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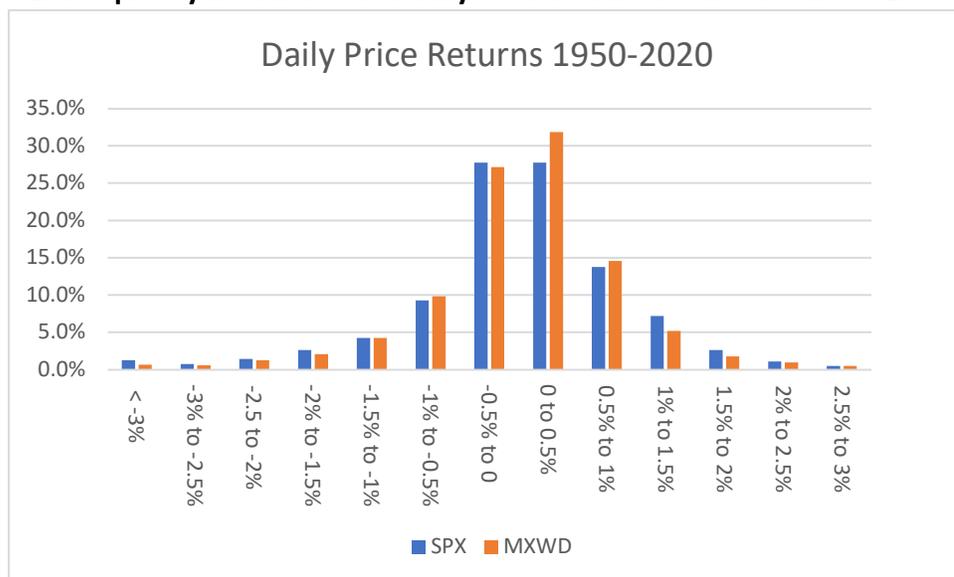
Sir Isaac Newton once said: “What we know is a drop, what we don’t know is an ocean.” Similar reminder to stay humble is spoken by the market on a daily basis. The more we begin to believe in a consensus view, the more likely it will turn out to be wrong. Put simply, when a viewpoint becomes widely accepted, it is already built into the price and the market has moved on.

As the economic gloom of 2020 turns into the boom of 2021, the stock market has well anticipated it and priced in much of the good news. This two-part article will outline a viewpoint on how a long term investor should navigate at this juncture at mid-year. To predict where we may be heading, I will first summarize where we came from.

Basic Statistics of S&P 500 Price Returns

I have compiled some basic statistics of S&P 500 price returns as follows¹. Chart 1 shows the histogram of index daily price returns from January 1950 to December 2020. The frequency of positive return days outpaces negative return days only by a small margin: 53% to 47%. Same calculations for the MSCI index produce almost identical results.

Chart 1: Frequency Distribution of daily stock market returns between 1950-2020



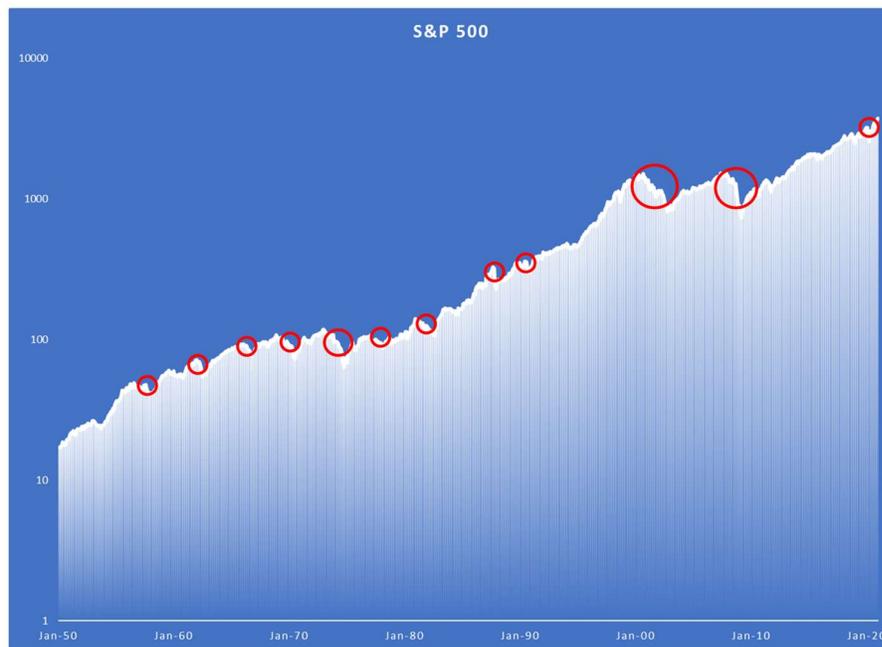
¹ Source: Bloomberg

	SPX	MXWD
Negative Days	47%	45%
Positive Days	53%	55%
Mean	0.05%	0.03%
Std.Dev.	1.08%	0.92%

This simple analysis leaves out dividends to focus on the price movement of the popular stock index. The first conclusion we may draw is that daily prices appear to be mostly noises, with an almost even chance of earning a profit versus making a loss.

Next, we zoom out from daily data to annual time series, shown in Chart 2 below. Over the seven decades, we counted twelve bear markets² (periods circled in red) in which the S&P 500 had declined by more than 20%. Table 1 tabulates those twelve bear markets, which on average occurred about every five years and each correction lasted about one year.

Chart 2: S&P annual closing prices from 1950 to 2020



² Calculation is based on month end prices. If based on intra month highs, the number of bear markets and percentage of declines may be different.

Table 1 Bear markets since 1950

Market Declines Exceeding 20%

Starting	Ending	Duration (mos)	Cumulative Declines*	Months Interval	Main Cause
Aug-56	Dec-57	17	-19.0%	79	Recession
Dec-61	Jun-62	6	-23.5%	49	Flash crash of 1962
Feb-66	Sep-66	8	-17.6%	44	Credit crunch of 1966
Dec-68	Jun-70	19	-32.9%	26	Recession
Jan-73	Sep-74	21	-46.2%	31	Recession, Nixon dollar shock, first oil crisis
Jan-77	Feb-78	14	-20.4%	27	Stagflation
Nov-80	Jul-82	20	-23.8%	33	Recession, Volcker hiked rates to 20%
Aug-87	Nov-87	3	-30.2%	62	Black Monday
Jun-90	Oct-90	5	-15.8%	30	Recession
Aug-00	Sep-02	25	-46.3%	120	Recession, dot com burst
Oct-07	Feb-09	16	-52.6%	62	Recession, subprime crisis
Jan-20	Mar-20	3	-20.0%	132	Coronavirus pandemic
Average		13	-29.0%	5 years	

Table 2 tabulates for 1950-2020 the frequency of losing money if the S&P 500 was held for periods ranging from one year to fourteen years³. The evidence is clear: the stock market rewards for longer term investment horizon. While daily stock movements looked like random walks, when held for one year, the probability of loss declines to one in four. Held for 14 years, the price return was always positive, irrespective of the entry point. Statistically speaking, 10 year returns are significantly skewed to the right (i.e. positive returns), illustrated in Chart 3, as compared to the more balanced bell curve of Chart 1. The probability of losing money over a 10-year holding period is less than 10%, as shown here:

Table 2 Frequency of realizing negative return for various holding periods

Holding Period:	1Y	2Y	3Y	4Y	5Y	6Y	7Y	8Y	9Y	10Y	11Y	12Y	13Y	14Y
Frequency of Negative Returns	25.9%	17.8%	15.9%	16.4%	17.2%	12.3%	8.3%	7.5%	6.8%	8.3%	6.8%	3.4%	0.9%	0.0%

Chart 3: Frequency distribution of 10 year returns, 1950-2020



³ Assuming entry price at month end close. Holding period return is only based on price, excluding dividends.

I would suggest the following takeaways from this analysis:

- Price movement of stocks over very short time horizon mainly reflects noises, conveying very little information content. Trying to guess or interpret daily price changes appears to be a futile effort.
- Investors are rewarded to hold diversified portfolio over longer time horizon.
- When the holding period is longer than ten years, the probability of losing money is negligible, irrespective of the entry point.

Valuation Discipline

The benefit of long term investing does not imply that the timing of entry is irrelevant. On the contrary, price paid is the single most important determinant of the ultimate holding period return. For example, by choosing to enter the market at the peak of a bull market, e.g. 1965 or 1999, the investor would have barely recouped his original investment ten years later. Exercising a degree discipline over when to enter the market should enhance the probability of realizing a more optimal holding period return.

Chart 4 shows the relationship between year-end Price Earnings Ratio between 1954 and 2020 and the subsequent 10 year returns. The inverse correlation relationship underscores the importance of valuation: the higher the price paid, the lower the ultimate return, and vice versa.

Chart 5 below plots S&P 500 annual year end prices since 1954, against the forward 12 year cumulative earnings, on logarithmic scale. The strong correlation shows compelling evidence that over longer horizon, stock prices reflect the companies' future earning power. While stock prices can deviate from the trend line for a few years, the market has always reverted back to the earnings trend line historically.

There are periods such as 1958-1965, 1998-2006, 2018-now, when the stock markets moved significantly above the earnings trend line. The market today is in such bullish cycle again, in which stock prices are pricing in much more optimism than historical earnings trend growth would justify. How to invest in such a market condition will be the focus of the discussion in Part 2.

Chart 4: Historical Relationship between PE ratios at year end and the subsequent 10 year return

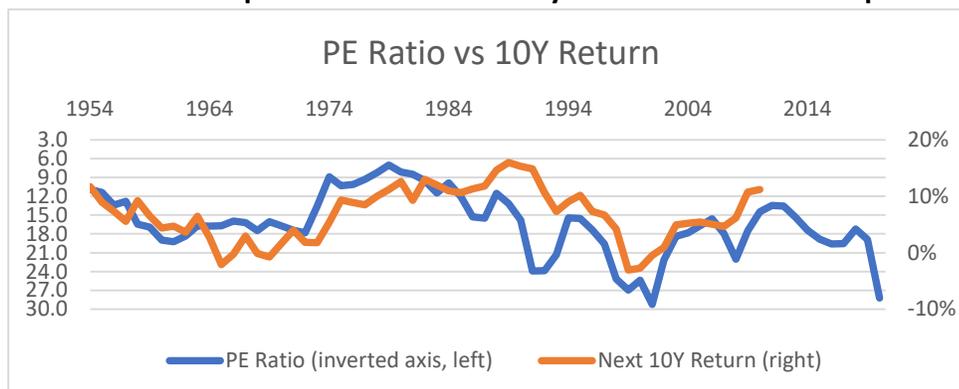
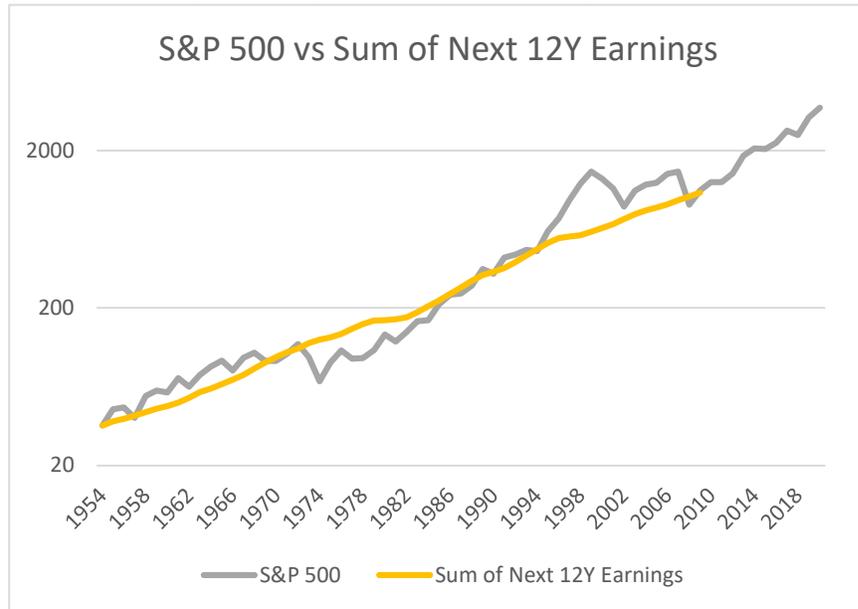


Chart 5: S&P 500 year end prices vs forward 12 year cumulative earnings



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