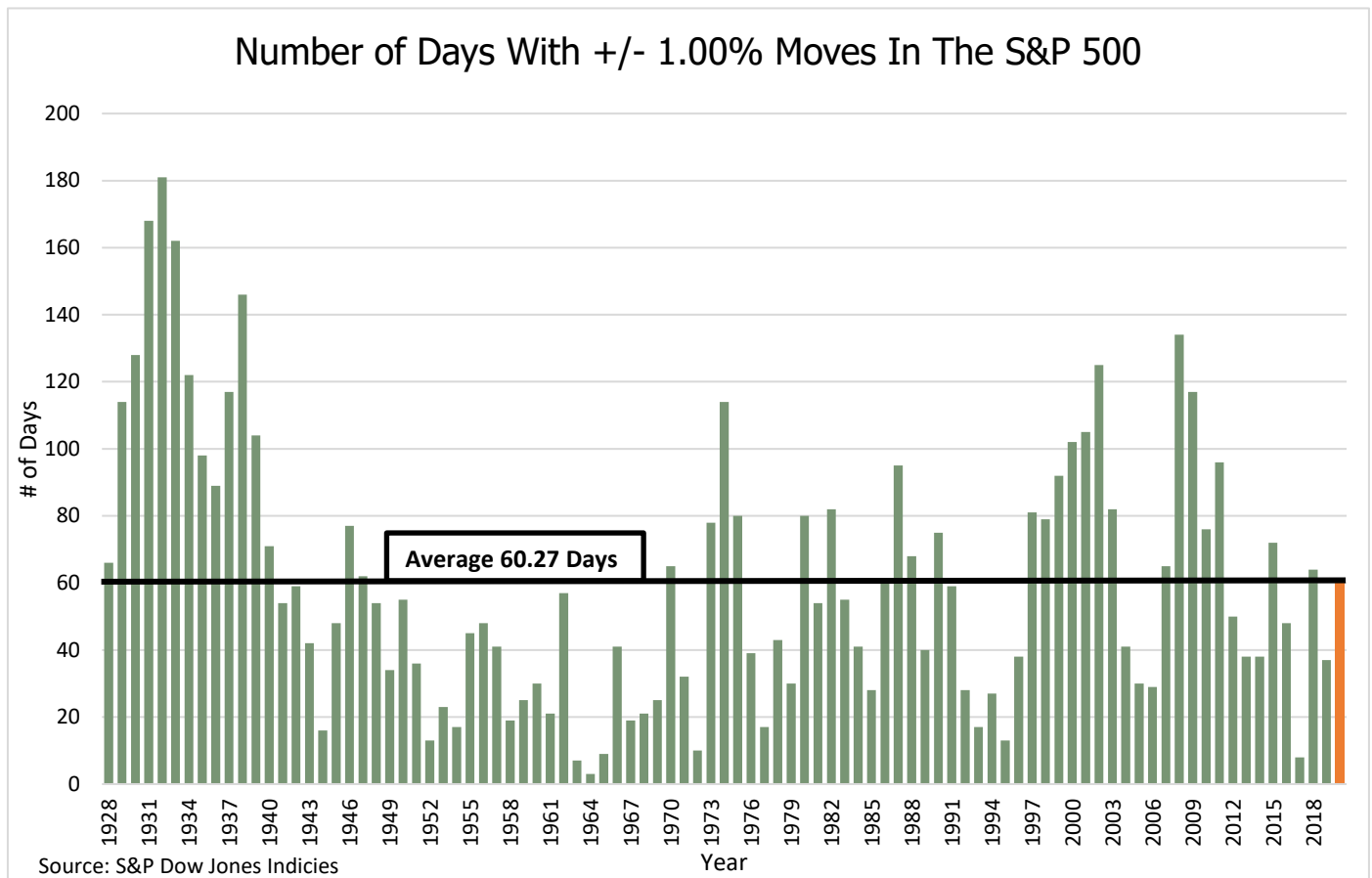


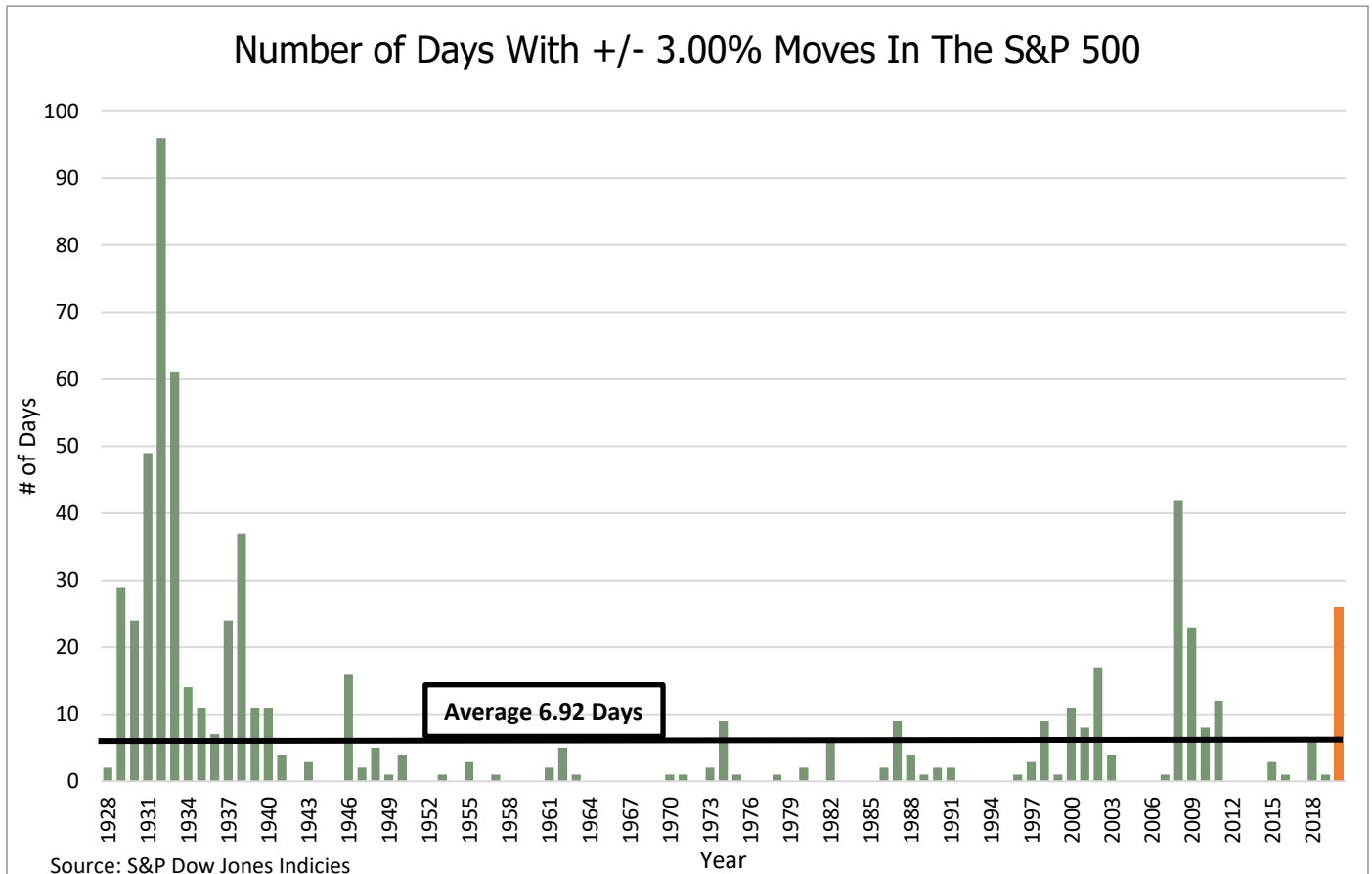
Equity Markets Are Volatile – A Historic Perspective

Zach Riddle – June 11, 2020

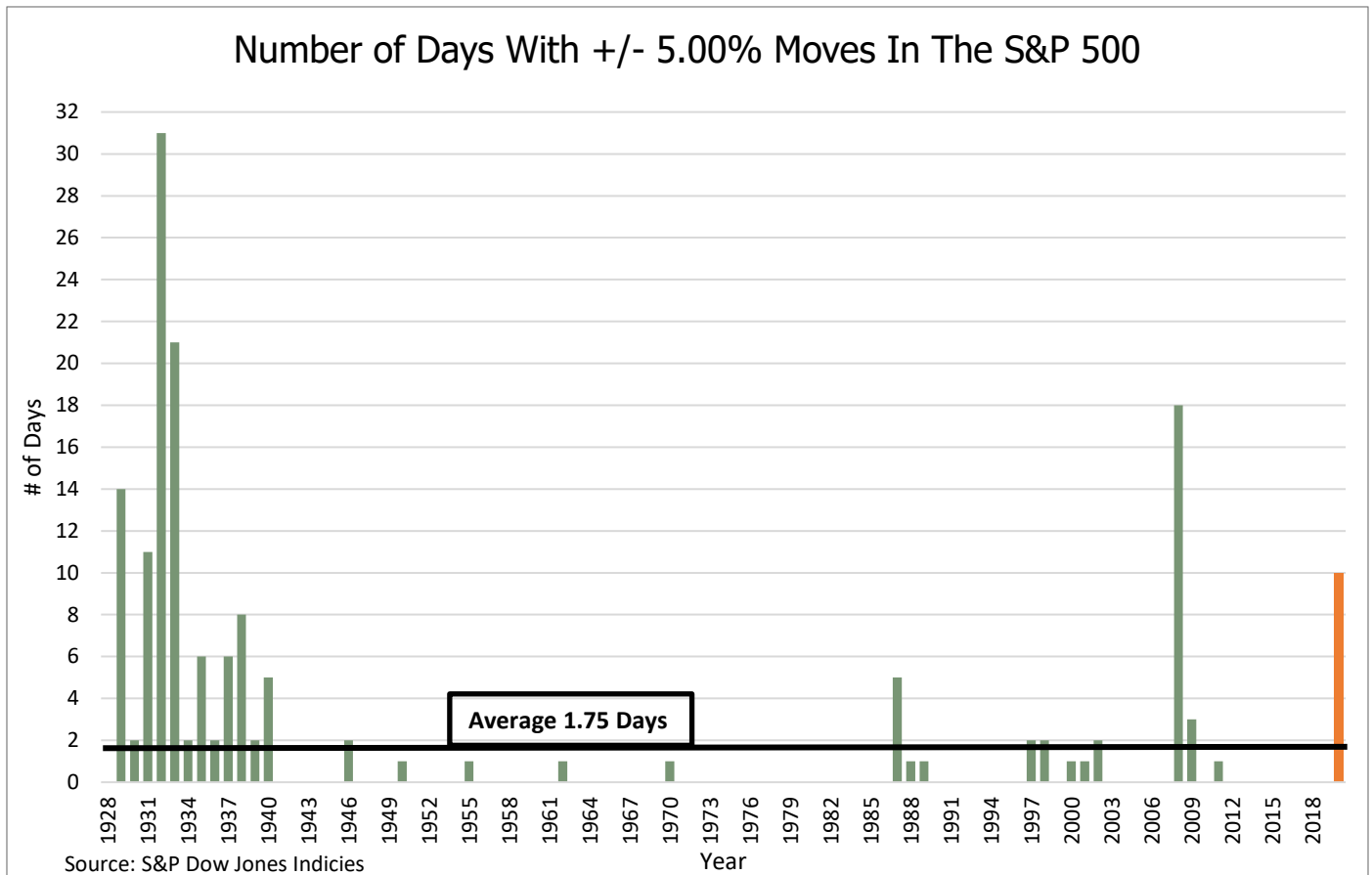
Equity markets have been volatile in 2020. The following charts examine the frequency of volatile events in the S&P 500 index going back to 1928. Year-to-date in 2020 (All data and statistics are as of EOD June 11, 2020) we have been experiencing heightened levels of volatility. If the S&P 500 didn't move up or down 1% or more in a single day for the rest of the year, we would still have experienced an average year for 1% moves and would have exceeded historic averages many times over for 3% and 5% moves. This analysis isn't meant to predict what the future has in store, but to provide a lens to view recent volatility in a historic perspective.



The above chart outlines the frequency of 1% or greater daily moves up or down in the S&P 500. 1% moves in the S&P 500 occur more frequently than most people expect. In the timeframe observed over 24% of trading days or 5,605 days (excludes weekends and days that the markets are closed) resulted in an over 1% move. So far in 2020, we have experienced 61 days, or approximately 54.5% of trading days with 1% or greater swings in the S&P 500.



The above chart outlines the frequency of 3% or greater daily moves up or down in the S&P 500. As you can see moves of 3% or greater are much less common but do still occur with relative frequency. Historically, 3% or greater moves up or down in the S&P 500 occur approximately 2.77% of the time or on average just under 7 times per year over the entire period. Year to date in 2020, we have experienced 26 days in which a 3% or greater move occurred. To put this in a historic perspective, if there wasn't another 3% or greater move in the S&P 500 for the rest of the year we would be in 7th place for most occurrences of such moves going back all of the way back to 1928.



Finally, the above chart examines the occurrence of 5% or greater daily moves up or down in the S&P 500. Daily moves of this magnitude occur infrequently, with the bulk of the days clustered around the years of the Great Depression. Historically, 5% or greater moves up or down in the S&P 500 occur approximately 0.70% of the time or on average approximately 1.75 times per year over the entire period. It is worth noting that because most of the days are clustered around the Great Depression, the average is skewed upward. In recent history we have experienced a much lower frequency of such days. After 1940 there have only been four years with more than two days of 5% or greater moves in the S&P 500. Similar to the frequency of 3% or greater moves, if there wasn't another 5% or greater move in the S&P 500 for the rest of the year we would be in 6th place for most occurrences of such moves going back to 1928.

As you can see, 2020 is shaping up to be a volatile year. While we are in-line with historic averages for 1% or greater moves, we have experienced a significantly above average number of days with 3% and 5% or greater daily moves up or down in the S&P 500.

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