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# SIFMA Research Quarterly – 4Q21

Primary Market: US Equity Capital Formation

Secondary Markets: US Cash Equities, ETFs, and Multi-Listed Options

January 2022

The SIFMA Research Quarterlies contain data and statistics on U.S. markets. The equity and related report – cash equities, ETFs, listed options and capital formation – includes information on: volumes, volatility, total equity issuance, IPOs, market shares, exchange landscapes, etc.

All reports, including the two fixed income quarterlies (issuance and trading; outstanding), and corresponding databases can be found at: [www.sifma.org/research](http://www.sifma.org/research)



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### Associated Reports

Please also see SIFMA Research Quarterly Reports: US Fixed Income – Issuance & Trading, US Fixed Income – Outstanding and US Financial Institutions – Financial & Regulatory Data, which can be found at: <https://www.sifma.org/research>

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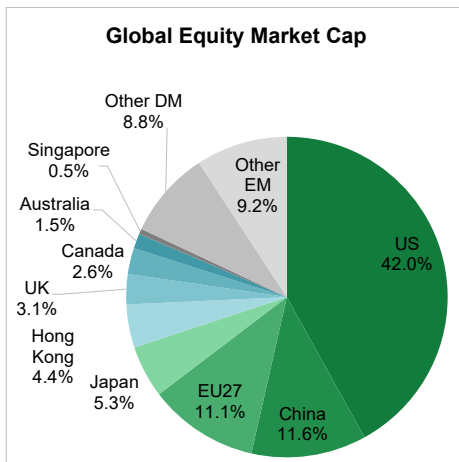
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## Executive Summary

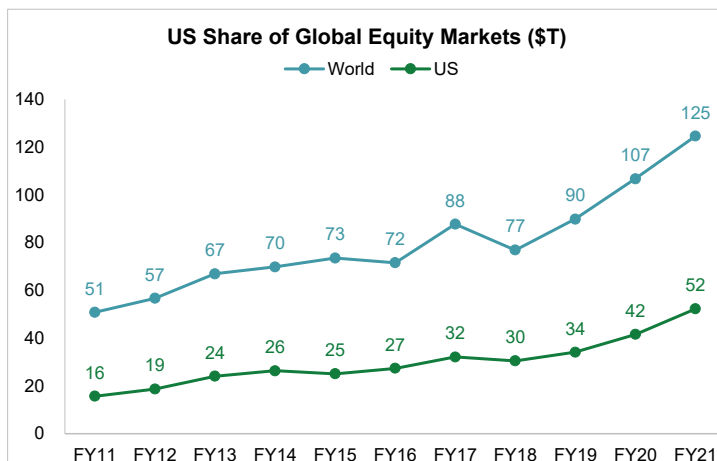
The U.S. equity markets are the largest in the world and continue to be among the deepest, most liquid and most efficient, representing 42.0% of the \$125 trillion global equity market cap, or \$52 trillion. This is 3.6x the next largest market, China. U.S. market share has averaged 37.4% over the last 10 years, troughing at 32.9% in 2012 and peaking at 42.0% now.

### US Market Share - Current



Source: World Federation of Exchanges, SIFMA estimates  
 Note: EM = emerging markets, DM = developed markets; 2021 data is preliminary

### US Market Share – Historical Trends



Source: World Federation of Exchanges, SIFMA estimates  
 Note: 2021 data is preliminary

## Quarterly Highlights

In this report, we recap statistics for U.S. primary and secondary markets, including cash equities, multi-listed options, ETFs, and capital formation (IPOs, total issuance). The report also includes various market metrics, such as volatility, index prices, etc.

The S&P 500 index averaged 4,602.11 for the quarter and 4,273.41 for FY21, 4Q21 +29.5% Y/Y (peak 4,793.06, trough 4,300.46). The DJIA averaged 35,517.11 and 34,055.29, 4Q21 +22.1% Y/Y (peak 36,488.63, trough 34,002.92). The Nasdaq averaged 15,390.79 and 14,371.66, 4Q21 +28.7% Y/Y (peak 16,057.44, trough 14,255.48). And the Russell 2000 averaged 2,276.63 and 2,242.91, 4Q21 +29.3% Y/Y (peak 2,442.74, trough 2,139.88). The VIX averaged 19.28 for the quarter and 19.66 for FY21, 4Q21 -10.8% Y/Y (peak 31.12, trough 15.01).

ADVs were up Y/Y for equity, ETFs and options. Equity ADV was 10.8B shares for the quarter, +3.1% Y/Y (peak 18.1B, trough 7.4B). ETF ADV was 1.8B shares for the quarter, +21.0% Y/Y (peak 3.3B, trough 1.3B). Options ADV was 40.8M contracts for the quarter, +26.7% Y/Y (peak 57.1M, trough 27.0M).

For capital formation, total equity issuance was \$89.0B for the quarter (-17.8% Y/Y) and the total IPO issuance was \$35.4B (+18.6% Y/Y). The number of IPOs was up 21.7% Y/Y. Private equity deal value increased 3.5% Y/Y.

## Quarterly & YTD Highlights

	4Q21	3Q21	4Q20	Y/Y	Q/Q	FY21	FY20	Y/Y
<b>Primary Markets</b>								
Total Equity Issuance (\$B)	89.9	95.4	109.3	-17.8%	-5.8%	435.8	390.4	11.6%
Total IPO Value (\$B)	35.4	30.4	29.8	18.6%	16.2%	153.1	85.4	79.2%
# IPOs	84	94	69	21.7%	-10.6%	393	209	88.0%
Small Cap as % Total IPOs	80%	64%	72%	7.7%	15.9%	66%	73%	-7.4%
# Listed Companies	4,805	4,631	4,103	17.1%	3.8%	4,734	4,771	-0.8%
Private Equity Deal Value (\$B)	275.2	292.7	265.7	3.5%	-6.0%	1,035.7	689.6	50.2%
<b>Secondary Markets</b>								
Equity ADV (B)	10.8	9.8	10.5	3.1%	10.4%	11.4	10.9	4.4%
ETF ADV (B)	1.8	1.5	1.5	21.0%	21.5%	1.7	2.0	-15.1%
ETFs as % Equity ADV	16.9%	15.4%	14.4%	2.5%	1.5%	14.8%	18.2%	-3.4%
Options ADV (M)	40.8	37.5	32.2	26.7%	8.6%	39.2	29.5	32.7%
Market Performance (Price)								
S&P 500	4,602.11	4,421.67	3,554.50	29.5%	4.1%	4,273.41	3,217.86	32.8%
DJIA	35,517.11	34,915.61	29,091.59	22.1%	1.7%	34,055.29	26,890.67	26.6%
Nasdaq	15,390.79	14,839.97	11,954.43	28.7%	3.7%	14,371.66	10,201.51	40.9%
Russell 2000	2,276.63	2,230.52	1,760.79	29.3%	2.1%	2,242.91	1,523.90	47.2%
VIX	19.28	18.29	25.62	-24.7%	5.4%	19.66	29.25	-32.8%

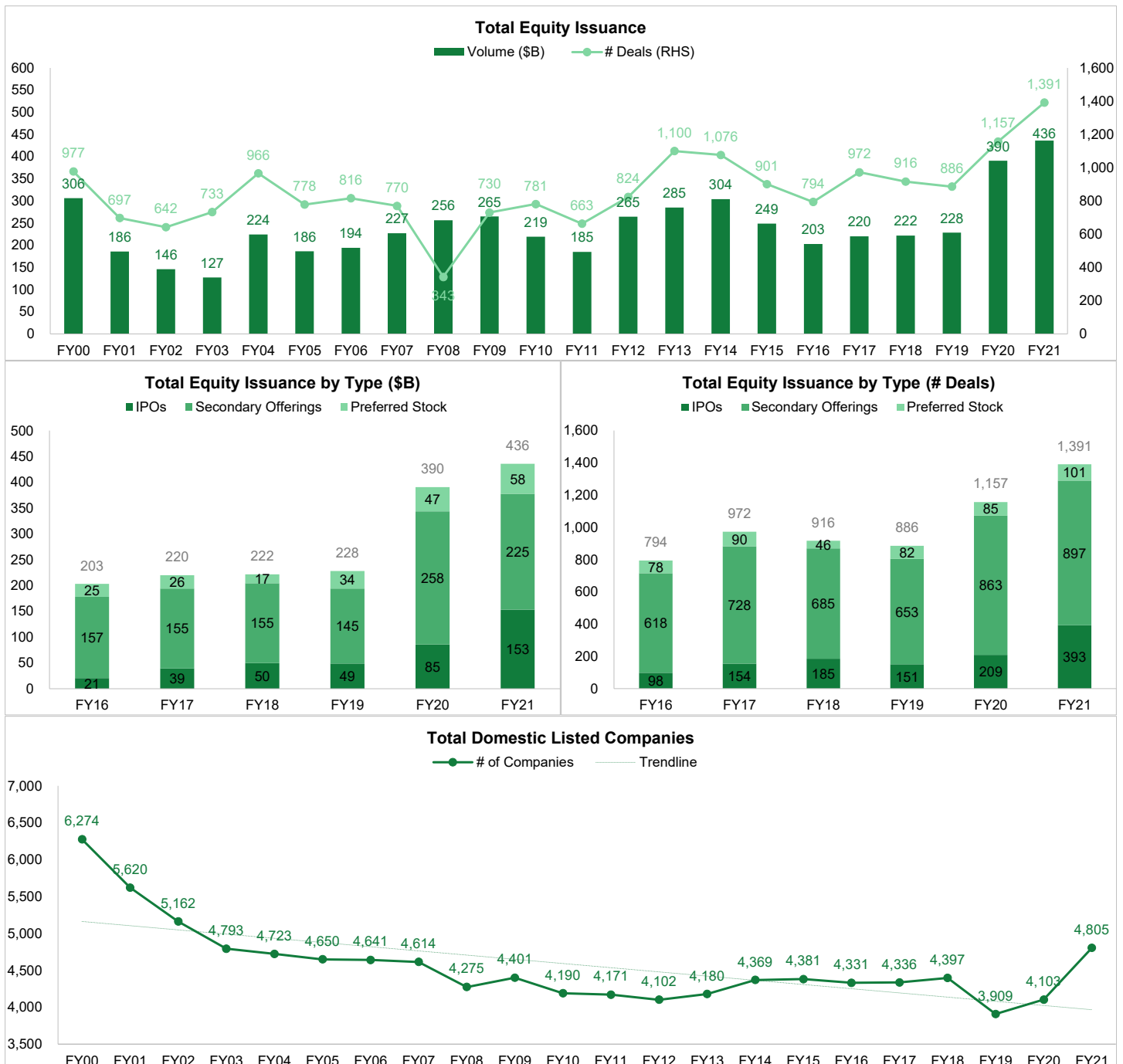
Source: Bloomberg, Cboe Global Markets, Dealogic, Options Clearing Corporation, World Federation of Exchanges, SIFMA estimates

Note: IPO data Includes rank eligible deals; excludes BDCs, SPACs, ETFs, CLEFs & rights offers; 4Q21 number of listed companies is preliminary; 4Q21 and 3Q21 private equity deal value data are preliminary

## Chart Book: US Equity Capital Formation

Companies need capital for various business purposes: invest in growth, fund mergers and acquisitions, etc. Firms have several ways to generate this capital, including initial public offerings (IPOs).

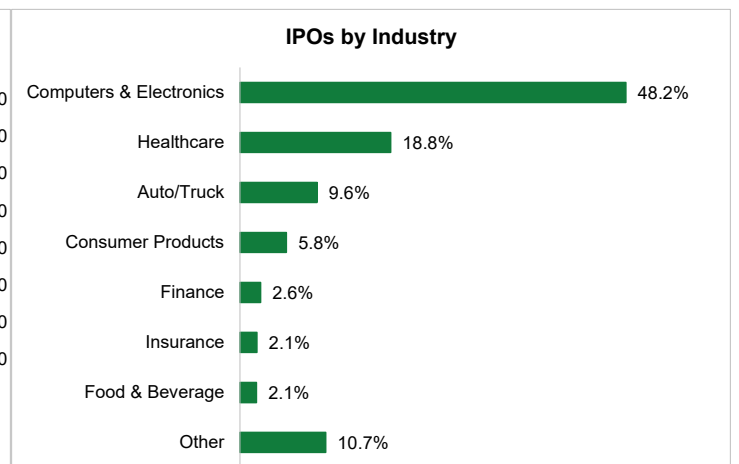
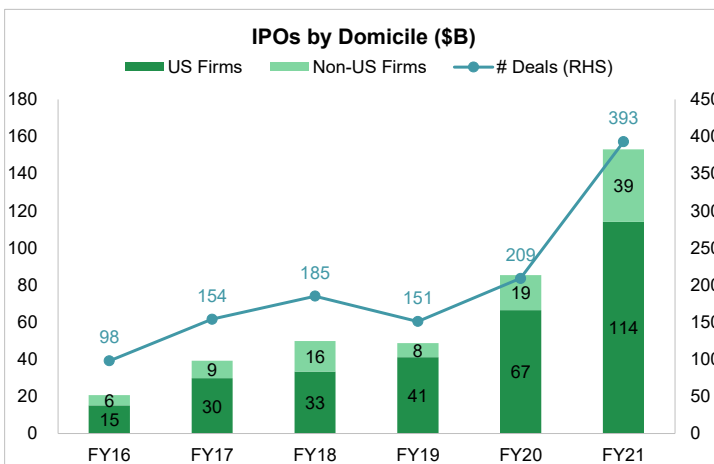
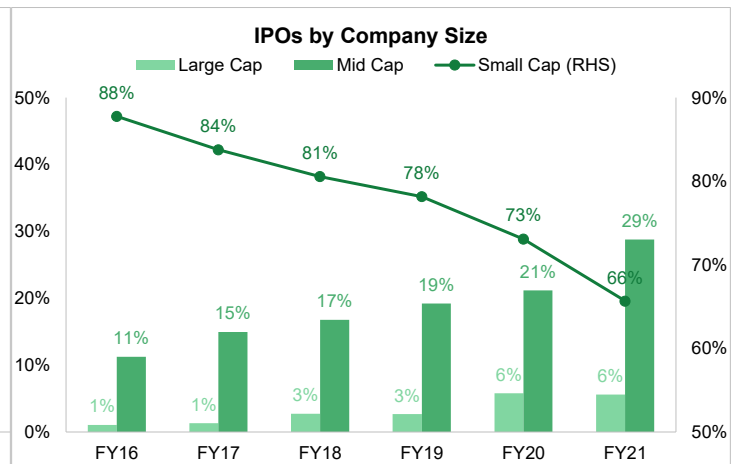
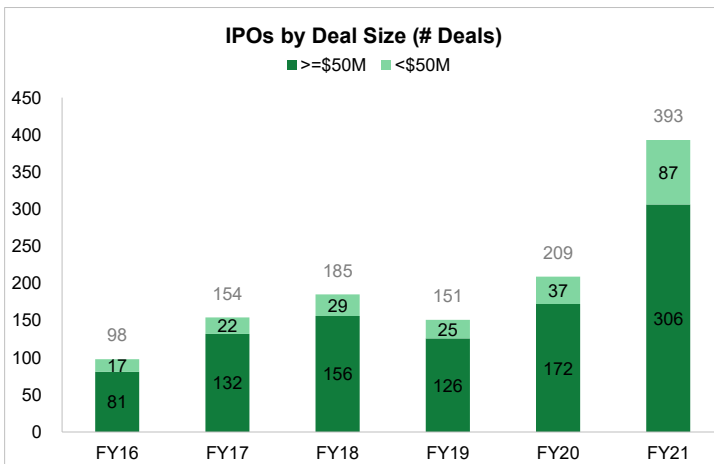
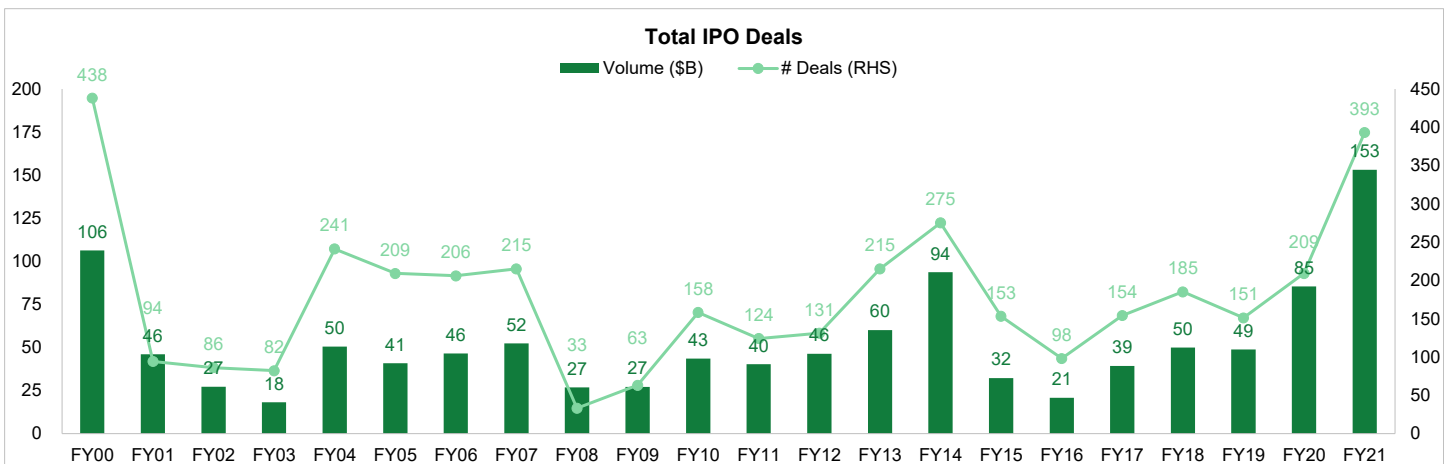
### IPO Issuance and Other Statistics



Source: Dealogic, World Federation of Exchanges, SIFMA estimates

Note: Includes rank eligible deals; excludes BDCs, SPACs, ETFs, CLEFs & rights offers. FY21 number of listed companies is preliminary

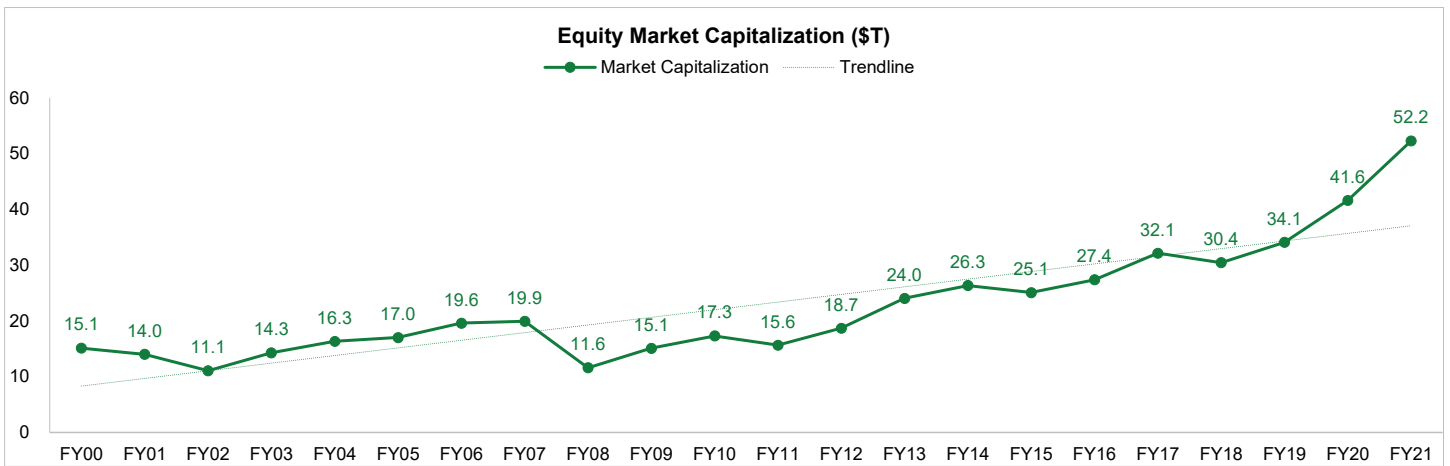
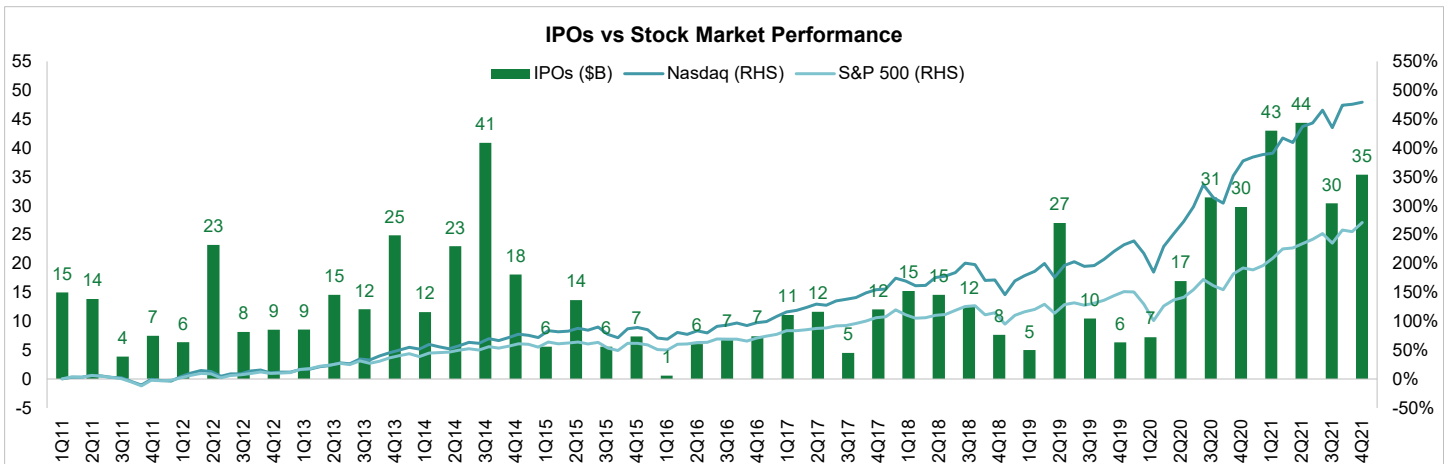
## Chart Book: US Equity Capital Formation



Source: Dealogic

Note: IPOs include rank eligible deals; excludes BDCs, SPACs, ETFs, CLEFs and rights offers. Large cap = market cap \$10B+; mid cap = market cap \$2B-\$10B; small cap = market cap <\$2B (mega cap >\$200B, micro cap <\$300M, nano cap <\$50M)

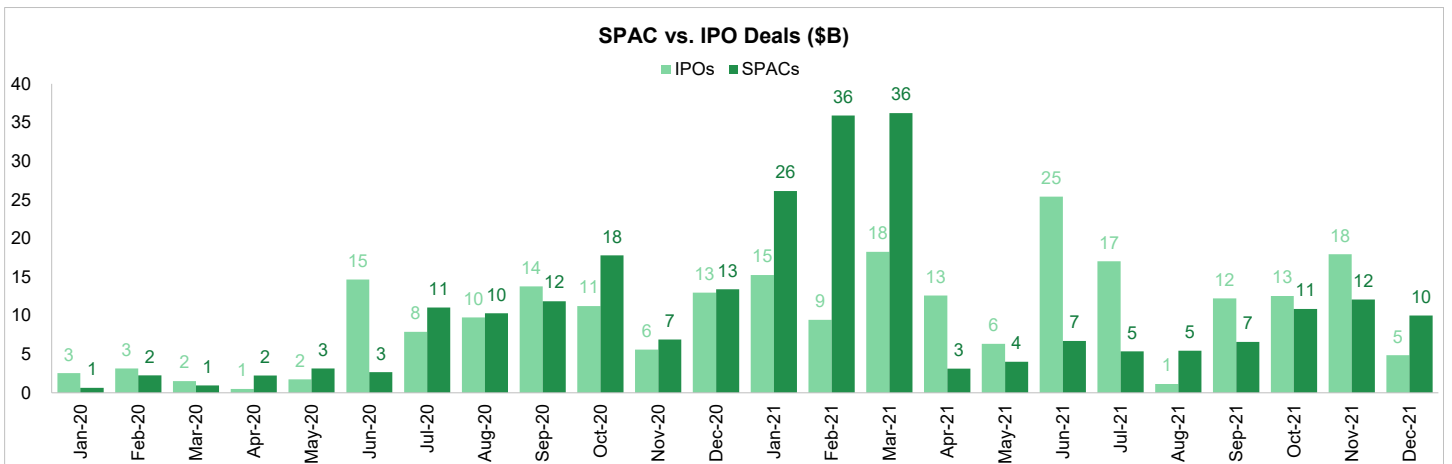
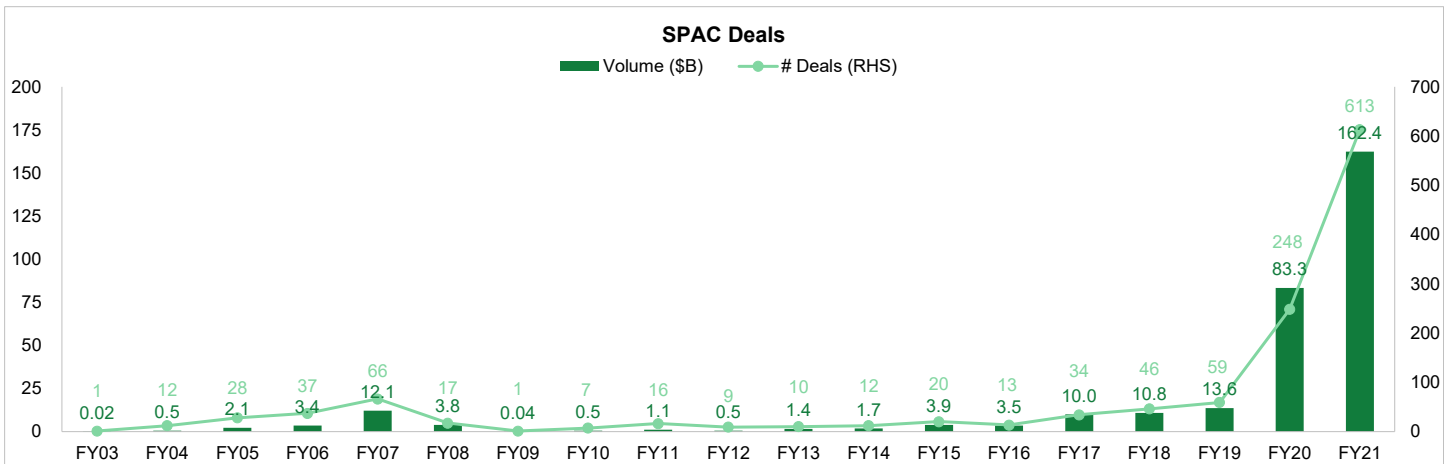
## Chart Book: US Equity Capital Formation



Source: Bloomberg, Dealogic, World Federation of Exchanges, SIFMA estimates  
 Note: Equity market capitalization is preliminary

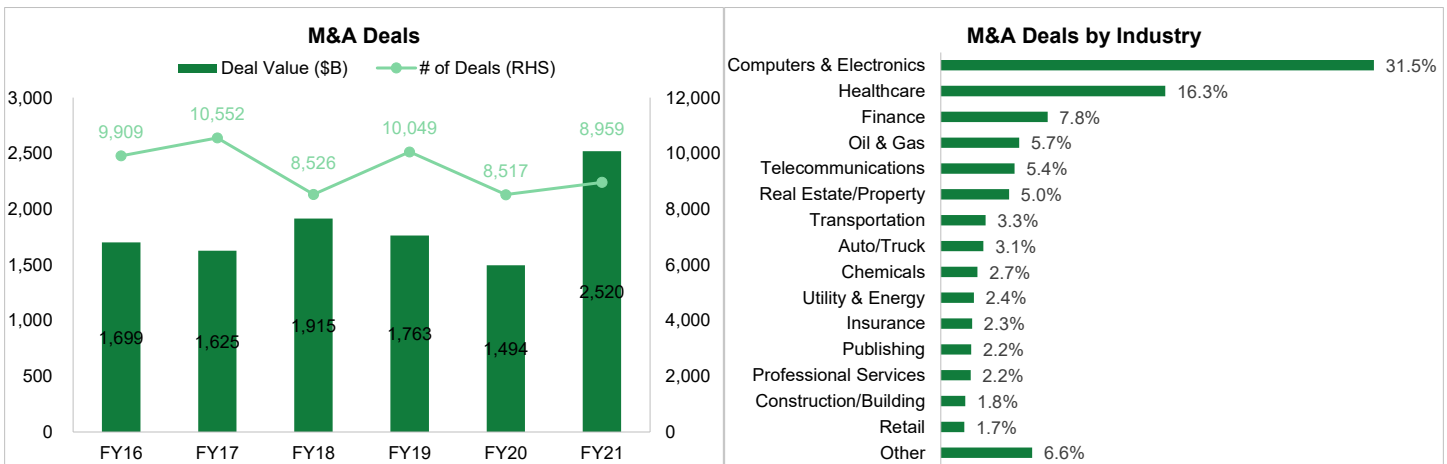
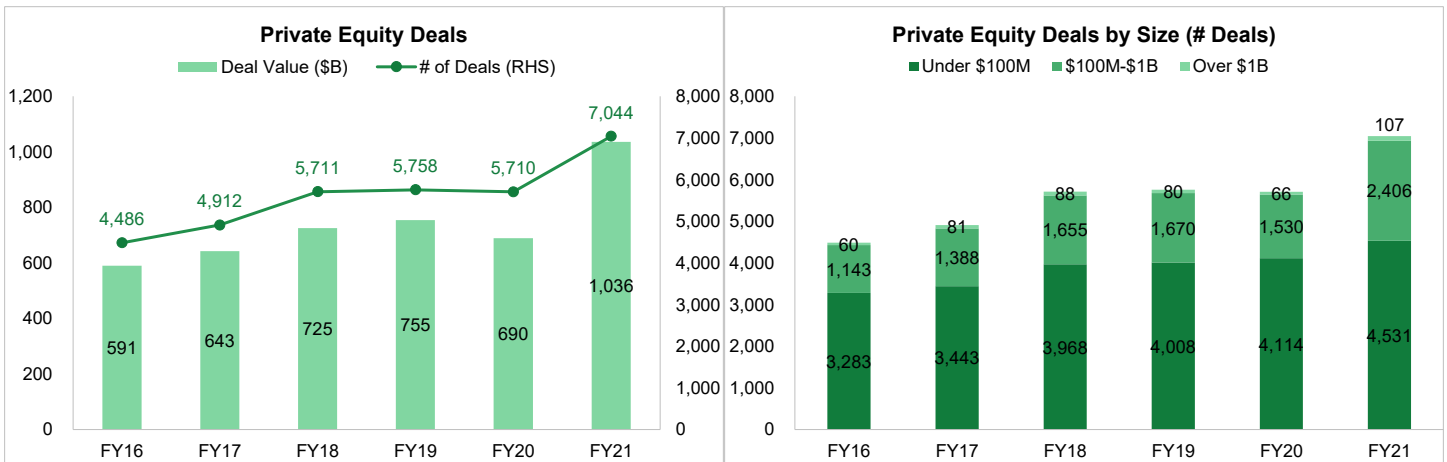


## Chart Book: US Equity Capital Formation



Source: Dealogic

Note: SPAC = special purpose acquisition company; a company with no commercial operations (shell company) established solely to raise capital through an IPO for the purpose of acquiring unspecified existing companies; commonly referred to as blank check companies. IPOs include rank eligible deals; excludes BDCs, SPACs, ETFs, CLEFs and rights offers



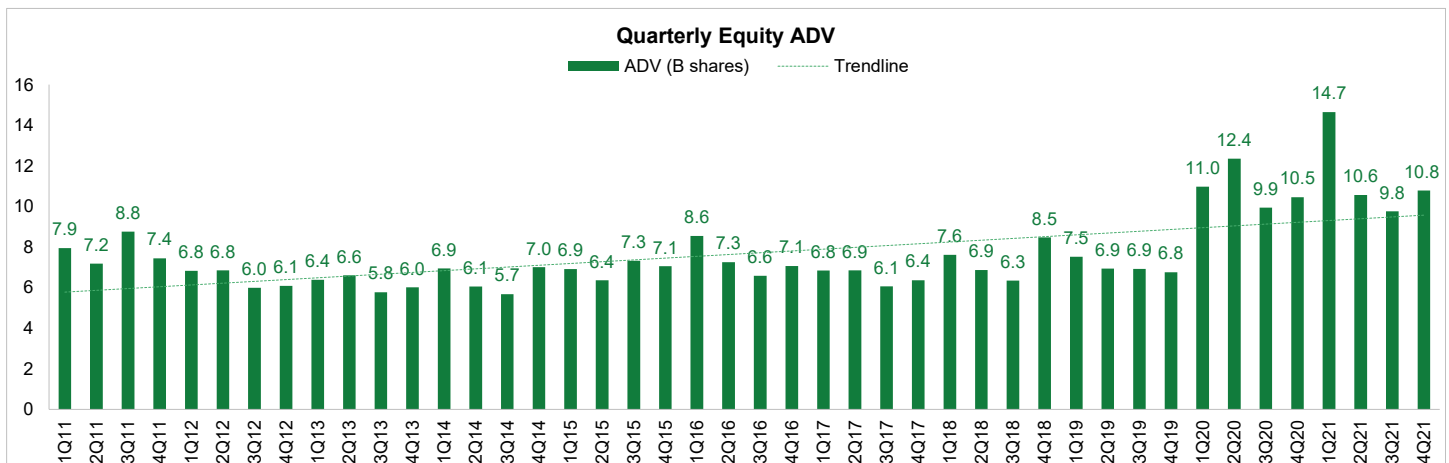
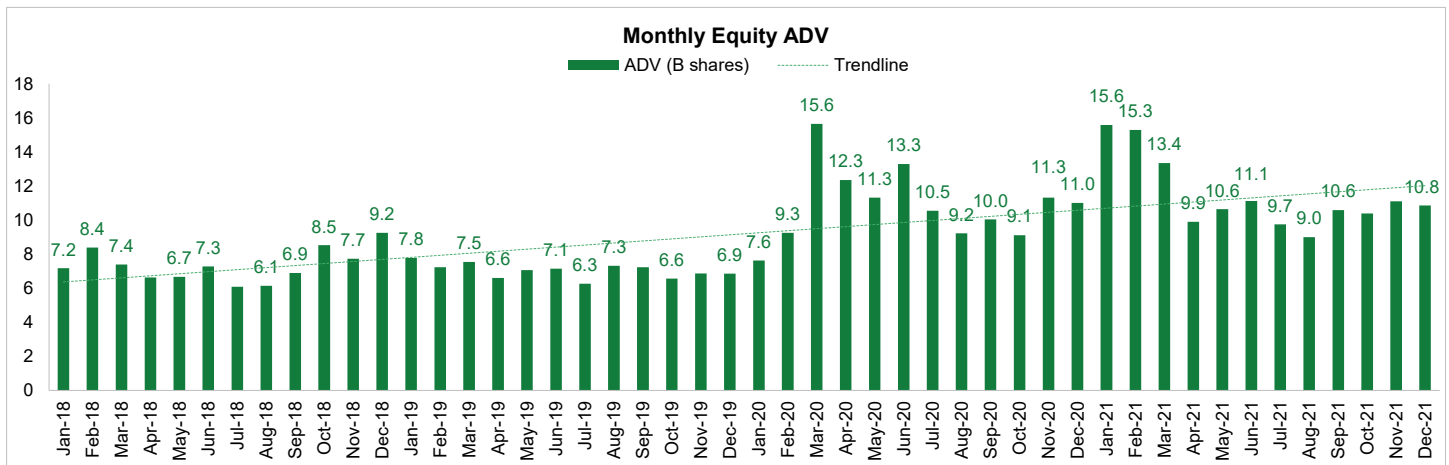
Source: Dealogic, PitchBook

Note: Private equity data for 2021 is preliminary

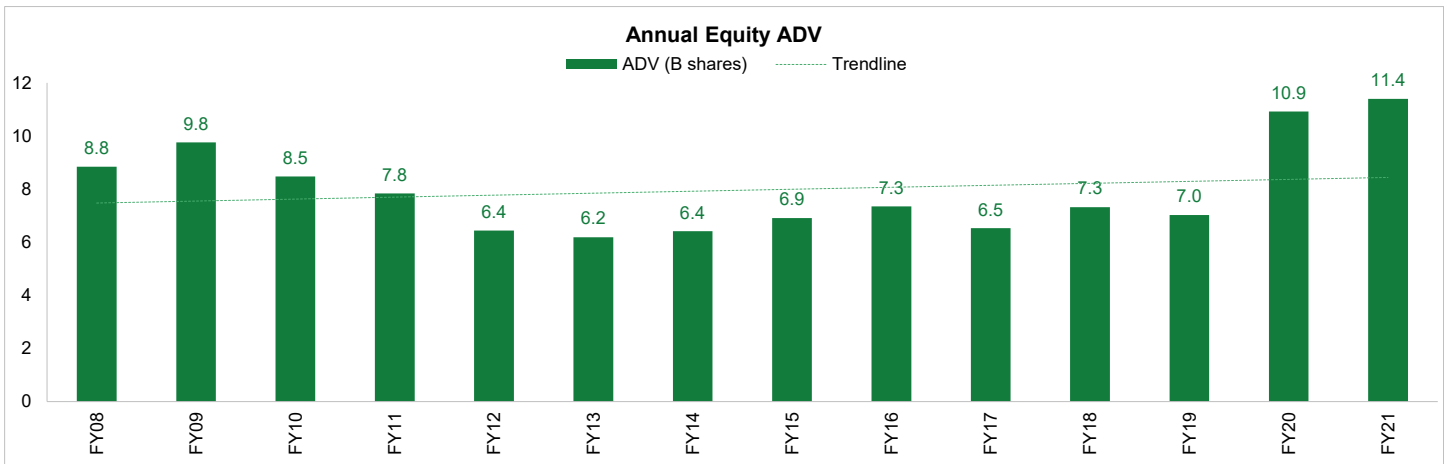
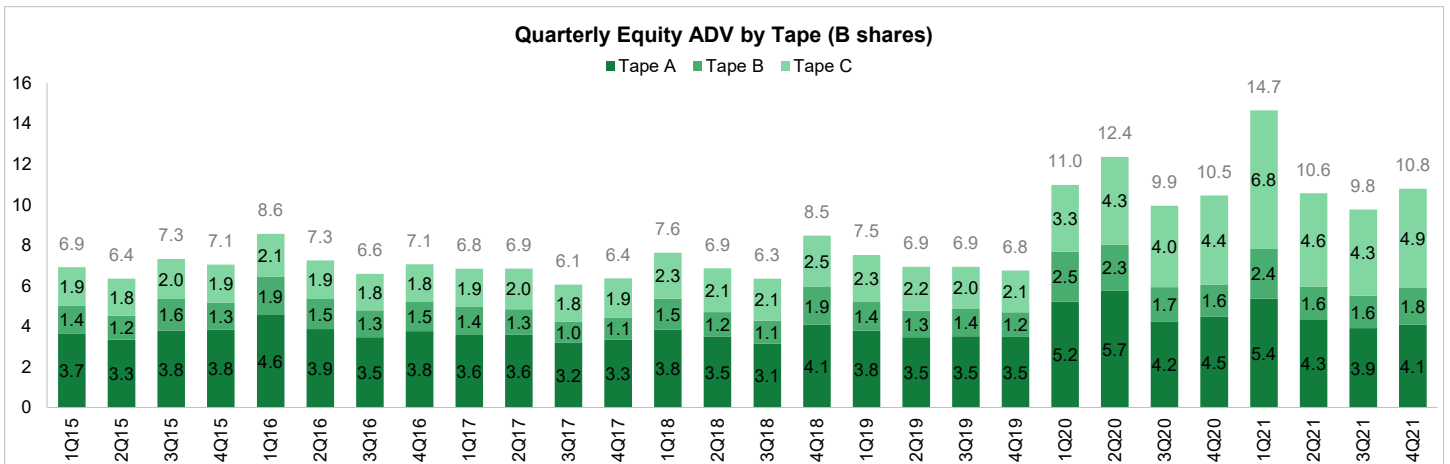
## Chart Book: US Cash Equities

On average, around 10.8 billion shares are traded on U.S. equity markets every day, making them 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.

### Volumes and Other Statistics

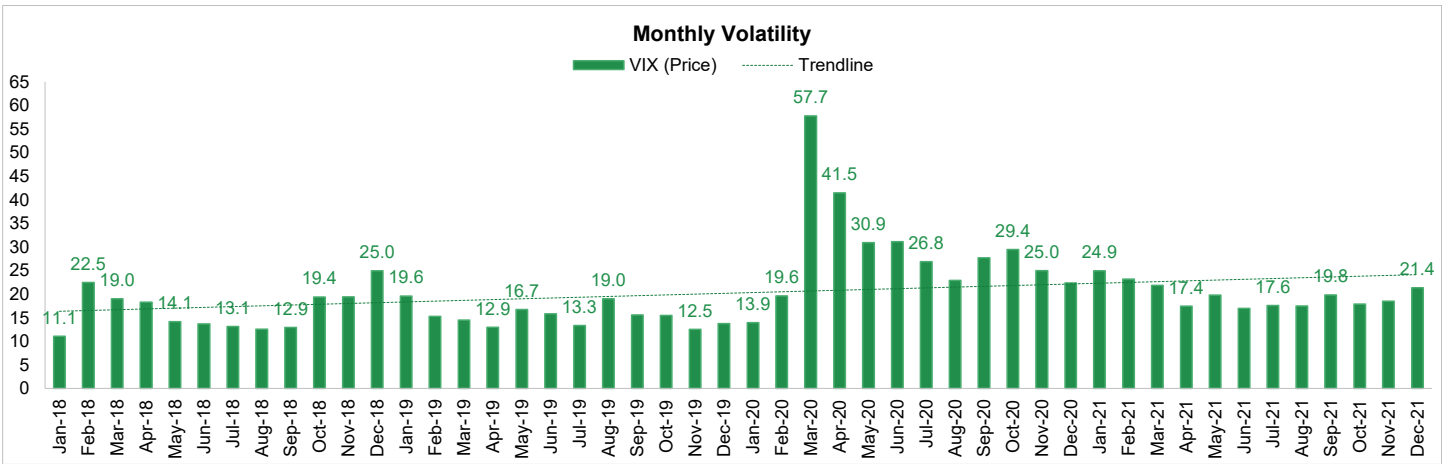
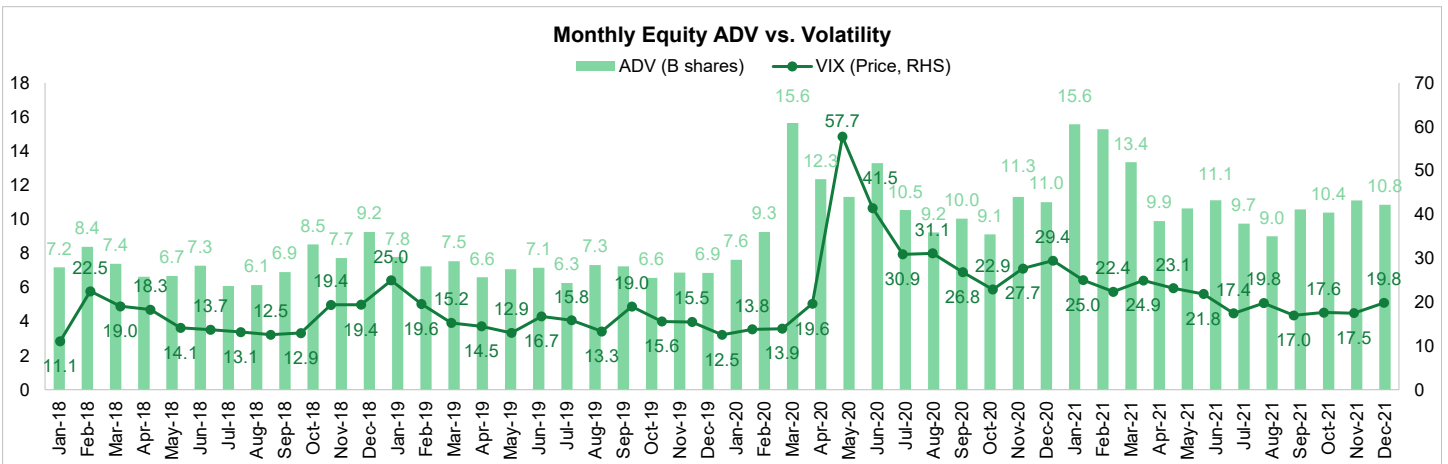


Source: Cboe Global Markets, SIFMA estimates

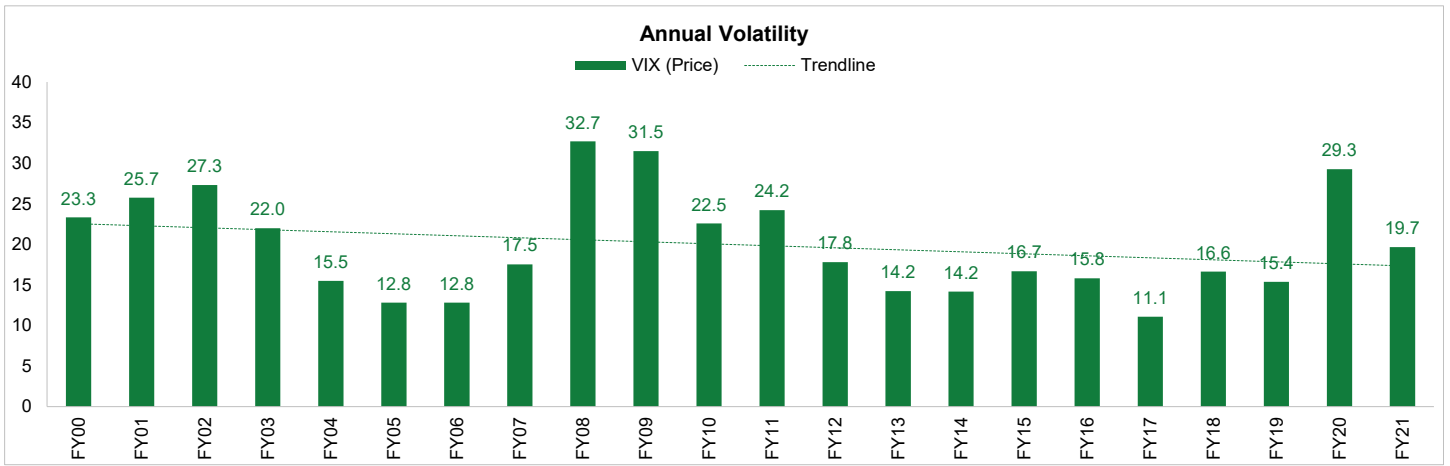
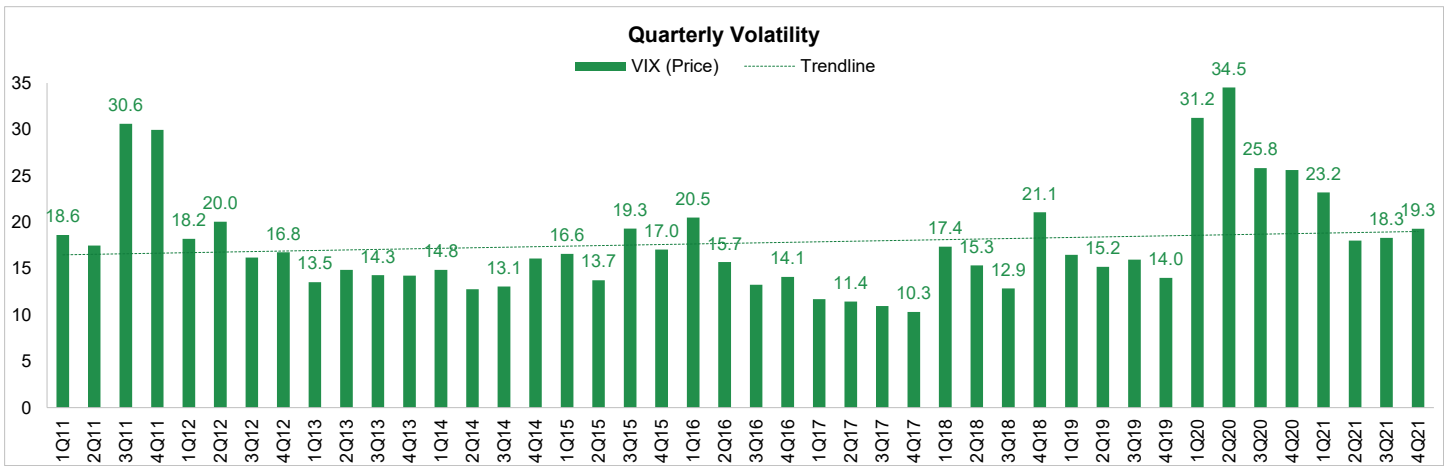


Source: Cboe Global Markets, SIFMA estimates

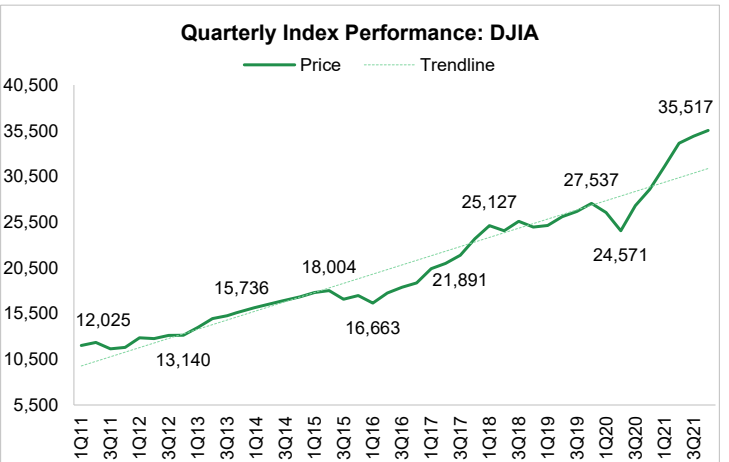
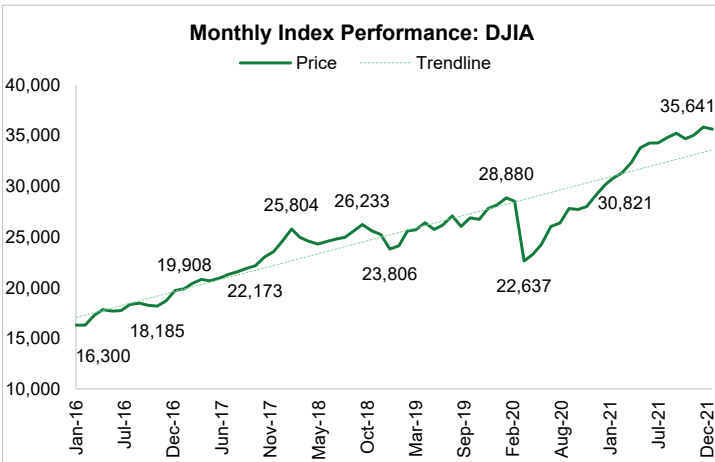
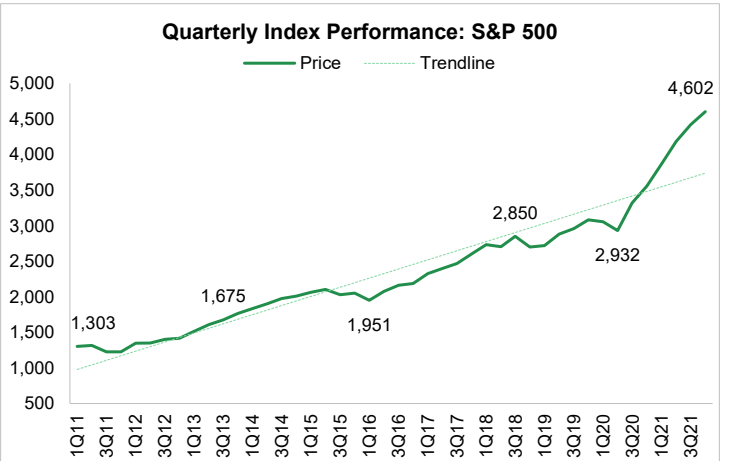
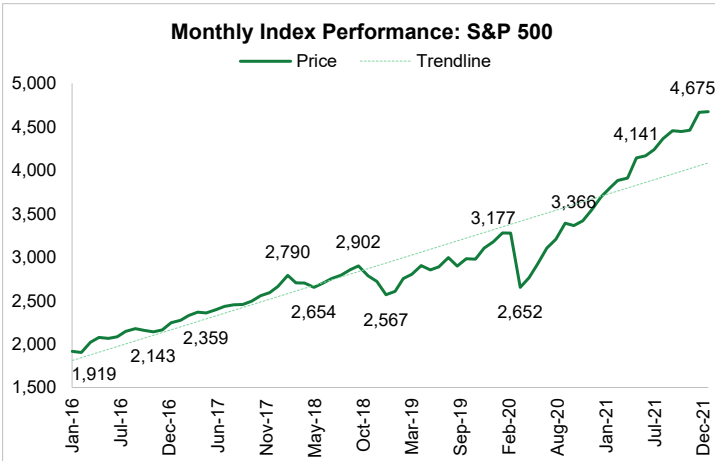
Note: Tape A – NYSE-listed; Tape B – all else (mostly NYSE Arca and American, also a main tape for ETF trading); Tape C – Nasdaq-listed



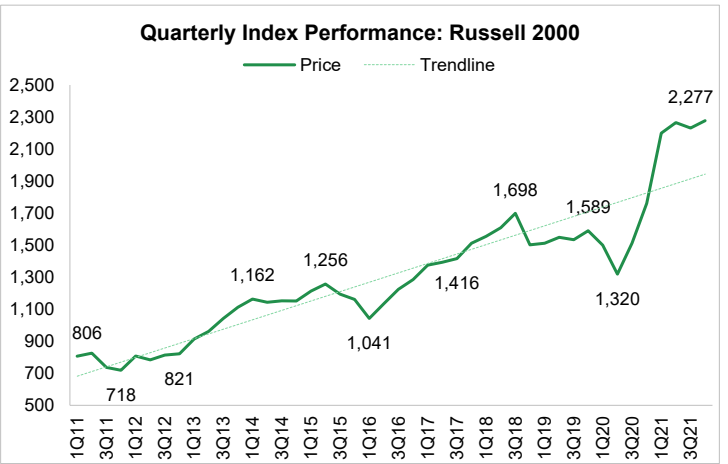
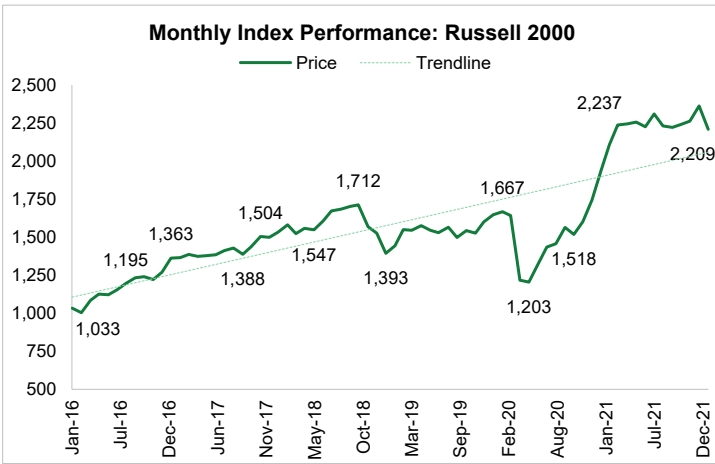
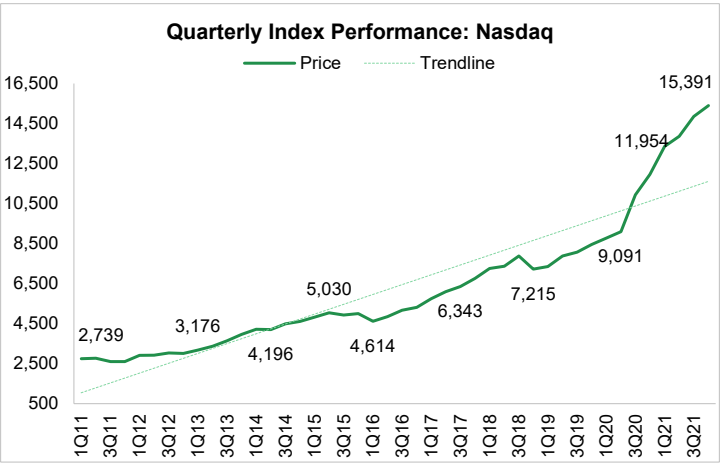
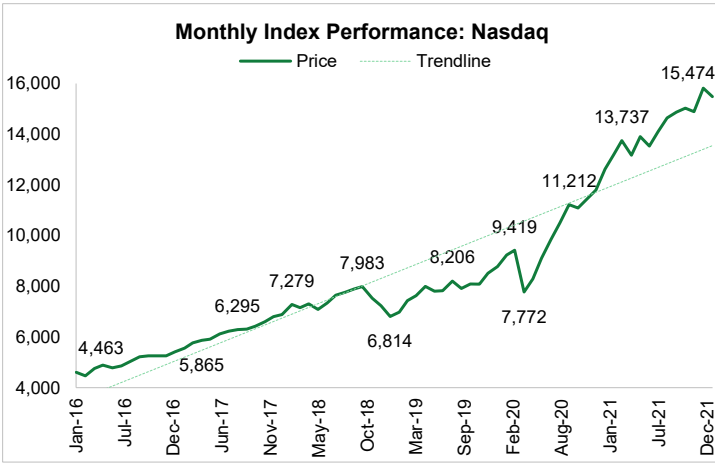
Source: Bloomberg, Cboe Global Markets, SIFMA estimates



Source: Bloomberg, Cboe Global Markets, SIFMA estimates

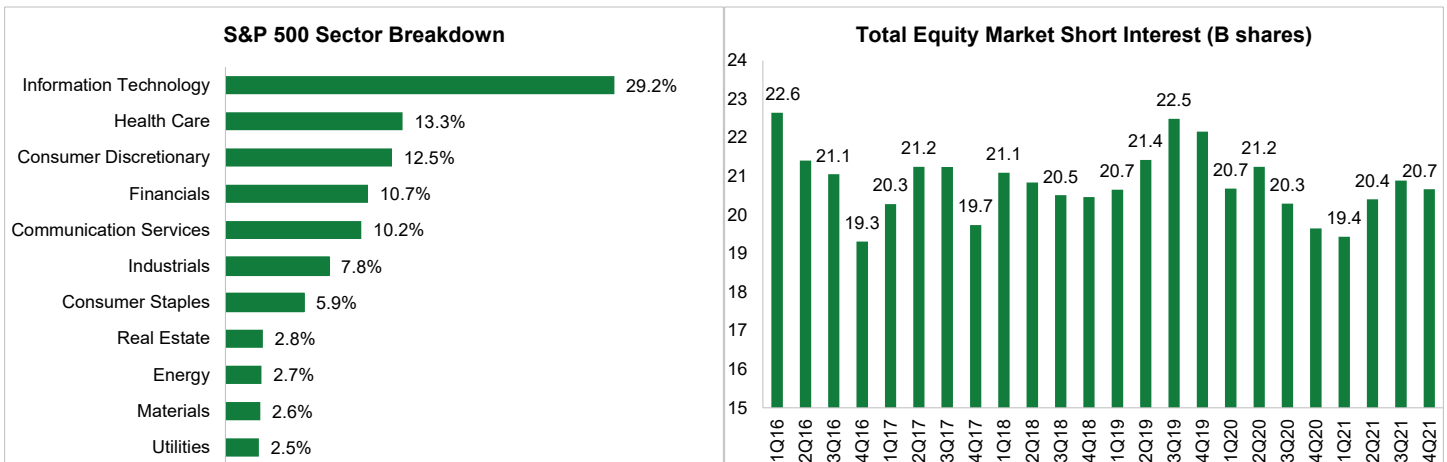
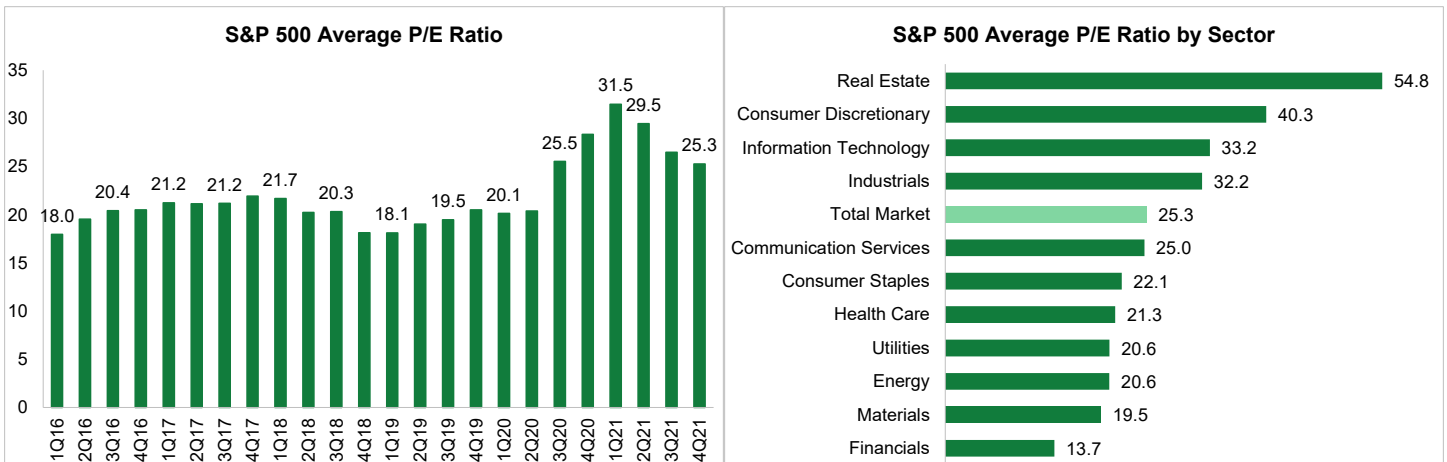


Source: Bloomberg



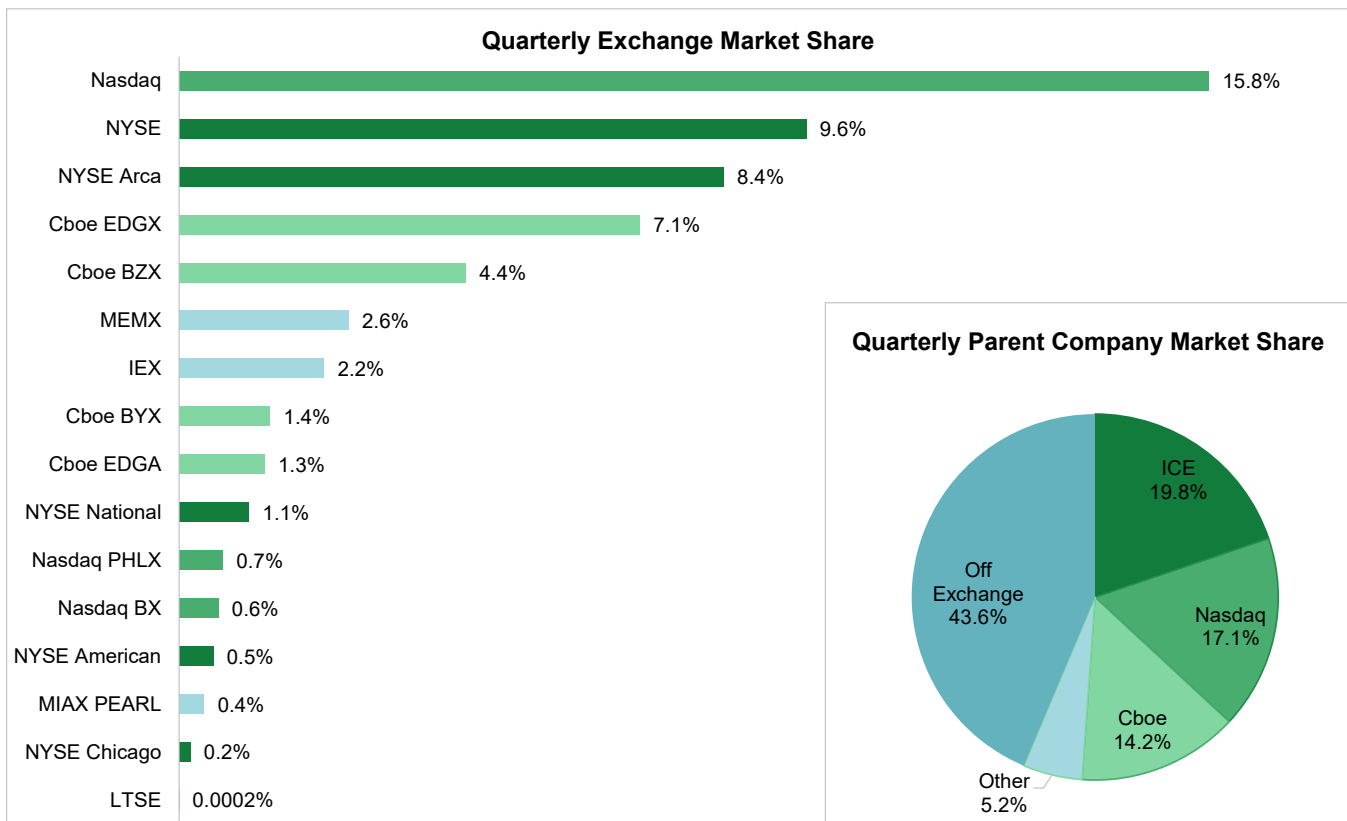
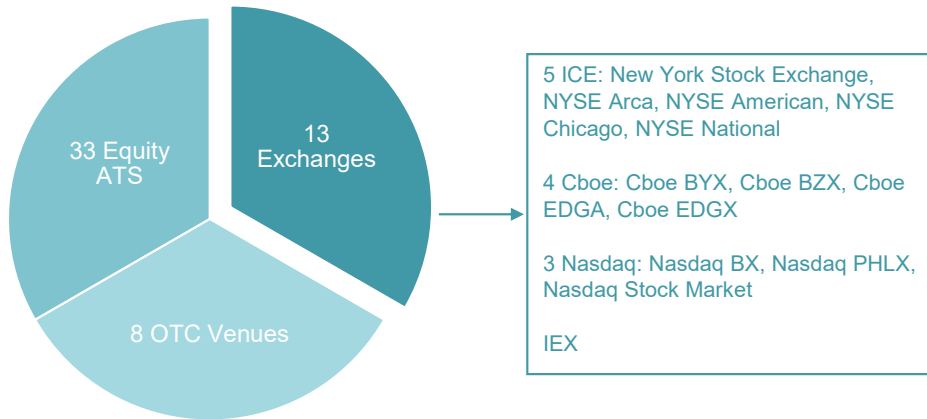
Source: Bloomberg





Source: Bloomberg, S&P Dow Jones Indices  
 Note: P/E and sector data as of December 2021

Exchange and Parent Group Market Share



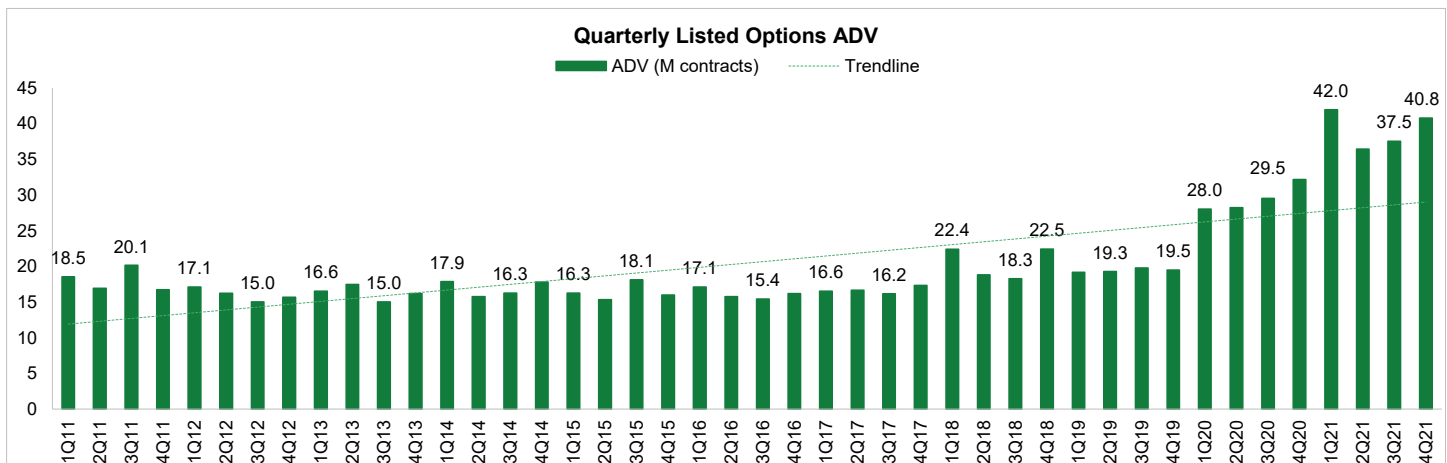
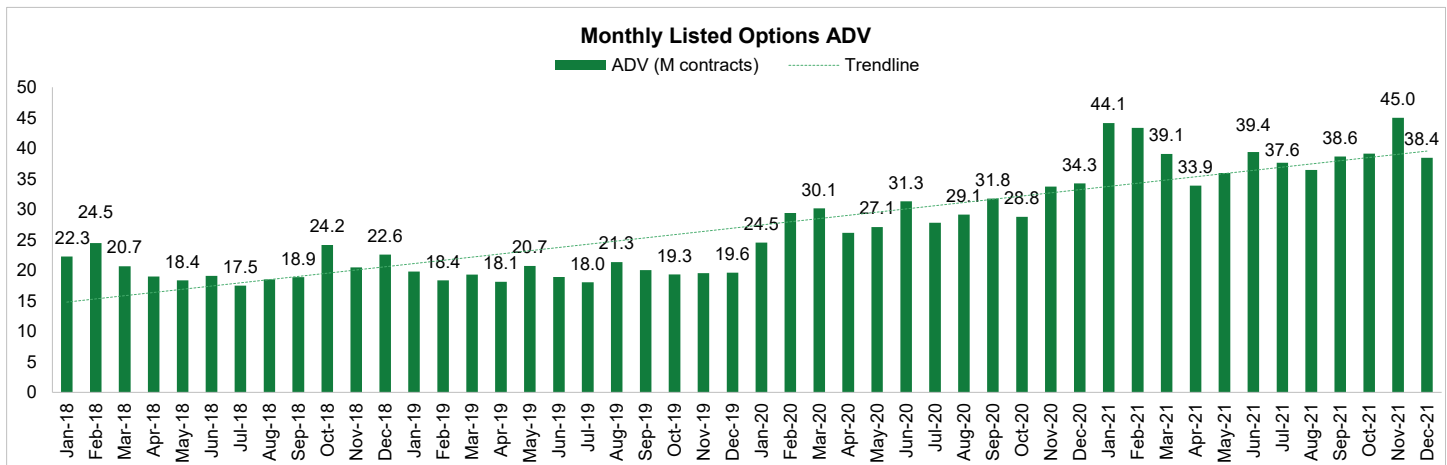
Source: Cboe Global Markets, FINRA, SIFMA estimates

Note: ATS count as of 3Q21. Intercontinental Exchange (ICE) owns the NYSE exchanges; IEX = Investors Exchange; MEMX = Members Exchange; LTSE = Long-Term Stock Exchange. As of December 2021

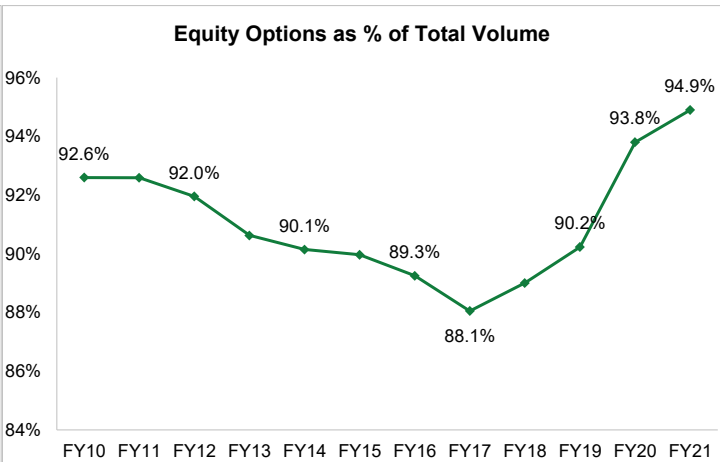
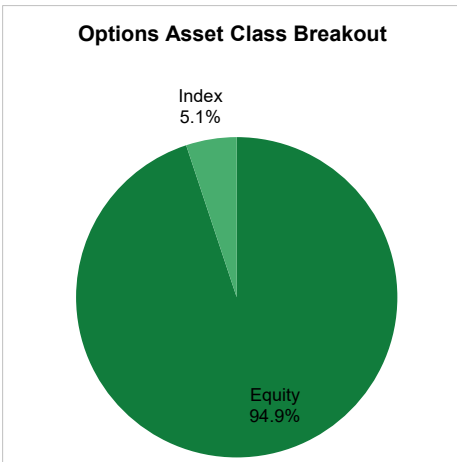
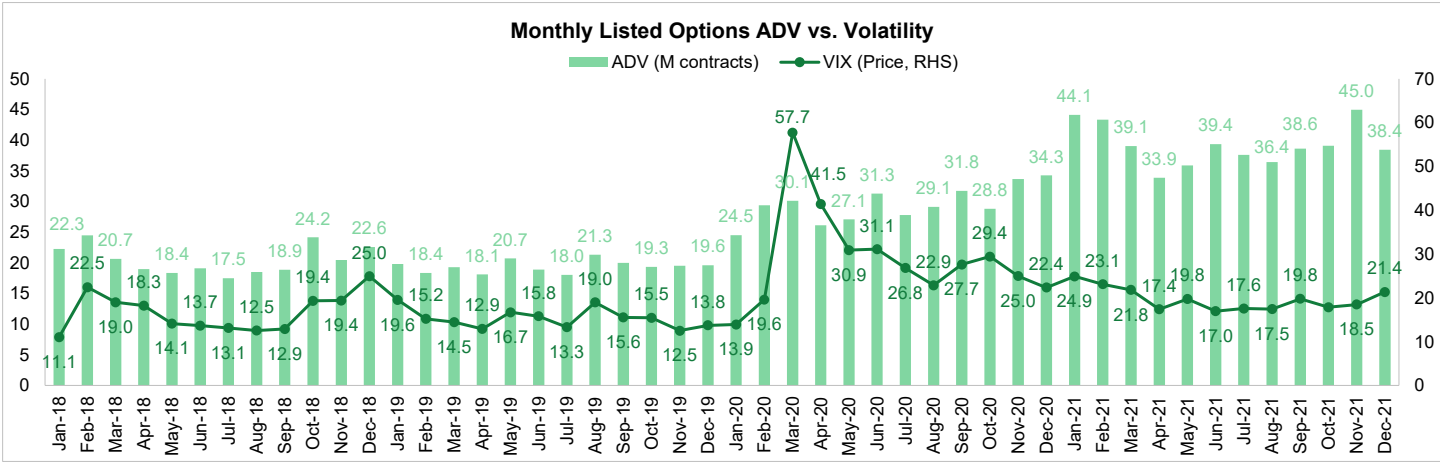
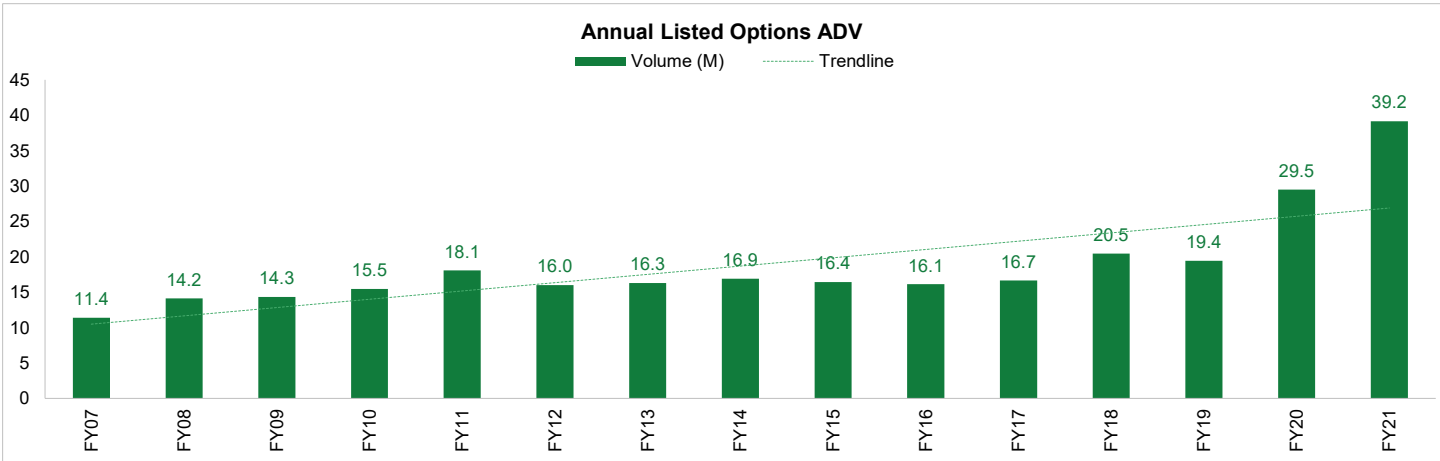
## Chart Book: US Multi-Listed Options

Options, or a contract 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.

### Volumes and Other Statistics

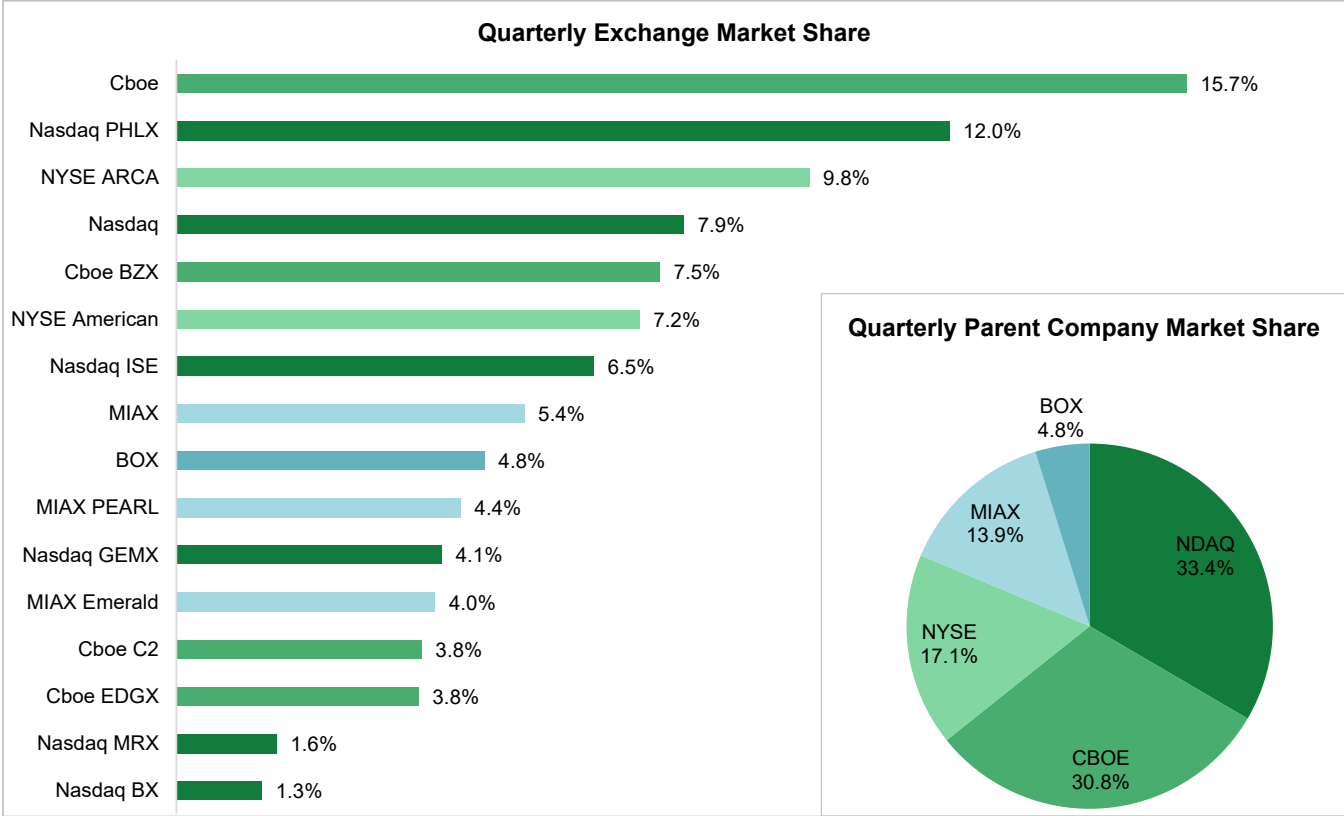


Source: Bloomberg, The Options Clearing Corporation (OCC), SIFMA estimates



Source: Bloomberg, The Options Clearing Corporation (OCC), SIFMA estimates

Exchange and Parent Group Market Share

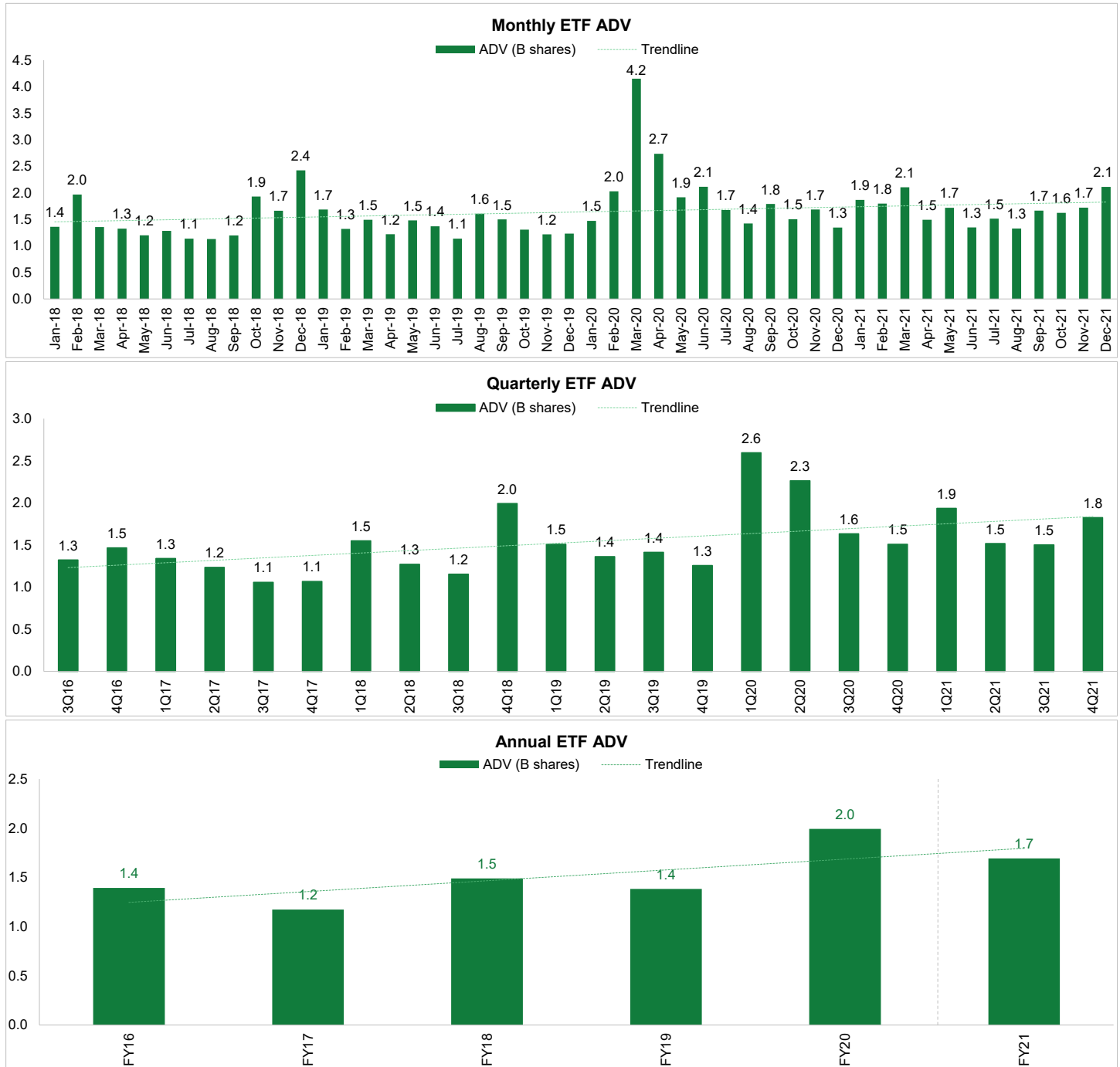


Source: The Options Clearing Corporation (OCC), SIFMA estimates  
 Note: Intercontinental Exchange (ICE) owns the NYSE exchanges. Excludes the futures and stock loan data OCC collects. As of December 2021

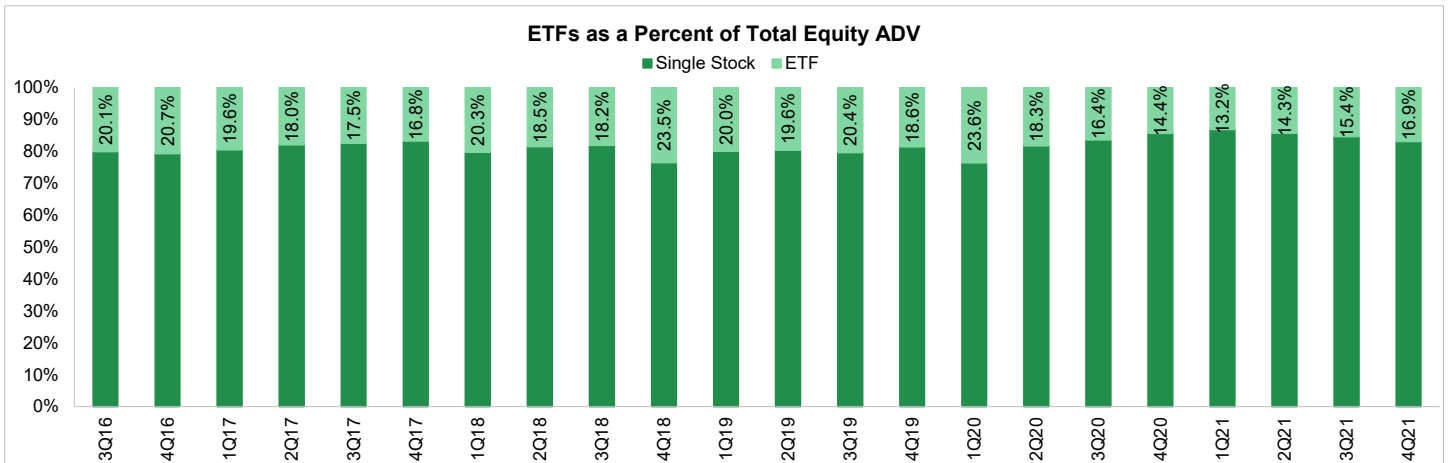
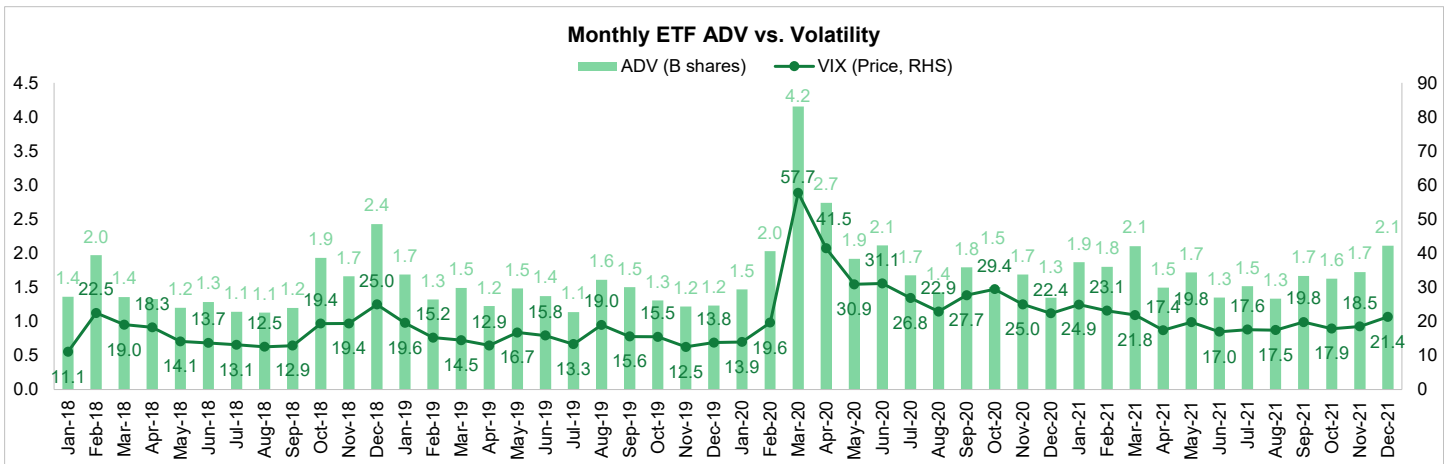
## Chart Book: US Exchange-Traded Funds

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.

### Volumes and Other Statistics



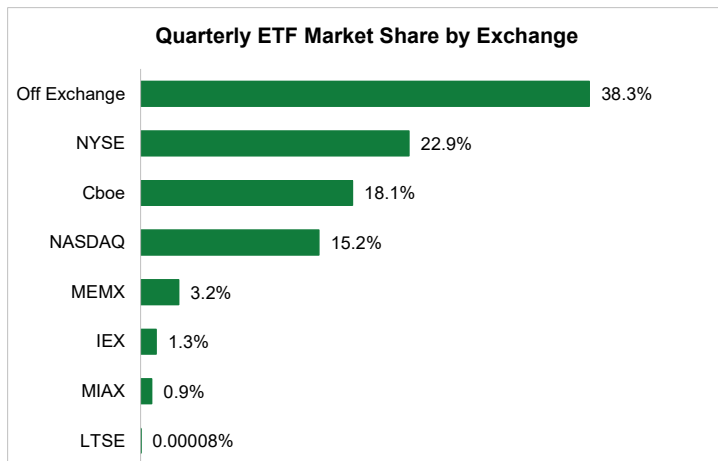
Source: Cboe Global Markets, SIFMA estimates



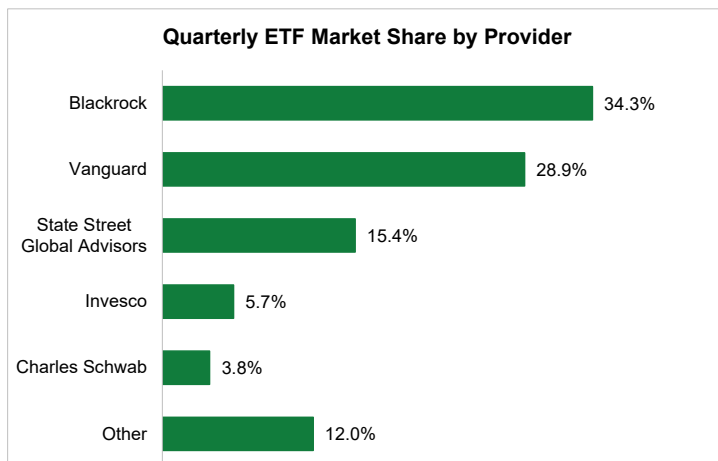
Source: Bloomberg, Cboe Global Markets, SIFMA estimates

## Exchange and Provider Market Share

### Exchange Market Share



### Provider Market Share



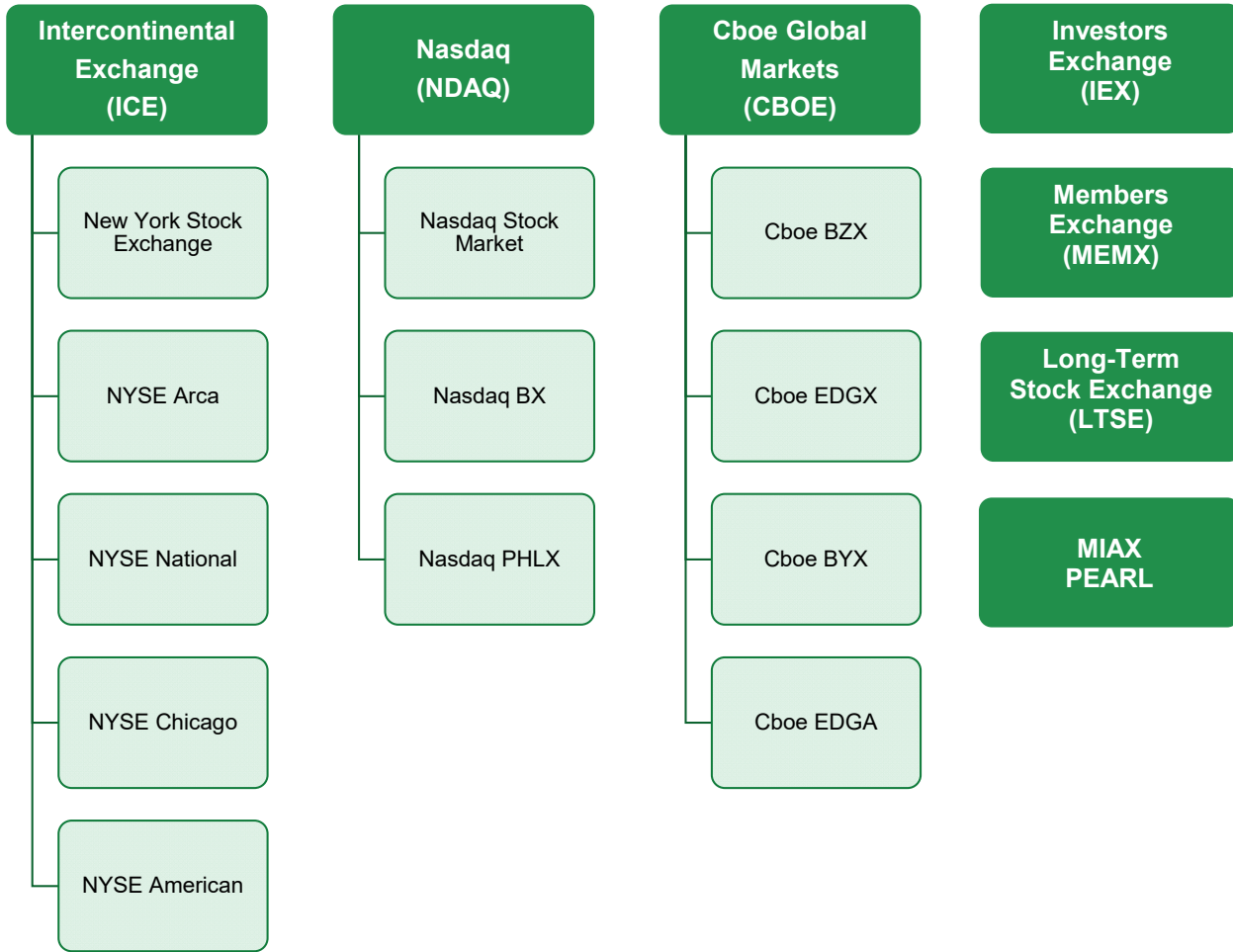
Source: Cboe Global Markets, etf.com, SIFMA estimates

Note: Intercontinental Exchange (ICE) owns the NYSE exchanges. As of December 2021

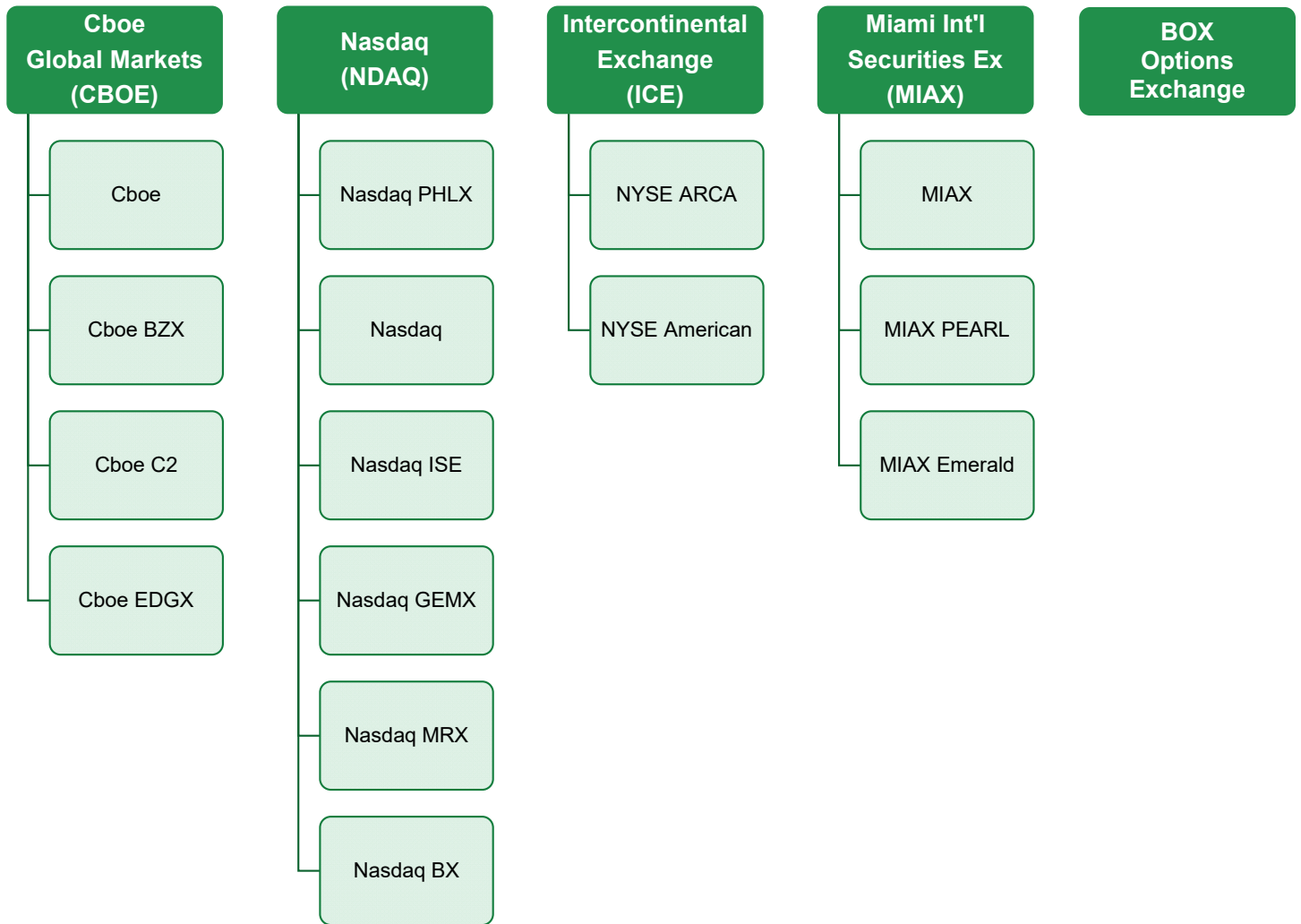


## Appendix: Exchange Landscape

### Cash Equities



Multi-Listed Options



## Appendix: Terms to Know

ADV	Average Daily Trading Volume	Y/Y	Year-over-Year
Algo	Algorithm (algorithmic trading)	Q/Q	Quarter-over-Quarter
AP	Authorized Participant	YTD	Year-to-Date
AT	Automated Trading	BPS	Basis Points
ATS	Alternative Trading System	PPS	Percentage Points
AUM	Assets Under Management	CAGR	Compound Annual Growth Rate
Best Ex	Best Execution		
CEF	Closed-End Fund	CFTC	Commodity Futures Trading Commission
CLOB	Central Limit Order Book	FINRA	Financial Industry Regulatory Authority
D2C	Dealer-to-Client	SEC	Securities and Exchange Commission
D2D	Dealer-to-Dealer	SRO	Self-Regulatory Organization
Dark Pool	Private trading venues	NMS	National Market System
ECN	Electronic Communication Network	Reg NMS	Regulation National Market System
EMS	Equity Market Structure	SIP	Security Information Processor
ETF	Exchange-Traded Fund		
ETP	Exchange-Traded Product		
HFT	High-Frequency Trading		
IDB	Inter-Dealer Broker		
IIV	Intraday Indicative Value		
IOI	Indication of Interest		
IPO	Initial Public Offering		
MF	Mutual Fund		
MM	Market Maker		
NAV	Net Asset Value		
OEF	Open-End Fund		
OTC	Over-the-Counter		
PCF	Portfolio Composition File		
PFOF	Payment For Order Flow		
SI	Systematic Internaliser		
Tick Size	Minimum price movement		
UIT	Unit Investment Trust		

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 a few minutes before the market open
Closing Cross	To determine the closing price of a stock, accumulating all buy and sell interest a few minutes before 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

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

Investors

Institutional	Organization, fewer protective regulations as assumed to be more knowledgeable and better able to protect themselves*
Retail	Individual, a non-professional investor; either advised or self directed

\*Types of institutional investors: asset managers, endowment funds, mutual funds, hedge funds, pension funds, etc.

## Appendix: Terms to Know

IPO	Initial Public Offering; private company raises capital by 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 does not necessarily purchase IPO shares and 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/guarantee for the share sale and no stock price stabilization after the share listing.
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
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 the issuer and 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
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
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.)
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
Tombstone	An announcement that securities are available for sale. (Also a plaque awarded to celebrate the completion of a transaction or deal)
EGC	Emerging Growth Company

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