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Mr. Chairman and members of the Subcommittee, I am Chris Concannon, President and Chief Operating Officer of CBOE Holdings, Inc. ("CBOE"). I have over 20 years of experience as an exchange executive, trading firm executive, and a regulator. I served as CEO of Bats Global Markets, Inc. prior to its combination with CBOE earlier this year. I would like to thank the Subcommittee for inviting me to testify today. I also commend the Subcommittee for its ongoing review of complex and critical issues that exist within the U.S. equity markets, including Regulation NMS.

CBOE is one of the world's largest exchange holding companies. We are a leader in providing global investors with cutting-edge trading and investment solutions. CBOE operates six national securities exchanges consisting of four options markets, including the largest U.S. options exchange, and four equity markets, comprising the second-largest U.S. stock exchange operator. CBOE also operates a futures exchange, the largest European exchange and a foreign exchange platform. We have offices around the world and have established ourselves as a global exchange leader and innovator, working collaboratively with our market participants to introduce new products, indices, and services to meet the evolving needs of the stock and derivatives industry. We offer the industry's widest array of products, including options, futures, equities, ETFs, FX and proprietary index products such as S&P 500 options ("SPX") and futures and options on the CBOE Volatility Index ("VIX"). We also operate a leading proprietary technology platform

designed to optimize reliability, speed, and versatility across our markets. Additionally, CBOE continues to be a leader in investor education through its Options Institute, ETF.com, and other CBOE-sponsored financial educational programs.

In 1975, Congress amended the Securities Exchange Act of 1934 (the "Act") to facilitate the establishment of a national market system to link together the multiple individual markets that traded securities. Congress designed our national market system to achieve the objectives of efficient, competitive, fair, and orderly markets that are in the public interest and protect investors. Congress intended for the Securities and Exchange Commission ("SEC" or "Commission") to take advantage of opportunities created by advancements in technology to preserve and strengthen the securities markets. In response to this congressional mandate, the SEC has adopted various rules since 1975 to further the objectives of the national market system, including the order handling rules in 1997, Regulation ATS in 1998, decimalization in 2000, and, importantly, Regulation NMS in 2005.

The primary purpose of Regulation NMS was to modernize and increase the efficiency of the equity markets by establishing various rules, including rules to create an interlinked and automated market to ensure investors receive the best price available, ensure fair access, and promote competition. Our national market system is premised on promoting fair competition among individual markets, while at the same time ensuring these markets are linked together to promote interaction among the orders of buyers and sellers. This system helps foster competition among individual markets, which can promote more efficient and innovative trading services, and among individual orders, which creates more efficient pricing of stock orders of all types and sizes. This competition produces markets that offer benefits to both investors and listed companies.

The implementation of Regulation NMS has contributed positive results to the markets, including tighter spreads, efficiency, the ability to handle increasing volume and message traffic, and competition. Overall costs to investors in the U.S. equity marketplace have fallen and are among the lowest in the world, and market quality and reliability continue to improve. Retail customers now have low-cost, immediate access to our markets with exceptional execution quality.

However, Regulation NMS has also contributed to some unintended consequences throughout the marketplace. Regulation NMS has created a complex and fragmented market, which may increase costs for some market participants. While order protection is beneficial to displayed limit orders, the existence of order protection provides new or relatively small exchanges with a commercial advantage despite not having to demonstrate to investors their value to the marketplace. Any competitive benefits that may result from an additional exchange can be offset by the increased costs and complexity relating to the required connectivity to an additional market. For example, CBOE operates six national securities exchanges today but we only run four equity markets. Regulation NMS provides commercial benefits for us to populate all six exchange medallions with equity markets; however, two additional equity exchanges may not necessarily provide a benefit to market liquidity or price formation. The US equity market currently supports 12 equity exchanges and over 40 SEC-registered dark pools. I assure you that was not what Congress anticipated in 1975.

Now, complexity and fragmentation is not itself a problem. Our market quality for retail orders clearly reflects that we have professionally solved for these two challenges. However, certain orders and certain market participants experience serious challenges as a result of this fragmentation and complexity and improvements are warranted. The handling of large orders for institutional customers has clearly suffered over the last ten years. While spreads have narrowed,

there is less displayed liquidity to satisfy large orders. The current landscape reflects greater market impact as these large orders enter the market. And as a result, those large orders take longer to get executed while they attempt to find liquidity. This large order size problem affects our nation's largest asset managers and owners, including the largest pension and mutual fund companies who manage the average household portfolio and retirement savings. However, the challenges that large orders experience in today's market are not in every symbol across the U.S. equity market. Those challenges are typically not experienced in our more liquid stocks, which include large cap names and exchange traded funds.

These experiences point to a critical flaw of Regulation NMS. I believe Regulation NMS was materially flawed in its "one-size-fits-all" approach to our markets. Under Regulation NMS, all stocks are treated similarly regardless of market cap, liquidity or public float. Our current market rules do not care if a stock trades once a month or 1 million times per day. Our market rules do not care if a company is valued at $800 billion or $25 million. This is not an ideal design for the largest, most diverse equity market on the planet.

Given these flaws and the challenges that Regulation NMS has created in our equity markets, I encourage this Subcommittee and the Commission to undertake a comprehensive review of Regulation NMS to identify potential changes that continue to promote the objectives of Congress while modernizing Regulation NMS to address some of these unintended consequences and significant changes to the marketplace since its implementation in 2007. New market functionality, increased speed in the market, and new and innovative products designed to address the needs of diverse market participants, have all contributed to the need for a comprehensive review of Regulation NMS. Regulation is important for a fair and efficient marketplace, but it must be nimble enough to address the constantly changing economic, operational and regulatory

needs of all market participants. Any proposed regulatory reforms must consider the potential benefits those reforms may have on the market, as well as any costs and potential unintended consequences that may make such reforms counterproductive.

As part of a comprehensive review of Regulation NMS, we urge the Subcommittee and the Commission to consider the appropriateness of the one-size-fits-all approach of Regulation NMS. Further, structural solutions should take into account the differences between equity products and their characteristics. For example, trading in highly-liquid stocks, ETFs, less-liquid stocks, and high-priced stocks may all require different structural features to optimize effective trading for investors.

In addition to increased flexibility or varying rules under Regulation NMS to account for different types of securities, we also believe that other aspects of Regulation NMS warrant reconsideration. Those include the perhaps outdated access fee cap that limits exchange transaction pricing despite the fact that Congress intended competition to constrain transaction fees. A comprehensive review of Regulation NMS should attempt to understand how the current access fee model may impact trading patterns while simultaneously and carefully examining other related factors. Certainly, the prohibition on locked and crossed markets in Regulation NMS is also worth revisiting. And finally, we suggest consideration of a market structure that would only protect quotes displayed by exchanges that meet a minimum market share threshold, which is similar to the way the Canadian market operates.

I also recommend that the Subcommittee urge the Commission to study the recent phenomenon of what I call ultra-high-priced stocks and their impact on investors and market structure. Currently, over 13% of the overall market capitalization of U.S. corporate securities is comprised of securities that trade above $200, including well-known names like Amazon and

Alphabet, owner of Google, each currently trading around $1,000 per share. Prior to the financial crisis, companies regularly split their stock to target a price per share of below $100. This was traditionally done to encourage retail participation and ensure liquidity in secondary markets. The recent phenomenon of not splitting stock is having a substantial impact on retail investors and impacting liquidity in the secondary markets. We recently examined retail orders on one of our equity markets and concluded that retail investors are paying 10 times more in spread for stocks priced above $100 than they are paying for lower priced stocks. We have also concluded that high-priced stocks are experiencing lower volumes, both in terms of share volumes and notional volumes by retail traders. This materially impacts liquidity for large investors, creating additional challenges to trade these stocks. Finally, we compared the market cap growths of ultra-high-priced stocks (defined as those with a price greater than $200) near the start of the bull-run in 2010 to the prices of ultra-high-priced stocks in 2017. The market caps of those ultra-high-priced stocks increased a remarkable 400% compared to approximately 68% for those under $200. With waning retail interest in these names, it raises the question whether many investors are being denied the enjoyment of this growth due to a market under servicing pricier stocks.

Only the Commission can conduct a study of this nature because a study by exchanges or brokers will be questioned due to our dependence on revenue by share volume. The impact on investors both large and small from the recent phenomenon of ultra-high-priced stocks is certainly worthy of serious analysis by the SEC.

While our current equity market structure has its flaws, I believe the U.S. equity markets continue to be the most efficient and liquid markets in the world. I encourage any proposed reforms to carefully consider the impact on all market participants and the potential unintended consequences on the market. We fully support a truly comprehensive review of Regulation NMS

and any reforms that may improve the quality of our overall markets. CBOE stands ready to work with all interested parties on reviewing market structure as we believe we are uniquely positioned to offer a perspective that reflects trading in many asset-classes. Thank you for the opportunity to appear before you today, and I am happy to answer any questions you may have.