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## **SIFMA Insights:**

Market Structure Week Debrief

*Highlights from the Listed Options Symposium & the Equity Market Structure Conference*

**September 2019**



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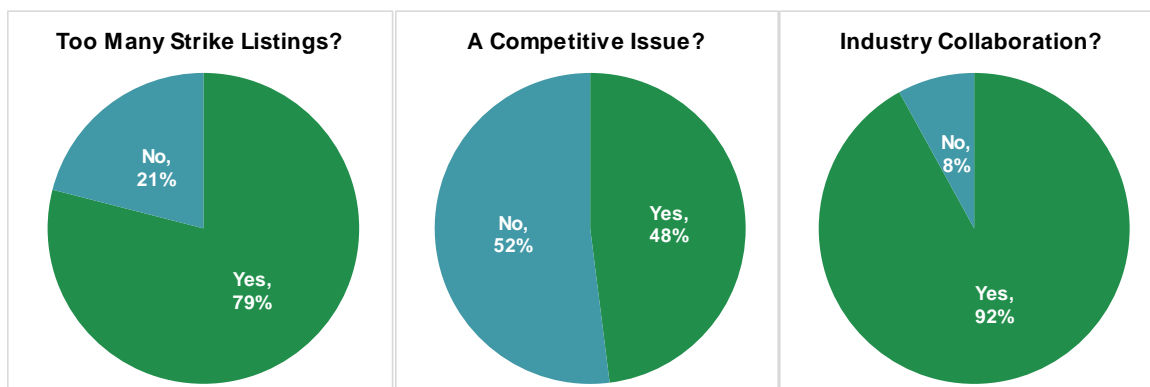
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## Listed Options Symposium

On September 18, SIFMA hosted its annual Listed Options [Symposium](#). With 150 people in attendance for panels and speeches, we gained insights into top-of-mind topics for market participants. Inside this section, we recap just some of what was seen and heard, including: speaker and panel highlights, volumes and market share updates.

### Highlights

- **Strike Listings** – Market participants continue to express concerns about the number of strike listings in the options market. There are over 1 million strike listings, on over 4,000 underlyings, yet trades occur in only 10% of these on a daily basis (open interest >50%). We polled the audience at the conference, and, unsurprisingly, a solid majority agreed that there are too many strikes, 79%. While the audience split on whether strike listings are a competitive issue (48% yes/52% no), it was almost unanimous (92%) that a collaborative – exchanges, market participants, SEC – solution could be found for a new strike listings plan.



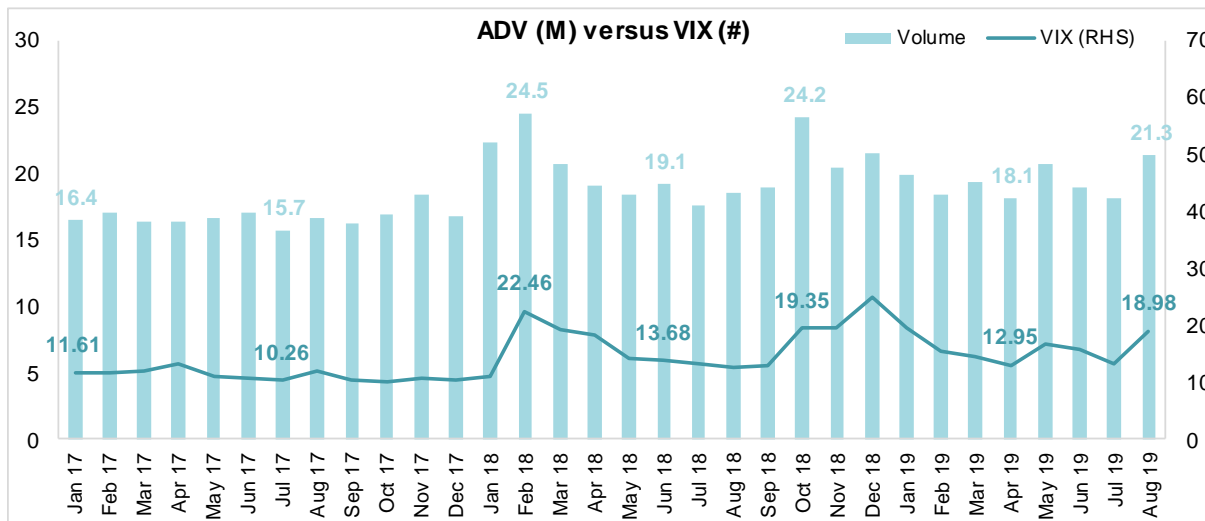
- **Innovation, Costs & Best Ex** – There are 16 exchanges in the options market under 5 main parent groups (exchange details on a later page), with the top 3 exchanges holding a 46% market share. For exchange groups holding multiple exchange medallions, each one operates a maker-taker and a payment for order flow exchange. The others offer innovative (price, speed) market solutions. When you multiply out the number of strikes across exchanges, it creates a complex environment adding to search costs to prove best executions. Brokers have lots of technology enabled tools to connect to multiple points, but it is costly to provide two sided quotes across all of these exchanges. Do market participants need to connect to all of these to prove best execution (best ex)? Best ex means different things across orders – different types of investors with different end goal for orders – making it difficult to measure (and prove to regulators) best ex.
- **Trading Trends** – With ADV +15% Y/Y, markets remain healthy and active. Panelists/speakers indicated there has been a shift to short-dated products; 10-day instruments now 40% of daily volume vs. 20% historically, as there is “tons” of liquidity in the short dated making it more profitable for traders/investors. Retail customers continue to choose weeklies, as there are lots of choice on how far out products go or premiums paid. Additionally, complex orders are becoming a bigger part of the market.

- Exciting OPRA Code Changes** – The Options Price Reporting Authority (OPRA) is making changes to the existing trade message type identifying codes, adding new codes/types and descriptions. It will be a two dimensional 20 count matrix, replacing the 7 legacy codes. It will also have multiple flags providing capabilities to perform advanced data analysis. One feature exciting market participants is they will now be able to see auction volumes and calculate percent of total volumes in auctions. The codes go live November 4, 2019.

### Volumes & Market Share Update

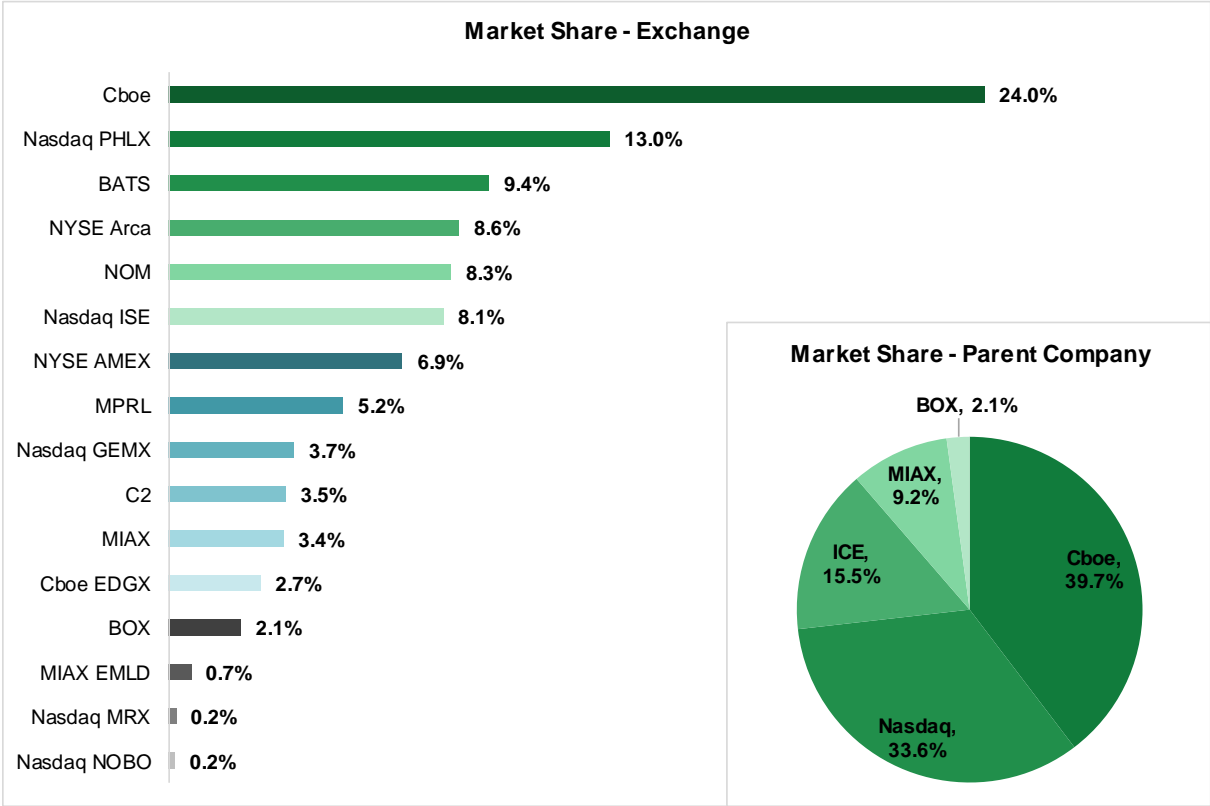
The below chart shows the U.S. multi-listed options ADV trends since the start of 2017:

- ADV 21.3 million contracts traded, +15.1% Y/Y
- Minimum ADV 15.7 million, maximum 24.5 million
- Trailing 12 month ADV 20.0 million, trailing 6 month ADV 19.4 million



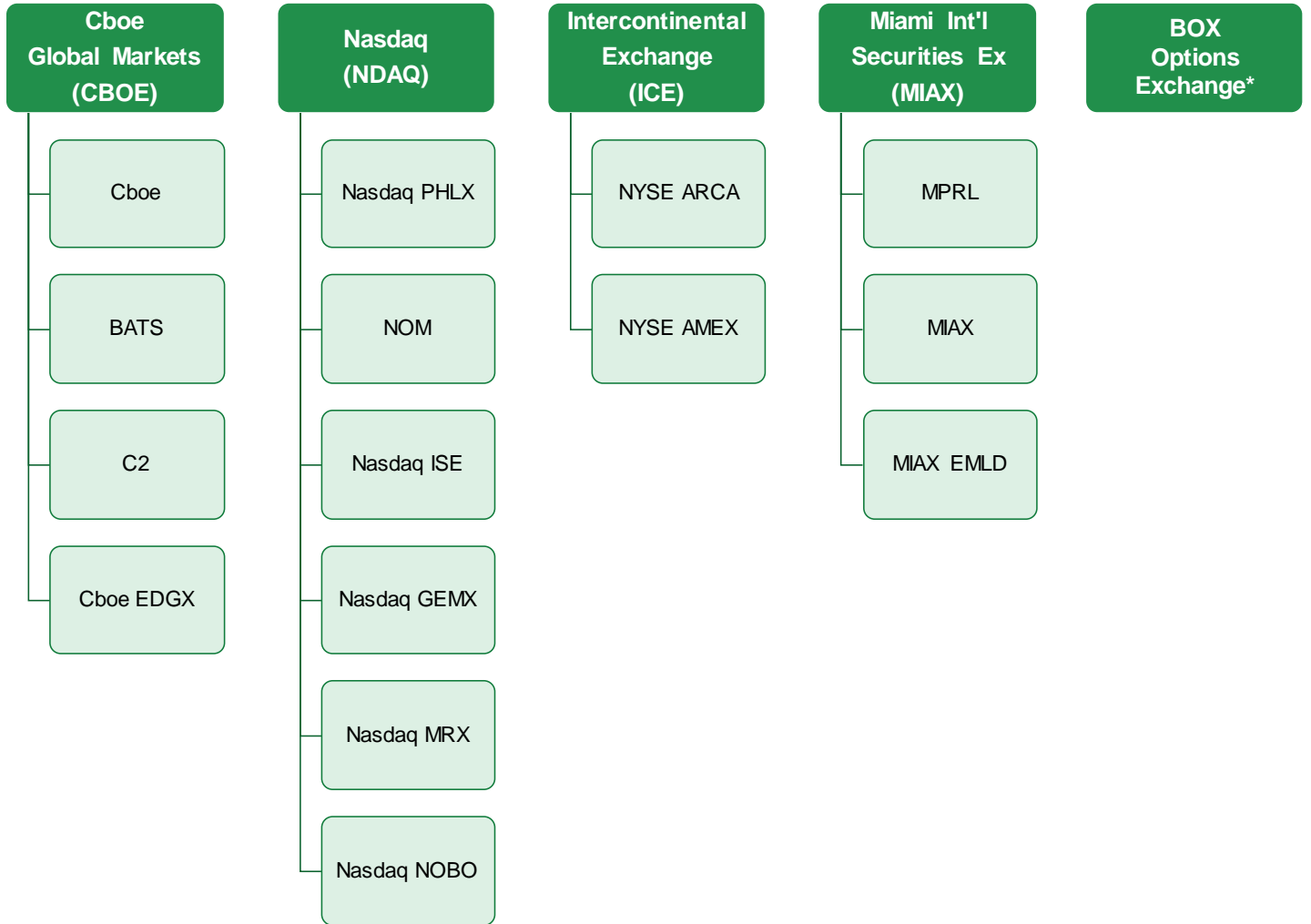
Source: Options Clearing Corporation, Bloomberg, SIFMA estimates (August 2019)

Exchange and Parent Group Market Share



Source: Options Clearing Corporation, SIFMA estimates (August 2019)

Exchange Landscape



Note: BOX also opened an open outcry trading floor in August.

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## Equity Market Structure Conference

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On September 19, SIFMA hosted its annual Equity Market Structure [Conference](#). With 150 people in attendance for panels and speeches, we gained insights into top-of-mind topics for market participants. Inside this section, we recap just some of what was seen and heard, including: speaker and panel highlights, volumes and market share updates.

### Highlights

- **What Is Best Ex?** SEC Commissioner Elad Roisman stressed that to him market structure should be about stability and reliability, and the SEC's mission includes: protecting investors; maintaining fair, orderly and efficient markets; and facilitating capital formation. He also noted these factors must be balanced with changes seen in the markets since Reg NMS was implemented (increased number of exchanges, adoption of technology). This may leave the door open to reassess Rule 611 of Reg NMS: the Order Protection Rule ([OPR](#); or trade-through rule) and guidance on best execution (best ex). Brokers have a legal duty to seek best ex, which Roisman indicated is the cornerstone of market integrity.

There are 13 equities exchanges under 4 parent groups, with 3 more announced to launch within the next year (exchange details on a later page). The top 3 exchanges hold a 36.5% market share of total volumes, or 61% of on exchange volumes (off exchange volumes= 35.7% of total). While most exchange groups open maker-taker and inverted exchanges, other medallions offer segmentation for market participants by price or speed.

- **How Can We Fix the SIP?** One panelist channeled Ricky Bobby, noting “if you're not first, you're last”. Speed matters in trading – brokers need to see market data and be able to react right away – but content matters as well. The Securities Information Processors (SIPs) consolidate top of book bid/ask quotes and trades from every trading venue into a single data feed. Traders do not view the SIP as adequate to meet their best ex requirements. Since it is consolidating quotes, there is a latency factor with the SIP versus proprietary data feeds, which come directly from an exchange. Panelists noted there will always be a latency delta for inclusion in the SIPs, but it could and should be decreased.

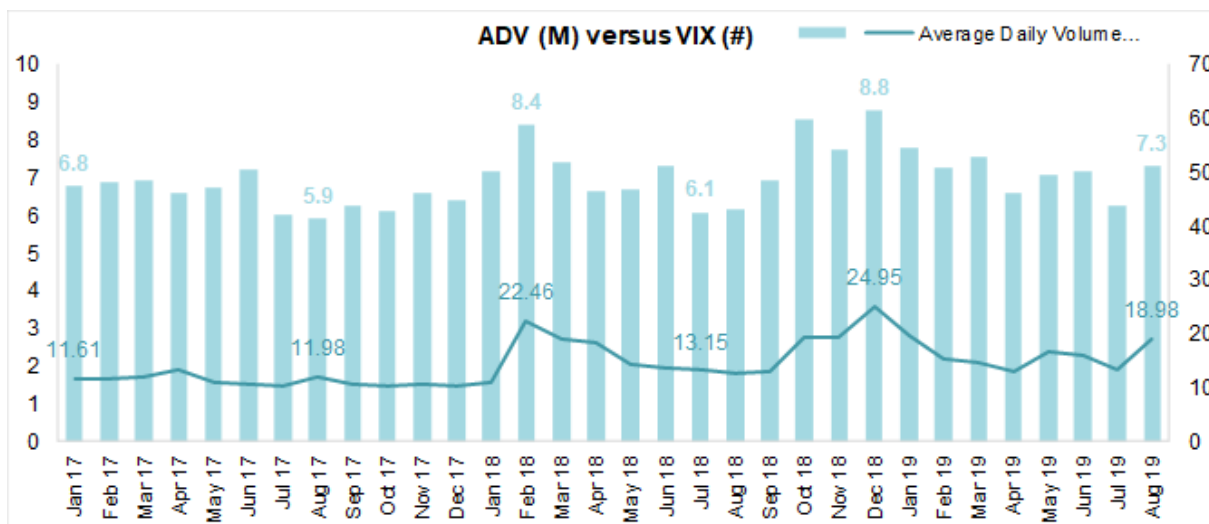
Additionally, the SIP does not provide depth of book (number of buys/sells, at what prices and volumes). And panelists feel the SIP is missing other key analytic factors such as imbalances and odd lots (order auction amount less than the standard 100 shares). High priced securities tend to trade in odd lots. In 1990, 80% of S&P 500 stocks priced over \$50, but no stocks priced over \$200. Today, 27% of stocks are over \$50, and 65 auction stocks are over \$200. Yet, odd lot data is not included in the SIP. Traders view this additional data – depth, imbalances, odd lots – as important differences between the SIPs and prop feeds. Further, panelists noted the SIP creates a single point of failure. If an exchange goes down during the day, traders can seamlessly switch to another exchange. One panelist noted that if the SIP goes down, there is no alternative, which is “a huge problem.”

Now the question becomes how to update systems and guidance to match today’s markets? SEC Director of the Division of Trading and Markets Brett Redfearn provided his thoughts on these issues, acknowledging that best ex means something different for each order, based on different types of clients and end goals for a trade. He also questioned whether all brokers really need to consume all of the data available on every order. He further commented that OPR may not always help achieve best ex. The conclusion is market participants know the SEC is reviewing these aspects of market structure, but it will take time and involve “levels of rigorous reviews,” in order to prevent any unintended consequences.

### Volumes & Market Share Update

The below chart shows the U.S. equities ADV trends since the start of 2017:

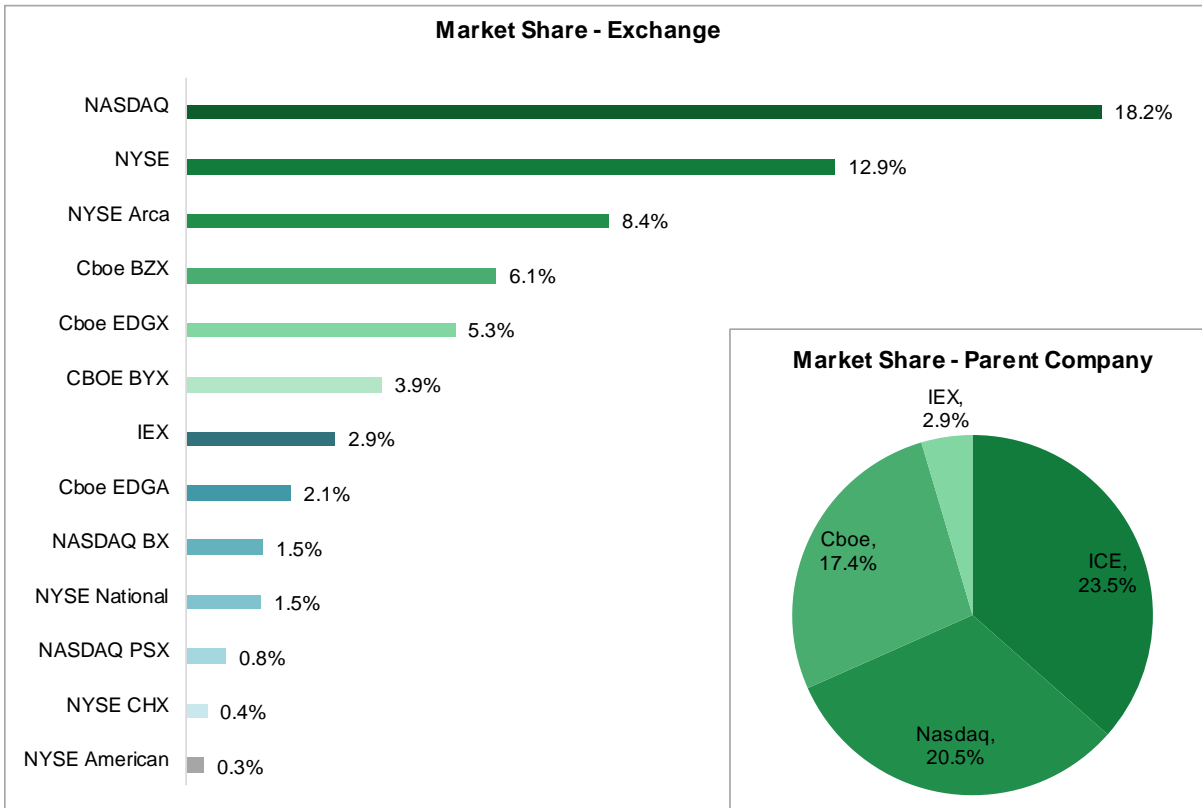
- ADV 7.3 billion contracts traded, +19.1% Y/Y
- Minimum ADV 5.9 billion, maximum 8.8 billion
- Trailing 12 month ADV 7.4 billion, trailing 6 month ADV 7.0 billion



Source: Cboe Global Markets, Bloomberg, SIFMA estimates



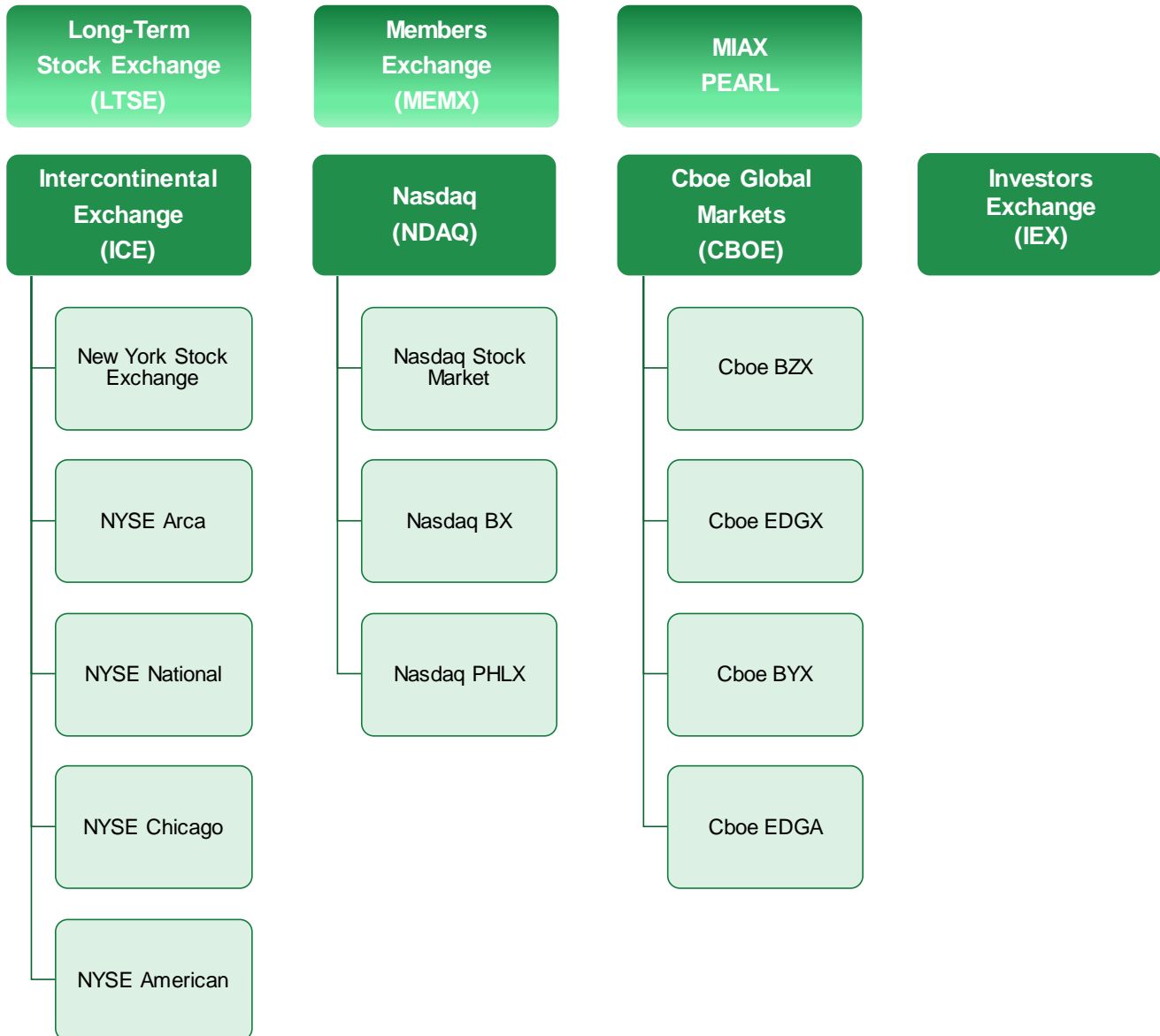
Exchange and Parent Group Market Share



Source: Cboe Global Markets, SIFMA estimates  
 Note: As of August 2019; off exchange trading 35.7% of total

**Exchange Landscape**

- Announced/Not Live (as of September 2019): LTSE go live date TBD. MEMX to launch in mid-2020. MIAX (using its MIAX PEARL exchange license) to launch in 2Q20



## Appendix: Terms to Know

FINRA	Financial Industry Regulatory Authority
SEC	Securities and Exchange Commission
ADV	Average Daily Trading Volume
ATS	Alternative Trading System
Best Ex	Best Execution
CAT	Consolidated Audit Trail
Dark Pool	Private trading venues, not accessible by the public
EMS	Equity Market Structure
MM	Market Maker
NMS	National Market System
OPR	Order Protection Rule
OPRA	Options Price Reporting Authority
PFOF	Payment For Order Flow
Reg NMS	Regulation National Market System
SIP	Security Information Processor
SRO	Self Regulatory Organization
Tick Size	Minimum price movement of a security
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

## Appendix: SIFMA Insights Research Reports

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- SIFMA Insights: <https://www.sifma.org/resources/archive/research/insights/>
- SIFMA Insights Market Structure Primers: <https://www.sifma.org/resources/news/primers-by-sifma-insights/>
  - Global Capital Markets & Financial Institutions
  - Fixed Income
  - Equity
  - Multi-Listed Options
  - ETF
  - Capital Formation & Listings Exchanges
  - SOFR: The Transition from LIBOR

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