

S&P 500 Monthly Valuation & Analysis Review

Macro: S&P 500

April 30, 2020

We believe that the chief determinant of future total returns is the relative valuation of the index at the time of purchase. We measure valuation using the Price/*Peak* Earnings multiple as advocated by Dr. John Hussman. We believe the main benefit of using peak earnings is the inherent *conservatism* it affords: not subject to analyst estimates, not subject to the short-term ebbs and flows of business, and not subject to short-term accounting distortions. Annualized total returns can be calculated over a horizon period for given scenarios of multiple expansion or contraction.

Our analysis highlights expansion/contraction to the minimum, mean, average, and maximum multiples (our data-set begins in January 1900). The baseline assumptions for nominal growth and horizon period are 4% and 10 years, respectively. We also provide graphical analysis of how predicted returns compare to actual returns historically.

We provide sensitivity analysis to our baseline assumptions. The first sensitivity table, *ceteris paribus*, shows how future returns are impacted by changing the horizon period. The second sensitivity table, *ceteris paribus*, shows how future returns are impacted by changing the growth assumption.

We also include the following information: duration, over(under)-valuation, inflation adjusted price/10-year real earnings, dividend yield, option-implied volatility, skew, realized volatility, historical relationships between inflation and p/e multiples, and historical relationship between p/e multiples and realized returns.

Our analysis is not intended to forecast the short-term direction of the SP500 Index. The purpose of our analysis is to identify the relative valuation and inherent risk offered by the index currently.

Predicted Returns

April 30, 2020

Predicted Returns: Sensitivity Analysis

April 30, 2020

Time Horizon	Price / Peak Earnings															
	3.0	7.0	9.0	11.0	12.3	12.8	14.0	16.0	18.0	21.0	23.0	25.0	27.0	29.0	31.0	33.5
10	(6.22)	(2.69)	(1.00)	0.51	1.37	1.74	2.47	3.62	4.68	6.10	6.96	7.77	8.52	9.23	9.90	10.68
9	(8.05)	(3.82)	(1.89)	(0.18)	0.79	1.20	2.03	3.33	4.51	6.11	7.07	7.98	8.83	9.62	10.38	11.26
8	(10.29)	(5.21)	(2.99)	(1.04)	0.07	0.54	1.48	2.95	4.30	6.11	7.21	8.24	9.21	10.12	10.98	11.98
7	(13.09)	(6.96)	(4.39)	(2.14)	(0.85)	(0.31)	0.77	2.48	4.03	6.12	7.40	8.59	9.70	10.75	11.75	12.91
6	(16.66)	(9.25)	(6.22)	(3.57)	(2.06)	(1.43)	(0.16)	1.84	3.67	6.14	7.64	9.04	10.36	11.61	12.79	14.17
5	(21.39)	(12.35)	(8.72)	(5.55)	(3.74)	(2.97)	(1.44)	0.96	3.17	6.16	7.98	9.69	11.30	12.82	14.26	15.95
4	(27.94)	(16.79)	(12.34)	(8.43)	(6.19)	(5.25)	(3.34)	(0.34)	2.42	6.19	8.49	10.66	12.71	14.66	16.51	18.67
3	(37.53)	(23.68)	(18.05)	(13.04)	(10.14)	(8.91)	(6.43)	(2.48)	1.19	6.24	9.35	12.31	15.11	17.79	20.35	23.36
2	(52.59)	(35.71)	(28.33)	(21.55)	(17.54)	(15.81)	(12.30)	(6.61)	(1.23)	6.33	11.10	15.67	20.07	24.32	28.43	33.32
1	(77.01)	(61.06)	(51.78)	(42.25)	(36.16)	(33.44)	(27.73)	(17.96)	(8.14)	6.63	16.50	26.39	36.28	46.19	56.10	68.33

Growth Rate	Price / Peak Earnings															
	3.0	7.0	9.0	11.0	12.3	12.8	14.0	16.0	18.0	21.0	23.0	25.0	27.0	29.0	31.0	33.5
0.06	(4.57)	(0.90)	0.84	2.38	3.27	3.64	4.39	5.57	6.65	8.10	8.98	9.80	10.57	11.30	11.98	12.78
0.05	(5.39)	(1.80)	(0.08)	1.45	2.32	2.69	3.43	4.60	5.66	7.10	7.97	8.78	9.55	10.26	10.94	11.73
0.04	(6.22)	(2.69)	(1.00)	0.51	1.37	1.74	2.47	3.62	4.68	6.10	6.96	7.77	8.52	9.23	9.90	10.68
0.03	(7.04)	(3.59)	(1.92)	(0.43)	0.43	0.79	1.51	2.65	3.69	5.10	5.95	6.75	7.49	8.20	8.86	9.63
0.02	(7.86)	(4.49)	(2.84)	(1.37)	(0.52)	(0.17)	0.55	1.68	2.71	4.10	4.94	5.73	6.47	7.16	7.82	8.59
0.01	(8.68)	(5.38)	(3.76)	(2.31)	(1.47)	(1.12)	(0.41)	0.70	1.72	3.10	3.93	4.71	5.44	6.13	6.78	7.54

Valuation Date	4/30/2020
Current Price / Peak Earnings	20.9
Growth Rate	0.04
Time Horizon (Years)	10
Current Dividend Yield	0.0205

Price to Peak Earnings

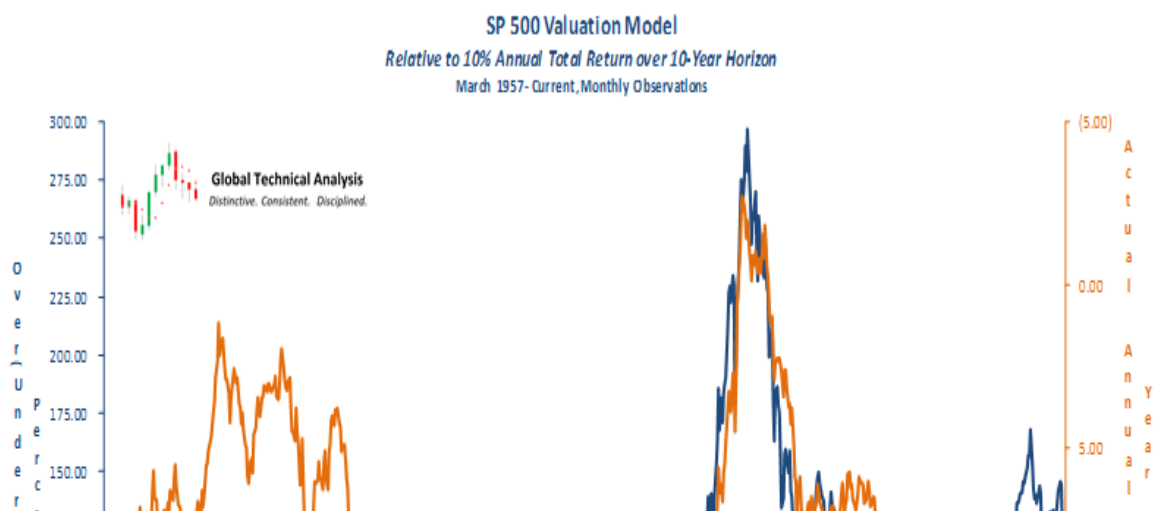
April 30, 2020

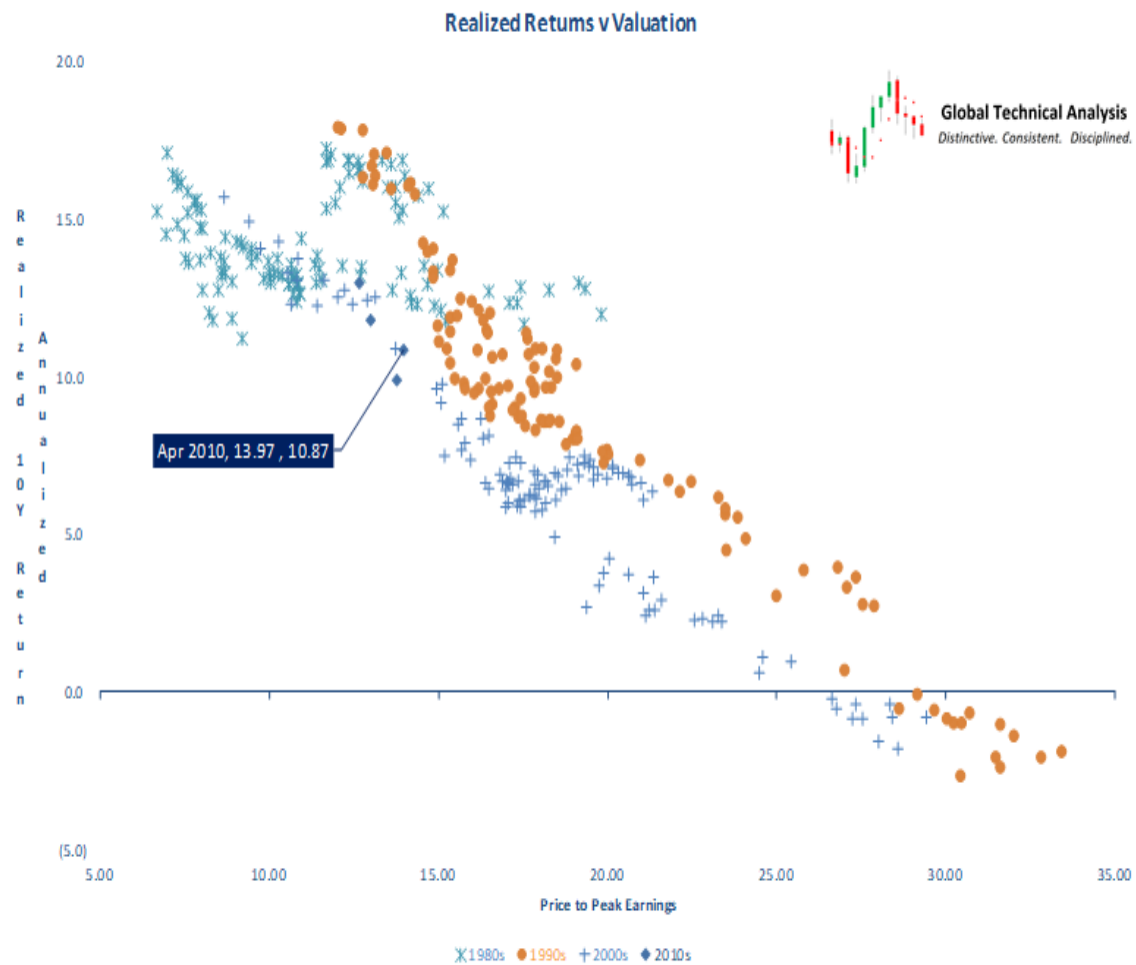




As of 04/30/2020: Duration 48.9 years

In the case of equities, *duration measures the percentage change in stock prices in response to a 1% change in the long-term return that stocks are priced to deliver.* So we have a basic financial planning concept. If a buy-and-hold investor with no particular view about market conditions or future returns wishes to have a fairly predictable amount of wealth at some future date, that investor should hold a portfolio with a duration that is roughly equal to the investment horizon. (Excerpted from Dr. John Hussman)

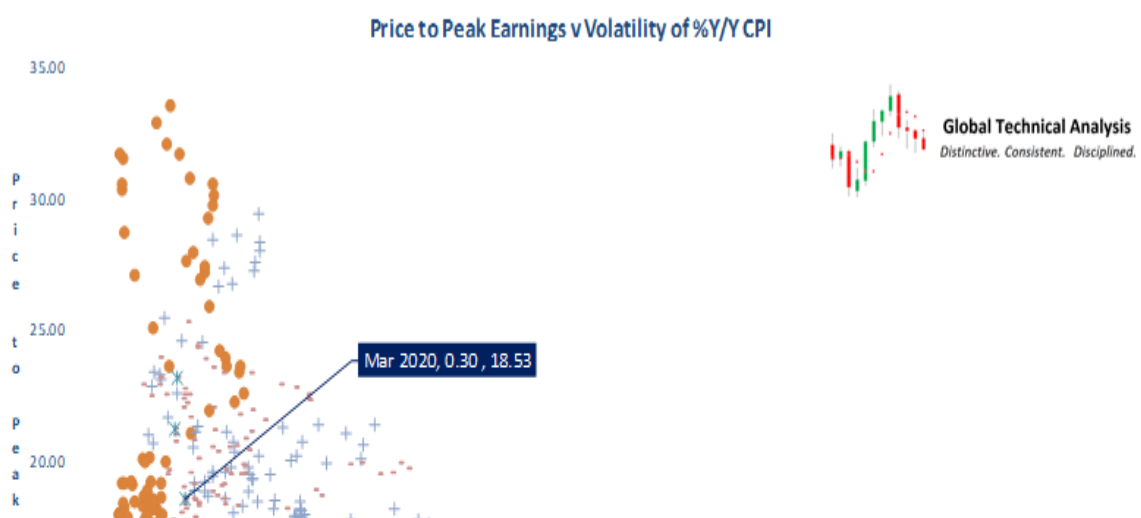


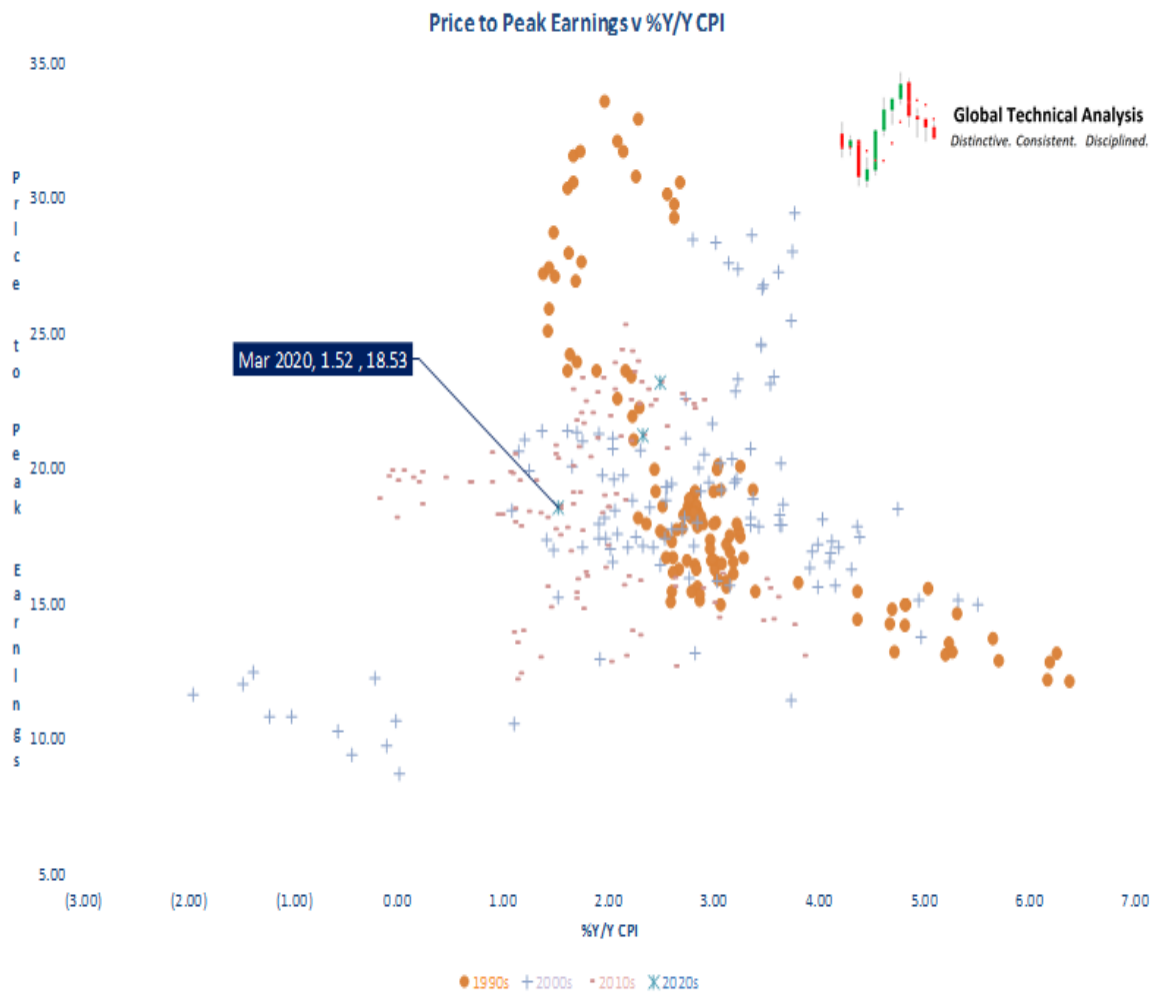


Lower valuations are rewarded with *higher* realized returns.

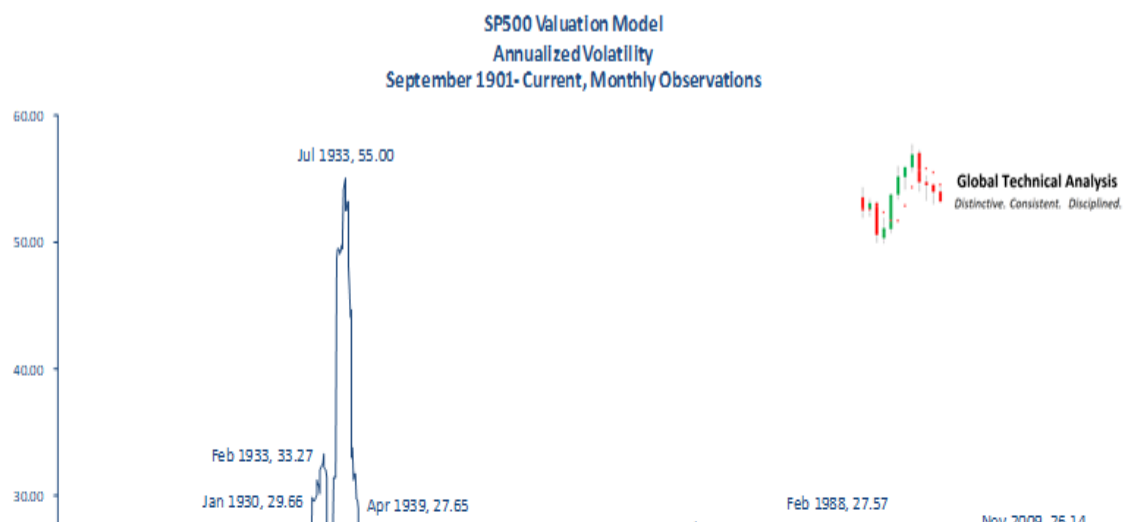
Higher valuations are punished with *lower* realized returns.

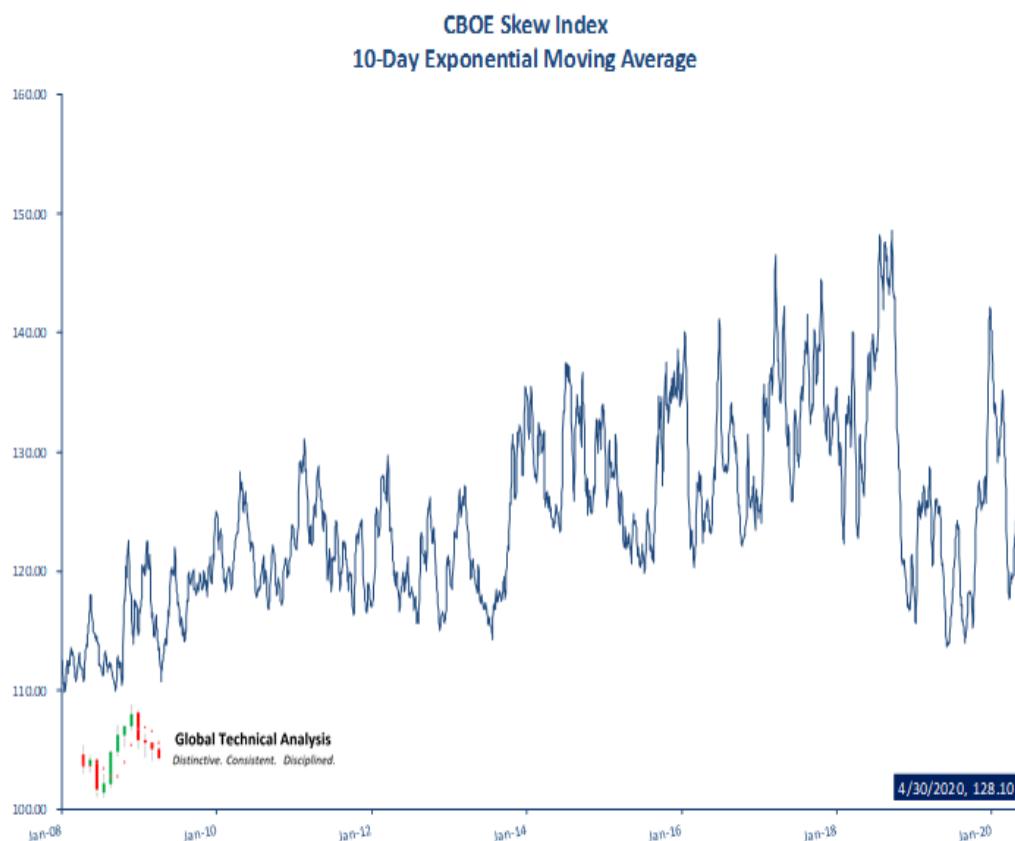
As of 04/30/2020: Price to Peak Earnings 20.9x Average: 12.8x





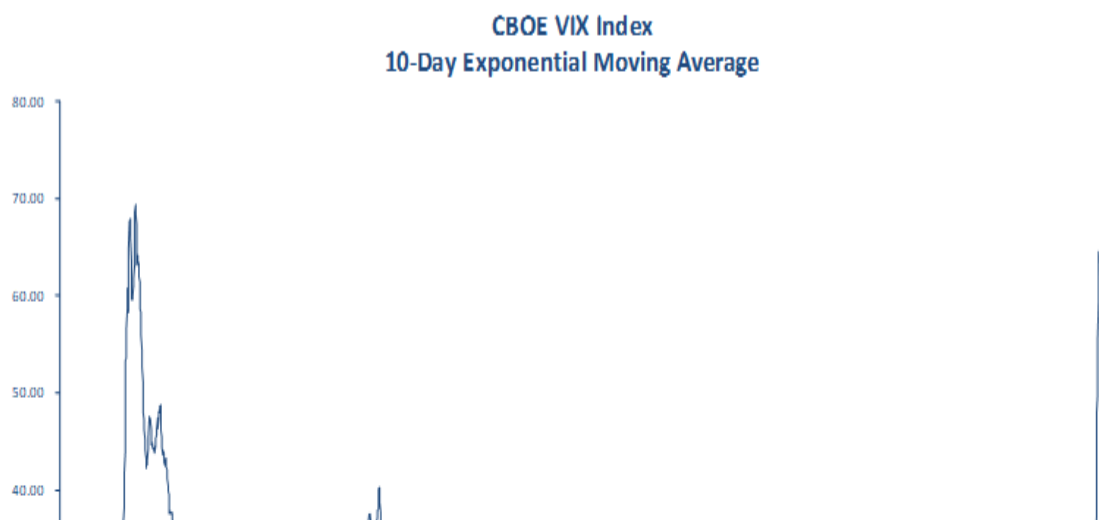
Lower levels of inflation are rewarded with *higher* earnings multiples.
Higher levels of inflation are punished with *lower* earnings multiples.





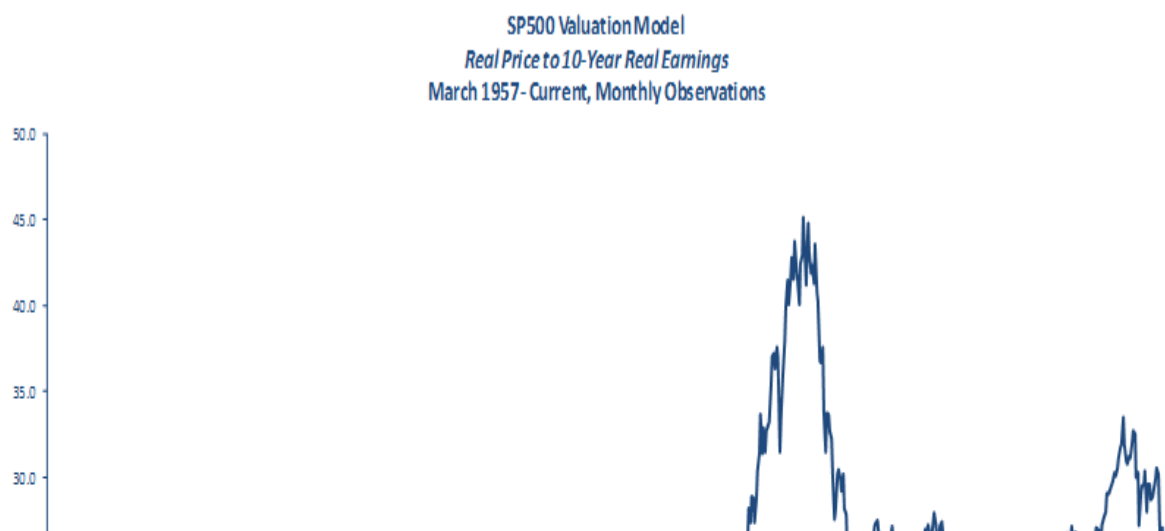
The CBOE SKEW Index ("SKEW") is an index derived from the price of S&P 500 tail risk. The price of S&P 500 tail risk is calculated from the prices of S&P 500 out-of-the-money options. SKEW typically ranges from 100 to 150. A SKEW value of 100 means that the perceived distribution of S&P 500 log-returns is normal, and the probability of outlier returns is therefore negligible. As SKEW rises above 100, the left tail of the S&P 500 distribution acquires more weight, and the probabilities of outlier returns become more significant.

As of 04/30/2020: 10-Day EMA 128.10





As of 04/30/2020: Dividend Yield 2.05%



J. Brett Freeze, CFA, founder of Global Technical Analysis. Each month Brett will provide you their valuable S&P 500 Valuation Chart Book. This unique analysis provides an invaluable long term perspective of equity valuations. If you are interested in learning more about their services, please [connect with them.](#)