ARM): The borrowers on the underlying mortgages have variable interest rates that are commonly fixed for an initial term, but then fluctuate with market rates or relative to an index. Monthly payments may change
- **Asset-Backed Securities (ABS)** – Similar to MBS, ABS are securities collateralized by a pool of assets such as auto loans, student loans, credit card debt (cards), equipment, home equity loans, aircraft leases, other loans and leases, royalties, or account receivables. Pooling these assets creates a more liquid investment vehicle, with a valuation based on the cash flows of the underlying assets and the structure of the transaction.

- **Federal Agency Securities (Agency)** – Agency debt is issued by quasi-governmental agencies to fund operations. Unlike UST, these securities are not always fully guaranteed by the U.S. government but are considered to have some degree of an implicit guarantee.
 - Federal Government Agency Bonds: These are backed by the full faith and credit of the U.S. government and include bonds issued by the Small Business Administration (SBA), etc.
 - Government-Sponsored Enterprise Bonds (GSE): These are not backed by the same guarantee as federal government agencies and are issued by the Federal National Mortgage Association (Fannie Mae or Fannie), Federal Home Loan Mortgage (Freddie Mac or Freddie), Federal Farm Credit Banks Funding Corporation (Farm Credit) or the Federal Home Loan Bank (FHLB), Federal Agricultural Mortgage Corporation (Farmer Mac). Tennessee Valley Authority (TVA) is unique. A wholly-owned agency of the U.S. government, the TVA is a self-supporting entity whose debt is not guaranteed by the government, but rather is supported strictly by TVA revenues.
- **Municipal Bonds (Munis)** – Munis are debt securities issued by state or local governments or other government agencies and public entities, such as public utilities or school districts. The money raised funds public projects, predominantly infrastructure projects such as: roads, bridges, transit systems, water treatment centers, schools, airports or hospitals. Efficient muni markets enable states and municipalities to borrow at low rates and finance capital expenditures over a longer period commensurate with their useful lives. Munis include the following securities.
 - General Obligation Bond (GO): These are backed by dedicated property taxes or general funds of the municipality, not by revenue from a specific project.
 - Revenue Bond: These are backed by revenue from a specific project.
 - Negotiated: An underwriter sells the bonds to its clients, after determining the bond price by gathering indications of interest during a presale.
 - Competitive: Bonds are advertised for sale, and any market participant may bid, with the bonds going to the bidder offering the lowest interest cost.
 - Private placement: A broker-dealer sells the entire muni bond placement to its clients.
 - Refunding: Retiring or redeeming an outstanding bond issue at maturity by using the proceeds from a new debt issue, typically at a lower interest rate.
 - New Capital: First issue of a bond, not a refunding.
 - Tax-Exempt Bond: The interest earned by investors is generally free from federal income tax and often state and local income tax.
 - Taxable Bond: The interest earned by investors is subject to taxation

- **Money Markets (MM)** – The money markets involve highly liquid, short maturity (typically overnight to less than one year) financial instruments, which are used by issuers and investors to borrow and lend in the short term. Common money market instruments include:
 - Commercial Paper (CP): A short-term, unsecured debt instrument issued by a corporation, typically to finance short-term liabilities (accounts receivables, inventories, etc.). Maturities are usually under 270 days. CP is most often issued at a discount from face value and reflects prevailing market interest rates.
 - Certificate of Deposit (CD): A savings certificate with a fixed maturity date and interest rate, which restricts access to the funds until the maturity date. CDs are generally issued by commercial banks, in essentially any denomination, and are insured by the FDIC up to \$250,000 per individual.
 - Bankers Acceptances: A promised future payment, or time draft, guaranteed by and drawn on a deposit at the bank. The amount, date and holder of the draft are specified at issuance, at which time the draft becomes a liability of the bank. The holder of the draft can sell the bankers acceptance for cash to a buyer who is willing to wait until the maturity date for the funds in the deposit.
- **Secured Overnight Financing Rate (SOFR)** – As the world transitioned away from the London Interbank Offered Rate (LIBOR), SOFR was chosen by the U.S. as its chosen alternative reference rate. Publication of the SOFR rate began in April 2018. Trading and clearing of SOFR based swaps and futures began in May 2018.
- **Environmental, Social, and Governance (ESG)** – Dealogic classifies ESG bonds by:
 - Green – Any type of bond instrument where the proceeds will be exclusively applied to finance or refinance, in part or in full, new and/or existing eligible green projects and which are aligned with the four core components of the Green Bond Principles (GBP).
 - Social – Any type of bond instrument where the proceeds will be exclusively applied to finance or refinance in part or in full new and/or existing eligible Social Projects and which are aligned with the four core components of the Social Bond Principles (SBP).
 - Sustainability – Bonds where the proceeds are exclusively applied to finance or refinance a combination of both green and social projects.
 - Region – Deal nationality is determined by the business nationality of the issuing entity with the exception of securitizations that are categorized using the nationality of business of the originator or if undisclosed the nationality of risk.

Appendix: Capital Markets Terms to Know

Statistics

Y/Y	Year over Year
Q/Q	Quarter over Quarter
M/M	Month over Month
W/W	Week over Week
D/D	Day over day
YTD	Year to Date
QTD	Quarter to Date
MTD	Month to Date
WTD	Week to Date
BPS	Basis Points
PPS	Percentage Points
CAGR	Compound Annual Growth Rate
RHS	Right hand side (for charts)

Other

AUM	Assets Under Management
DCM	Debt Capital Markets
ECM	Equity Capital Markets

Regulators

North America	
FINRA	Financial Industry Regulatory Authority (United States)
SEC	Securities and Exchange Commission (United States)
CSC	Canadian Securities Administrators
European Union	
ESMA	European Securities and Markets Authority
AMF	Autorité des marchés financiers (France)
BaFin	Federal Financial Supervisory Authority (Germany)
FINMA	Swiss Financial Market Supervisory Authority (Switzerland)
United Kingdom	
FCA	Financial Conduct Authority
AsiaPac	
ASIC	Australian Securities and Investments Commission
CSRC	China Securities Regulatory Commission
SFC	Securities and Futures Commission (Hong Kong)
SEBI	Securities and Exchange Board of India
FSA	Financial Services Agency (Japan)
MAS	Monetary Authority of Singapore

Trading

ADV	Average Daily Trading Volume
Algo	Algorithm (algorithmic trading)
ATS	Alternative Trading System
Best Ex	Best Execution
BPS	Basis Points
CLOB	Central Limit Order Book
D2C	Dealer-to-Client
D2D	Dealer-to-Dealer
ECN	Electronic Communication Network
ETP	Electronic Trading Platforms
HFT	High-Frequency Trading
IDB	Inter-Dealer Broker
IOI	Indication of Interest
MM	Market Maker
OTC	Over-the-Counter
SDP	Single-dealer platform
Bid	An offer made to buy a security
Ask, Offer	The price a seller is willing to accept for a security
Spread	The difference between the bid and ask price prices for a security, an indicator of supply (ask) and demand (bid)
NBBO	National Best Bid and Offer
Locked Market	A market is locked if the bid price equals the ask price
Crossed Market	A bid is entered higher than the offer or an offer is entered lower than the bid
Opening Cross	To determine the opening price of a stock, accumulating all buy and sell interest prior to the market open
Closing Cross	To determine the closing price of a stock, accumulating all buy and sell interest prior the market close

Order Types

AON	All or none; an order to buy or sell a stock that must be executed in its entirety, or not executed at all
Block	Trades with at least 10,000 shares in the order
Day	Order is good only for that trading day, else cancelled
FOK	Fill or kill; must be filled immediately and in its entirety or not at all
Limit	An order to buy or sell a security at a specific price or better
Market	An order to buy or sell a security immediately; guarantees execution but not the execution price
Stop	(or stop-loss) An order to buy or sell a stock once the price of the stock reaches the specified price, known as the stop price

Post Trade

DTCC	The Depository Trust and Clearing Corporation
CSD	Central Securities Depository
CCP	Central Counterparty Clearing House
CP	Counterparty
IM	Initial Margin
VM	Variation Margin
MPR	Margin Period at Risk
T	Trade Date
T+1	Settlement Date

Investors

Institutional	Asset managers, endowments, pension plans, foundations, mutual funds, hedge funds, family offices, insurance companies, banks, etc.; fewer protective regulations as assumed to be more knowledgeable and better able to protect themselves
Individual	Self-directed or advised investing

Equities	
EMS	Equity Market Structure
NMS	National Market System
Reg NMS	Regulation National Market System
SIP	Security Information Processor; aggregates all exchange's best quotes, sent back out to the market in one data stream
PFOF	Payment For Order Flow
Tick Size	Minimum quote increment of a trading instrument
CAT	Consolidated Audit Trail
SRO	Self Regulatory Organization

ETFs/Funds	
AP	Authorized Participant
PCF	Portfolio Composition File
NAV	Net Asset Value
IIV	Intraday Indicative Value
ETF	Exchange-Traded Fund
ETP	Exchange-Traded Product
MF	Mutual Fund
OEF	Open-End Fund
CEF	Closed-End Fund
UIT	Unit Investment Trust

Options	
Call	The right to buy the underlying security, on or before expiration
Put	The right to sell the underlying security, on or before expiration
Holder	The buyer of the contract
Writer	The seller of the contract
American	Option may be exercised on any trading day on or before expiration
European	Option may only be exercised on expiration
Exercise	To put into effect the right specified in a contract
Underlying	The instrument on which the options contract is based; the asset/security being bought or sold upon exercise notification
Expiration	The set date at which the options contract ends, or ceases to exist, or the last day it can be traded
Stock Price	The price at which the underlying stock is trading, fluctuates continuously
Strike Price	The set price at which the options contract is exercised, or acted upon
Premium	The price the option contract trades at, or the purchase price, which fluctuates constantly
Time Decay	The time value portion of an option's premium decreases as time passes; the longer the option's life, the greater the probability the option will move in the money
Intrinsic Value	The in-the-money portion of an option's premium
Time Value	(Extrinsic value) The option premium (price) of the option minus intrinsic value; assigned by external factors (passage of time, volatility, interest rates, dividends, etc.)
In-the-Money	For a call option, when the stock price is greater than the strike price; reversed for put options
At-the Money	Stock price is identical to the strike price; the option has no intrinsic value
Out-of-the-Money	For a call option, when the stock price is less than the strike price; reversed for put options

Equity Capital Formation	
IPO	Initial Public Offering; private company raises capital buy offering its common stock to the public for the first time in the primary markets
SPAC	Special Purpose Acquisition Company; blank check shell corporation designed to take companies public without going through the traditional IPO process
Bought Deal	Underwriter purchases a company's entire IPO issue and resells it to the investing public; underwriter bears the entire risk of selling the stock issue
Best Effort Deal	Underwriter only guarantees the issuer it will make a best effort attempt to sell the shares to investors at the best price possible; issuer can be stuck with unsold shares
Secondary	(Follow-on) Issuance of shares to investors by a public company already listed on an exchange
Direct Listing	(Direct placement, direct public offering) Existing private company shareholders sell their shares directly to the public without underwriters. Often used by startups or smaller companies as a lower cost alternative to a traditional IPO. Risks include, among others, no support for the share sale and no stock price stabilization from the underwriter after the share listing.
Underwriting	
Underwriting	Guarantee payment in case of damage or financial loss and accept the financial risk for liability arising from such guarantee in a financial transaction or deal
Underwriter	Investment bank administering the public issuance of securities; determines the initial offering price of the security, buys them from the issuer and sells them to investors.
Bookrunner	The main underwriter or lead manager in the deal, responsible for tracking interest in purchasing the IPO in order to help determine demand and price (can have a joint bookrunner)
Lead Left Bookrunner	Investment bank chosen by the issuer to lead the deal (identified on the offering document cover as the upper left hand bank listed)
Syndicate	Investment banks underwriting and selling all or part of an IPO
Arranger	The lead bank in the syndicate for a debt issuance deal
Greenshoe	Allows underwriters to sell more shares than originally planned by the company and then buy them back at the original IPO price if the demand for the deal is higher than expected, i.e. an over-allotment option
Documentation	
Pitch	Sales presentation by an investment bank to the issuer, marketing the firm's services and products to win the mandate
Mandate	The issuing company selects the investment banks to underwrite its offering
Engagement Letter	Agreement between issuer & underwriters clarifying: terms, fees, responsibilities, expense reimbursement, confidentiality, indemnity, etc.
Letter of Intent	Investment banks' commitment to the issuer to underwrite the IPO
Underwriting Agreement	Issued after the securities are priced, underwriters become contractually bound to purchase the issue from the issuer at a specific price
Registration Statement	Split into the prospectus and private filings, or information for the SEC to review but not distributed to the public, it provides investors adequate information to perform their own due diligence prior to investing
The Prospectus	Public document issued to all investors listing: financial statements, management backgrounds, insider holdings, ongoing legal issues, IPO information and the ticker to be used once listed
Red Herring Document	An initial prospectus with company details, but not inclusive of the effective date of offering price, filed with the SEC
Tombstone	An announcement that securities are available for sale. (Also a plaque awarded to celebrate the completion of a transaction or deal)
Process	
Roadshow	Investment bankers take issuing companies to meet institutional investors to interest them in buying the security they are bringing to market
Non-Deal Roadshow	Research analysts and sales personnel take public companies to meet institutional investors to interest them in buying a stock or update existing investors on the status of the business and current trends
Pricing	Underwriters and the issuer will determine the offer price, the price the shares will be sold to the public and the number of shares to be sold, based on demand gauged during the road show and market factors
Stabilization	Occurs for a short period of time after the IPO if order imbalances exist, i.e. the buy and sell orders do not match; underwriters will purchase shares at the offering price or below to move the stock price and rectify the imbalance
Quiet Period	(Cooling off period) The SEC mandates a quiet period on research recommendations, lasting 10 days (formerly 25 days) after the IPO
SEC Filings	
Reg S-K	Regulation which prescribes reporting requirements for SEC filings for public companies
Reg S-X	Regulation which lays out the specific form and content of financial reports, specifically the financial statements of public companies
Form S-1	Registration statement for U.S. companies (described above)
Form F-1	Registration statement for foreign issuers of certain securities, for which no other specialized form exists or is authorized
Form 10-Q	Quarterly report on the financial condition and state of the business (discussion of risks, legal proceedings, etc.), mandated by the SEC
Form 10-K	More detailed annual version of the 10Q, mandated by the SEC
Form 8-K	Current report to announce major events shareholders should know about (changes to business & operations, financial statements, etc.), mandated by the SEC
EGC	Emerging Growth Company; qualified companies may choose to follow disclosure requirements that are scaled for newly public

Fixed Income

CUSIP	Committee on Uniform Securities Identification Procedures; a nine character security identifier
FICC	Fixed Income, Currencies and Commodities
FI	Fixed Income
TRS	Total Return Swap

Rates Markets

UST	U.S. Treasury Securities
FRN	Floating Rate Note
T-Bill	U.S. Treasury Bill
T-Note	U.S. Treasury Note
T-Bond	U.S. Treasury Bond
TIPS	Treasury Inflation Protected Securities
Repo	Repurchase Agreement; also have reverse repos
Agency	Federal Agency Securities
FAMC	Farmer Mac/Federal Agricultural Mortgage Corporation
FCS	Farm Credit System
FHLB	Federal Home Loan Banks
FHLMC	Freddie Mac/Federal Home Loan Mortgage Corporation
FNMA	Fannie Mae/Federal National Mortgage Association
GNMA	Ginnie Mae/Government National Mortgage Association
TVA	Tennessee Valley Authority

Credit Markets

Corporates	Corporate Bonds
HY	High Yield Bond
IG	Investment Grade Bond
Munis	Municipal Securities
GO	General Obligation Bond
Revenue	Revenue Bond

Securitized Products

MBS	Mortgage-Backed Security
CMO	Collateralized Mortgage Obligation
CMBS	Commercial MBS
RMBS	Residential MBS
ABS	Asset-Backed Securities (auto, credit card, home equity, student loans, etc.)
CDO	Collateralized Debt Obligation

Money Markets (MM)

CP	Commercial Paper
ABCP	Asset-Backed Commercial Paper
MMF	Money Market Funds

Appendix: SIFMA Research Reports

SIFMA Research: www.sifma.org/research

- **Quarterly Reports**

- Equity and related: capital formation (IPOs, other issuance statistics); market performance (index prices); volatility (VIX); cash equities, ETFs, and multi-listed options volumes; exchange market shares and landscape; equity market capitalization and number of listed companies.
- Fixed Income – Issuance & Trading: issuance and trading metrics for U.S. Treasuries, mortgage-backed securities, corporate bonds, municipal securities, federal agency securities, and asset-backed securities, as well as ESG issuance statistics; and rates update (Treasuries, mortgage, SOFR).
- Fixed Income – Outstanding: outstanding balances for U.S. Treasuries, mortgage-backed securities, corporate bonds, municipal securities, federal agency securities, asset-backed securities, money markets, and repurchase agreements; and rates update (Treasuries, mortgage, SOFR).
- Financial Institutions: financial (income statement and balance sheet metrics) and regulatory (ratios on capital levels and more) data for CCAR firms, essentially a proxy for the financial services industry.

- **Capital Markets Fact Book:** a comprehensive look at capital markets, including

- Global: Equity and fixed income markets data on outstanding, issuance, volumes); the investment banking landscape; and international securities transactions.
- U.S.: Equity, fixed income, derivatives, and private placement markets data on outstanding, issuance, volumes, and index prices, as well as mutual fund and ETF statistics; the investment banking landscape; household liquid financial asset breakout, household equity ownership, and holders of equities; retirement asset breakout and mix across asset classes, savings rates, and other economic indicators; federal balance sheet overview; number of broker-dealers, registered representatives, registered investment advisors, and branch offices, along with state maps for that data; and industry financial overview.

Authors

SIFMA Research

Katie Kolchin, CFA, Managing Director, Head of Research
Justyna Romulus, Senior Research Associate
Matt Paluzzi, Research Associate

Website: www.sifma.org/research

Email: research@sifma.org

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