2019 CRESTMONT RESEARCH STOCK MARKET MATRIX

TAX-EXEMPT INVESTOR
NOMINAL RETURNS

Nominal Returns (not inflation adjusted), including dividends (reinvested), transaction costs, and taxes deferred

COMPONENTS	
Index	Included
Dividends	Included (Reinvested)
Transaction Costs	Included
Taxes	Not Included (Deferred)
Inflation	Nominal (Not Inflation Adjusted)

Matrix, TO years 1900–1936 (rows: FROM year; first two rows: "TO" year P/E Ratio and index, 1899 = 1)

Yr: 19	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
TO (P/E)	19	23	22	18	16	19	19	13	13	15	14	14	14	12	11	11	12	9	6	7	5	5	8	8	8	10	12	16	22	28	21	15	8	11	12	13	19
(1899=1)	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	3	3	3	4	5	6	8	11	9	6	3	4	5	5	8
1900		30	19	8	6	10	10	6	5	8	7	6	6	5	5	5	6	5	4	5	5	4	5	5	5	6	6	7	8	8	8	6	4	4	5	5	6
1901			9	-2	-1	6	6	2	2	5	5	4	4	3	3	3	4	4	3	4	3	3	4	4	4	5	5	6	7	8	7	5	3	4	4	4	5
1902				-12	-6	4	6	1	1	5	4	4	4	3	2	3	4	3	3	4	3	2	3	4	4	5	5	6	7	8	7	5	3	4	4	4	5
1903					0	14	12	5	4	8	6	6	6	4	4	4	5	4	4	5	4	3	4	4	5	6	6	7	8	9	7	6	3	4	4	5	6
1904						30	19	6	5	9	8	7	7	5	4	4	5	5	4	5	4	3	5	5	5	6	6	7	8	9	8	6	3	4	5	5	6
1905							9	-4	-2	5	4	3	4	2	2	2	4	3	2	3	3	2	3	3	4	5	5	6	7	8	7	5	3	3	4	4	5
1906								-16	-7	3	2	2	3	1	1	1	3	2	1	3	2	1	3	3	3	5	5	6	7	8	7	5	2	3	4	4	5
1907									2	14	9	7	7	4	3	4	5	4	3	5	4	3	4	4	5	6	6	7	8	9	8	6	3	4	4	5	6
1908										28	13	9	8	5	3	4	6	4	3	5	4	3	4	4	5	6	7	7	9	10	8	6	3	4	4	5	6
1909											-1	0	2	0	-1	0	3	2	1	3	2	1	3	3	3	5	5	6	8	9	7	5	2	3	4	4	5
1910												2	4	0	-1	1	3	2	1	3	2	1	3	3	4	5	6	7	8	9	8	5	2	3	4	4	6
1911													6	-1	-2	0	4	2	1	3	2	1	3	3	4	5	6	7	9	10	8	6	2	4	4	4	6
1912														-8	-6	-1	3	2	0	3	2	0	3	3	4	5	6	7	9	10	8	6	2	3	4	4	6
1913															-4	2	7	4	2	5	3	1	4	4	5	6	7	8	10	11	9	6	3	4	4	5	6
1914																8	13	7	3	7	4	2	5	5	6	7	8	9	11	12	10	7	3	4	5	5	7
1915																	18	6	2	6	4	1	5	5	5	7	8	10	11	13	10	7	3	4	5	5	7
1916																		-5	-6	2	0	-2	3	3	4	6	7	9	11	12	10	6	2	3	4	4	6
1917																			-6	6	2	-1	4	5	5	8	9	10	12	14	11	7	2	4	4	5	7
1918																				21	7	1	7	7	7	10	11	12	14	16	13	8	3	5	5	5	8
1919																					-5	-8	3	4	5	8	9	11	14	15	12	7	2	4	4	5	7
1920																						-10	7	7	7	11	12	14	16	18	14	8	2	4	5	5	8
1921																							27	16	14	17	17	18	20	22	17	11	3	6	6	6	9
1922																								6	8	14	15	17	19	21	15	9	1	4	5	5	8
1923																									10	18	18	20	22	24	17	9	1	4	4	5	8
1924																										27	22	23	25	27	18	9	0	3	4	4	8
1925																											17	21	25	27	16	6	-4	0	2	2	6
1926																												25	29	30	16	4	-7	-2	0	1	5
1927																													33	33	13	0	-12	-6	-3	-2	3
1928																														33	5	-9	-21	-12	-8	-6	0
1929																															-17	-25	-33	-21	-15	-11	-4
1930																																-33	-40	-22	-14	-10	-2
1931																																	-47	-16	-7	-3	6
1932																																		33	22	18	25
1933																																			13	11	23
1934																																				10	28
1935																																					50

Matrix, TO years 1937–1985

Yr: 19	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
TO (P/E)	18	14	16	15	12	9	11	11	13	14	11	11	10	11	12	12	12	14	18	18	16	15	18	17	20	19	20	23	23	21	22	21	19	15	17	18	16	11	10	12	10	9	9	9	8	7	10	9	11
(1899=1)	8	6	7	6	6	5	7	8	10	12	11	12	12	15	19	22	23	29	40	47	45	48	60	60	71	68	77	91	99	97	106	115	115	100	119	133	133	105	111	135	134	136	151	181	202	197	271	280	335
1900	6	5	5	5	4	4	5	5	5	6	5	5	5	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	6	7	7	6	7	7	7	7	7	7	7
1901	5	4	4	4	4	4	4	4	5	5	5	5	5	5	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	7	7	7	6	6	6	6	6	6	6	7	6	7	7	7
1902	5	4	4	4	4	3	4	4	5	5	5	5	5	5	5	6	6	6	6	7	6	6	7	7	7	7	7	7	7	7	7	7	7	6	7	7	7	6	6	6	6	6	6	6	6	6	7	7	7
1903	6	5	5	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	6	7	7	6	7	7	7	7	7	7	7
1904	6	5	5	5	4	4	5	5	5	6	5	5	5	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
1905	5	4	4	4	4	3	4	4	5	5	5	5	5	5	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	6	6	6	6	6	6	7	6	7	7	7
1906	5	4	4	4	3	3	4	4	5	5	5	5	5	5	5	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	7	7	7	6	6	6	6	6	6	6	7	6	7	7	7
1907	6	5	5	4	4	4	5	5	5	5	5	5	5	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
1908	6	5	5	5	4	4	5	5	5	6	5	5	5	6	6	6	6	7	7	7	7	7	7	7	8	7	7	8	8	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
1909	5	4	4	4	4	3	4	4	5	5	5	5	5	5	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	6	7	6	6	6	7	7	7	7	7	7
1910	5	4	4	4	4	3	4	4	5	5	5	5	5	5	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	6	7	7	6	7	7	7	7	7	7	7
1911	6	4	4	4	4	3	4	4	5	5	5	5	5	5	6	6	6	6	7	7	7	7	7	7	7	7	7	7	8	7	7	7	7	7	7	7	7	7	6	7	7	7	7	7	7	7	7	7	7
1912	6	4	4	4	4	3	4	4	5	5	5	5	5	5	6	6	6	6	7	7	7	7	7	7	7	7	7	8	8	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
1913	6	5	5	4	4	4	5	5	5	6	5	5	5	6	6	6	6	7	7	8	7	7	8	8	8	8	8	8	8	8	8	8	8	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
1914	7	5	5	5	4	4	5	5	6	6	6	6	5	6	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	8	8	7	7	7	7	7	7	7	7	7	7	7	7	8
1915	6	5	5	5	4	4	5	5	6	6	5	5	5	6	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	8	8	7	7	7	7	7	7	7	7	7	7	7	7	8
1916	6	4	5	4	4	3	4	5	5	6	5	5	5	6	6	6	6	7	7	8	7	7	8	8	8	8	8	8	8	8	8	8	8	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
1917	7	5	5	5	4	4	5	5	6	6	5	5	5	6	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	8	8	8	7	7	7	7	7	7	7	7	7	8	7	8
1918	7	5	6	5	5	4	5	5	6	6	6	6	6	6	7	7	7	8	8	8	8	8	9	8	9	8	8	9	9	8	8	8	8	8	8	8	8	7	7	7	7	7	7	7	7	7	8	8	8
1919	7	5	5	4	4	3	5	5	6	6	5	5	5	6	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	8	8	8	7	7	7	7	7	7	7	7	7	8	7	8
1920	7	5	5	5	4	4	5	5	6	6	6	6	6	6	7	7	7	8	8	9	8	8	9	8	9	8	8	9	9	8	8	8	8	8	8	8	8	7	7	7	7	7	7	7	8	7	8	8	8
1921	8	6	6	6	5	4	6	6	7	7	6	6	6	7	8	8	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
1922	7	5	5	5	4	3	5	5	6	6	6	6	6	6	7	7	7	8	8	9	8	8	9	8	9	8	8	9	9	8	8	8	8	8	8	8	8	7	7	7	7	7	7	7	8	7	8	8	8
1923	7	5	5	5	4	3	5	5	6	6	6	6	6	6	7	7	7	8	8	9	8	8	9	8	9	8	8	9	9	8	8	8	8	8	8	8	8	7	7	7	7	7	7	7	8	7	8	8	8
1924	7	5	5	4	4	3	4	5	6	6	5	5	5	6	7	7	7	8	8	9	8	8	9	8	9	8	8	9	9	8	8	8	8	8	8	8	8	7	7	7	7	7	7	7	8	7	8	8	8
1925	6	3	3	3	2	2	3	4	5	5	5	5	5	5	6	6	6	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	8	8	7	7	7	7	7	7	7	7	7	7	7	7	8
1926	5	2	3	2	1	1	3	3	4	5	4	4	4	5	6	6	6	7	8	8	8	7	8	8	8	8	8	8	8	8	8	8	8	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
1927	3	0	1	0	0	-1	1	2	3	4	3	3	3	4	5	5	5	6	7	7	7	7	7	7	8	7	7	8	8	7	7	7	7	7	7	7	7	6	6	7	6	6	6	7	7	7	7	7	7
1928	0	-3	-2	-2	-2	-3	0	0	2	2	2	2	2	3	4	4	4	5	6	6	6	6	7	6	7	6	7	7	7	7	7	7	7	6	6	7	6	6	6	6	6	6	6	6	6	6	7	7	7
1929	-3	-6	-5	-5	-5	-5	-2	-2	0	1	0	0	1	2	3	3	3	4	5	6	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	6	5	5	5	6	6	6	6	6	6
1930	-1	-4	-3	-3	-4	-4	-1	0	1	2	1	2	2	3	4	4	4	5	6	7	6	6	7	7	7	7	7	7	7	7	7	7	7	6	7	7	7	6	6	6	6	6	6	6	6	6	7	7	7
1931	5	0	1	1	0	-1	2	3	4	5	4	4	4	5	6	6	6	7	8	9	8	8	9	8	9	8	8	9	9	8	8	8	8	7	8	8	8	7	7	7	7	7	7	7	7	7	8	8	8
1932	20	12	11	9	7	6	8	8	10	10	9	8	8	9	10	10	10	11	12	12	11	11	12	11	11	11	11	11	11	11	11	10	10	9	10	10	10	9	9	9	9	9	9	9	9	9	9	9	9
1933	18	8	8	6	4	3	6	6	8	8	7	7	7	8	9	9	9	10	11	11	10	10	11	10	11	10	10	10	10	10	10	10	10	9	9	9	9	8	8	8	8	8	8	8	8	8	9	9	9
1934	19	7	7	5	3	2	5	6	7	8	7	7	6	8	9	9	9	9	11	11	10	10	11	10	11	10	10	10	10	10	10	10	10	9	9	9	9	8	8	8	8	8	8	8	8	8	9	8	9
1935	24	5	6	4	2	1	5	5	7	8	6	6	6	7	9	9	9	9	11	11	10	10	11	10	11	10	10	10	10	10	10	10	10	9	9	9	9	8	8	8	8	8	8	8	8	8	9	8	9
1936	3	-11	-5	-5	-5	-6	-1	1	3	4	3	3	3	5	6	7	7	7	9	9	9	9	9	9	9	9	9	9	9	9	9	9	8	8	8	8	8	7	7	7	7	7	7	7	7	7	8	8	8
1937		-24	-9	-8	-7	-7	-1	1	3	4	3	3	3	5	7	7	7	8	9	10	9	9	10	9	10	9	9	9	9	9	9	9	9	8	8	8	8	7	7	7	7	7	7	8	8	7	8	8	8
1938			8	1	-1	-3	4	5	8	9	7	7	6	8	9	10	9	10	12	12	11	11	11	11	11	11	11	11	11	10	10	10	10	9	9	9	9	8	8	8	8	8	8	8	8	8	9	9	9
1939				-5	-6	-6	3	5	8	9	6	6	6	8	9	10	9	10	12	12	11	11	12	11	11	11	11	11	11	10	10	10	10	9	9	10	9	8	8	8	8	8	8	8	8	8	9	9	9
1940					-6	-7	6	7	10	11	8	8	7	9	11	11	11	11	13	13	12	12	13	12	12	11	11	12	12	11	11	11	11	10	10	10	10	9	9	9	9	8	8	9	9	9	9	9	9
1941						-8	12	12	15	15	11	10	9	11	13	13	12	13	15	15	14	13	14	13	13	12	12	13	12	12	12	12	11	10	11	11	10	9	9	9	9	9	9	9	9	9	10	9	10
1942							37	24	24	22	15	13	12	14	15	15	14	15	17	17	15	15	15	14	14	13	13	14	13	13	13	12	12	11	11	11	11	10	10	10	10	9	9	10	10	9	10	10	10
1943								12	18	17	10	9	8	11	13	13	12	13	15	15	14	13	14	13	13	12	12	13	12	12	12	12	11	10	10	10	10	9	9	9	9	9	9	9	9	9	9	9	9
1944									24	20	10	9	8	11	13	13	12	13	15	15	14	13	14	13	13	12	12	13	13	12	12	12	11	10	10	10	10	9	9	9	9	9	9	9	9	9	9	9	9
1945										15	3	4	4	8	11	11	11	12	14	15	13	13	13	12	13	12	12	12	12	11	11	11	11	9	10	10	10	8	8	9	8	8	8	9	9	8	9	9	9
1946											-8	-1	0	7	10	11	10	12	14	15	13	12	13	12	13	11	12	12	12	11	11	11	10	9	10	10	9	8	8	8	8	8	8	8	8	8	9	9	9
1947												6	5	12	15	15	13	15	18	17	15	14	15	14	14	13	13	13	13	12	12	12	11	10	10	11	10	9	9	9	9	8	9	9	9	9	9	9	9
1948													3	15	19	17	15	16	19	19	16	15	16	15	15	13	13	14	13	13	12	12	12	10	11	11	10	9	9	9	9	9	9	9	9	9	9	9	9
1949														28	27	22	18	19	22	21	18	17	17	16	16	14	14	14	14	13	13	13	12	11	11	11	11	9	9	9	9	9	9	9	9	9	10	9	10
1950															26	20	15	17	21	20	17	15	16	14	15	13	13	14	13	12	12	12	11	10	10	10	10	8	8	9	8	8	8	9	9	8	9	9	9
1951																14	9	14	20	19	15	14	15	13	14	12	12	13	12	11	11	11	10	9	9	10	9	8	8	8	8	7	8	8	8	8	9	8	9
1952																	5	14	22	21	15	14	15	13	14	12	12	12	12	11	11	11	10	9	9	9	9	7	7	8	7	7	7	8	8	8	8	8	9
1953																		24	31	26	18	16	17	14	15	13	13	13	13	12	11	11	11	9	10	10	9	7	7	8	8	7	7	8	8	8	9	8	9
1954																			39	28	16	14	16	13	14	11	12	12	12	11	11	10	10	8	9	9	8	7	7	7	7	7	7	7	7	7	8	8	8
1955																				17	7	6	11	8	10	8	9	10	10	8	8	8	8	6	7	7	7	5	5	6	6	5	6	6	6	6	7	7	7
1956																					-3	1	9	6	9	6	7	9	9	8	8	8	7	6	6	7	6	5	5	5	5	5	5	6	6	6	7	7	7
1957																						6	15	9	12	8	9	10	10	9	9	9	8	6	7	7	7	5	5	6	6	5	6	6	6	6	7	7	7
1958																							26	11	14	9	10	11	11	9	9	9	8	6	7	8	7	5	5	6	6	5	6	6	6	6	7	7	7
1959																								-1	9	4	6	9	9	7	7	7	7	5	6	6	6	4	4	5	5	4	5	5	6	5	6	6	7
1960																									20	7	9	11	11	9	9	9	8	5	7	7	6	4	4	5	5	5	5	6	6	6	7	7	7
1961																										-5	4	8	9	6	7	7	6	4	5	6	5	3	3	4	4	4	4	5	5	5	6	6	7
1962																											13	16	13	9	9	9	8	5	6	7	6	4	4	5	5	4	5	6	6	5	7	7	7
1963																												18	13	8	8	8	7	4	6	6	6	3	3	4	4	4	4	5	5	5	6	6	7
1964																													9	4	5	6	5	2	4	5	4	1	2	3	3	3	3	4	5	4	6	6	6
1965																														-2	3	5	4	0	3	4	4	1	1	3	3	2	3	4	5	4	6	6	6
1966																															9	9	6	1	4	5	5	1	2	3	3	3	3	5	5	5	6	6	7
1967																																8	4	-2	3	5	4	0	1	3	2	2	3	4	5	4	6	6	7
1968																																	1	-7	1	4	3	-2	0	2	2	2	3	4	4	4	6	6	6
1969																																		-14	2	5	4	-2	-1	2	2	2	3	4	5	4	6	6	7
1970																																			19	16	10	1	2	5	4	4	5	6	7	6	8	8	8
1971																																				12	6	-4	-2	3	2	2	3	5	5	5	7	7	8
1972																																					0	-11	-6	0	0	0	2	4	5	4	7	6	7
1973																																						-21	-8	1	0	0	2	5	5	4	7	7	8
1974																																							6	14	9	7	8	10	10	8	11	10	11
1975																																								21	10	7	8	10	10	8	12	11	12
1976																																									-1	0	4	8	8	6	10	10	11
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1978																																											11	15	14	10	15	13	14
1979																																												19	16	9	16	13	14
1980																																													12	4	14	12	13
1981																																														-3	16	11	13
1982																																															38	19	19
1983																																																3	11
1984																																																	20

Matrix, TO years 1986–2019

Yr: 19	86	87	88	89	90	91	92	93	94	95	96	97	98	99	2000	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19
TO (P/E)	13	16	14	17	16	18	20	21	20	23	26	31	36	42	42	32	26	24	26	26	26	27	21	17	21	22	21	23	25	26	26	30	31	29
(1899=1)	432	532	503	623	658	753	844	928	958	1139	1419	1854	2303	2809	3024	2538	2125	2080	2453	2641	2892	3288	2751	2166	2630	2956	3257	3924	4658	5024	5165	6098	6902	7432
1900	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	7	7	7	8	8	8	8	8	8	8
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1918	8	8	8	8	8	8	8	8	8	9	9	9	9	9	9	9	9	8	9	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8
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1986		23	8	13	11	12	12	12	10	11	13	14	15	15	15	13	10	10	10	10	10	10	9	7	8	8	8	9	9	9	9	9	9	9
1987			-5	8	7	9	10	10	9	10	12	13	14	15	14	12	10	9	9	9	9	10	8	7	7	7	8	8	8	8	8	8	9	9
1988				24	14	14	14	13	11	12	14	16	16	17	16	13	11	10	10	10	10	10	9	7	8	8	8	9	9	9	9	9	9	9
1989					6	10	11	10	9	11	12	15	16	16	15	12	10	9	10	9	9	10	8	6	7	7	7	8	8	8	8	8	9	9
1990						14	13	12	10	12	14	16	17	17	16	13	10	9	10	10	10	10	8	6	7	7	8	8	8	8	8	9	9	9
1991							12	11	8	11	14	16	17	18	17	13	10	9	10	9	9	10	8	6	7	7	7	8	8	8	8	8	9	9
1992								10	7	11	14	17	18	19	17	13	10	9	9	9	9	9	8	6	7	7	7	8	8	8	8	8	8	8
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1994										19	22	25	25	24	21	15	10	9	10	10	10	10	8	6	7	7	7	8	8	8	8	8	9	9
1995											25	28	26	25	22	14	9	8	9	9	9	9	7	5	6	6	6	7	8	8	7	8	8	8
1996												31	27	26	21	12	7	6	7	7	7	8	6	3	5	5	5	6	7	7	7	7	7	7
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1999															8	-5	-9	-7	-3	-1	0	2	0	-3	-1	0	1	2	3	4	4	4	5	5
2000																-16	-16	-12	-5	-3	-1	1	-1	-4	-1	0	1	2	3	3	3	4	5	5
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2002																		-2	7	8	8	9	4	0	3	4	4	6	7	7	7	7	8	8
2003																			18	13	12	12	6	1	3	4	5	7	8	8	7	8	8	8
2004																				8	9	10	3	-2	1	3	4	5	7	7	6	7	8	8
2005																					10	12	1	-5	0	2	3	5	7	7	6	7	8	8
2006																						14	-2	-9	-2	0	2	4	6	6	6	7	8	8
2007																							-16	-19	-7	-3	0	3	5	5	5	6	7	7
2008																								-21	-2	2	4	7	9	9	8	9	10	9
2009																									21	17	15	16	17	15	13	14	14	13
2010																										12	11	14	15	14	12	13	13	12
2011																											10	15	16	14	12	13	13	12
2012																												20	20	16	12	13	13	13
2013																													19	13	10	12	12	11
2014																														8	5	9	10	10
2015																															3	10	11	10
2016																																18	16	13
2017																																	13	10
2018																																		8

FROM years: P/E, index (1899=1) and events

FROM	P/E	1899=1	Event
1900	18.6	1	Rodin Completes 'The Thinker'
1901	22.7	1	First Electric Typewriter
1902	22.0	1	Navy Installs Radio
1903	17.6	1	Wright Bros Fly
1904	16.3	1	Crayola & Jell-O
1905	19.3	2	Pen Gets Pocket Clip
1906	18.7	2	S.F. Earthquake
1907	13.4	2	Photocopier Marketed
1908	13.1	2	Model T Introduced
1909	14.9	2	Chlorine In Drinking Water
1910	13.5	2	Electric Range Invented
1911	14.2	2	Sherman Anti-Trust Act; Airmail Begins
1912	13.7	2	Titanic Sinks; U.S. Radio Act
1913	11.9	2	Income Tax & Federal Reserve
1914	11.1	2	WWI Starts; First Transcon. Phone Call
1915	11.5	2	Americans Avg 40 Phone Calls A Year
1916	12.0	2	Keds & Electric Clock Invented
1917	8.8	2	US Enters WWI; Einstein Theorizes Lasers
1918	6.4	2	WWI Ends
1919	6.5	3	Prohibition; Shortwave Radio; Dial Phones
1920	5.3	2	Women's Right To Vote
1921	5.4	2	World Series On Radio; Quartz Crystals
1922	7.5	3	100,000 Radios Made In U.S.; 3 Frequencies
1923	7.9	3	500,000 Radios Made; Neon Signs
1924	8.4	3	2.5 Million Radios Made; Frozen Food Invented
1925	10.1	4	Commercial Picture Fax By Radio In U.S.
1926	11.7	5	First Publicly Shown 'Talkie'
1927	15.9	6	2-Way Radio Phone: U.S. To London ($15/min)
1928	21.8	8	Teletype Machine; Test TV In 3 Homes
1929	27.6	11	Crash of '29; Car Radio
1930	21.5	9	Photo Flash Bulbs
1931	14.7	6	Radios In 40% Of Homes; Scotch Tape
1932	8.1	3	Radar; 8 mm Cameras; Electric Eye Scanner
1933	11.1	4	End of Prohibition; FM Radio; Wallboard
1934	12.2	5	Radios In 50% Of Homes; AP Wirephoto
1935	13.1	5	Social Security Act Passed
1936	19.3	8	BBC First TV Service, 3 Hours A Day
1937	18.5	8	Hindenburg Airship Crash
1938	13.9	6	National Minimum Wage Enacted
1939	15.6	7	WW II Begins; Regular TV In U.S.; Helicopter
1940	14.7	6	FM Radio; Radar; 1st Social Security Check
1941	12.2	6	Pearl Harbor Attack; 2-Way Police Radio
1942	9.2	5	U.S. Office Of Censorship Due To War
1943	11.0	7	Phone Line Repeaters Help Service
1944	11.3	8	D-Day, Normandy
1945	13.3	10	World War II Ends; FCC Sets VHF Channels
1946	14.0	12	ENIAC, 1st Computer; First Copy Machine Sold
1947	11.2	11	Transistor Invented; Microwave Oven
1948	10.7	12	Israel Established; RCA High Speed Fax
1949	9.9	12	NATO Established; Network TV In U.S.
1950	11.2	15	Korean War Begins; Credit Card Created
1951	12.0	19	Color TV; Modern Plastic Invented
1952	12.5	22	Phone Area Codes; EDVAC Computer
1953	12.0	23	Korean War Ends; Magnetic Core Memory
1954	13.7	29	TVs In 54% Of Homes; Transistor Radios
1955	17.5	40	Tests Begin On Digital Fiber Optics
1956	18.3	47	Transatlantic Phone Cable; The Pager
1957	15.6	45	Sputnik, First Satellite; EEC Formed
1958	15.1	48	Stereo LP Records; Data On Phone Lines
1959	18.4	60	COBOL; Microchip; Plain Paper Xerox
1960	17.4	60	90% Homes w/TVs; Laser; Weather Satellite
1961	20.5	71	Berlin Wall Built; IBM Selectric Typewriter
1962	18.8	68	Cuban Missile Crisis; Mariner II At Venus
1963	20.3	77	Kennedy Killed, Income Tax 91% To 70%
1964	22.6	91	Vietnam Begins; Home VCR
1965	23.3	99	First Minicomputer; Car Phones; Hypertext
1966	21.3	97	Dow @ 1,000; 8-Tracks In Cars; Fax Machine
1967	21.6	106	Floppy Disk; Cordless Phones; Dolby
1968	21.5	115	Intelsat Global Satellite Link; Intel 1KB RAM
1969	19.4	115	Neil Armstrong Walks On Moon; ATMs
1970	15.2	100	Barcodes; First Internet Connections
1971	16.9	119	Microchip, Price Controls; Answering Machine
1972	17.8	133	Dow Closes Above 1,000; Pong; HBO
1973	16.1	133	U.S. Leaves Vietnam; International Internet
1974	10.9	105	Nixon Resigns; Wage & Price Controls End
1975	10.2	111	Microsoft; Optical Videodisk Demo
1976	11.5	135	Apple I; Cray-1; Home Satellite Dish
1977	10.4	134	Elvis Dies; TRS-80 PC; Fiber Optic Call
1978	9.4	136	Modems; Cell Phone Tests; Intel 16-bit Chip
1979	8.9	151	CompuServe Online; VisiCalc Spreadsheet
1980	8.8	181	CPI 13.5%; CNN; Sony Camcorder
1981	8.5	202	IBM PC Introduced; 300 bps Modems
1982	7.3	197	Dow Over 1,000; Compact Disk; 5.5 Mil. PCs
1983	9.6	271	AT&T Breakup; 288k Chips; Domain Names
1984	9.4	280	3 1/2" Floppy; Intel 32-bit; 1 MB Chips
1985	10.7	335	Cellphones; 2400k Modems; Windows OS
1986	13.4	432	Laser Printers; TV On 7 Hrs/Day In U.S.
1987	16.0	532	Stock Market Crash; 50% Have Cable TV
1988	14.4	503	Transatlantic Fiberoptic Cable; Internet T1
1989	16.6	623	Poland Solidarity; Nintendo Profits @ $1 Bil.
1990	16.5	658	World Wide Web (www)
1991	17.9	753	Gulf War; USSR Breakup; 75% Have VCRs
1992	19.6	844	65 Mil. PCs; 200k On AOL; CDs > Cassettes
1993	20.7	928	Pentium Chip; HTML; V-Chip
1994	20.5	958	First WTC Attack; Satellite TV; 33% w/PC
1995	22.7	1139	NAFTA Enacted; Dot.com; Internet Audio
1996	25.9	1419	100k Web Sites; 30 Mil In U.S. On Internet
1997	31.0	1854	Internet Video; 43% In U.S. Have PCs
1998	36.0	2303	Russia Debt Default; 75 Mil U.S. On Internet
1999	42.1	2809	Satellite Can See 3' Objects On Earth
2000	41.7	3024	Dow Hits 11,723; NASDAQ Hits 5,048
2001	32.1	2538	WTC Attack (9/11); >50% U.S. On Internet; iPod
2002	25.9	2125	HDTV Grows; Wi-Fi Laptops; DVD Sales>VCR
2003	24.1	2080	Iraq Conflict; Home Networks; T-Bills @ <1%
2004	26.4	2453	Hybrid Cars; Flat Panel TVs; Blogs; VoIP
2005	26.0	2641	Hurricanes; $70 Oil; Podcasts; Housing Boom
2006	26.0	2892	YouTube; Dow High; Pluto Demoted; Fed Pause
2007	26.8	3288	iPhone; Sub-Prime; Going Green; Facebook
2008	20.8	2751	Recession; Wall Street Crisis; $144 Oil; Obama
2009	16.9	2166	H1N1; Jackson Dies; GM Bankruptcy; Digital TV
2010	20.7	2630	iPad; Greece Debt Crisis; Twitter; QE2
2011	21.8	2956	The Cloud; Arab Spring; OWS; E-books
2012	21.4	3257	Google Glass; Mars Rover; iPhone5; Fiscal Cliff
2013	23.2	3924	Fed Taper; Detroit Ch 9; NSA; ACA Launch; Nest
2014	25.5	4658	Ebola; ISIS; Amazon Drones; Wearable Tech
2015	26.2	5024	ZIRP Ends; Iran Deal; Refugees; Driverless Car
2016	26.1	5165	Brexit; Trump; <$30 Oil; Cyborg Stingray
2017	29.9	6098	Bitcoin Mania; Robot Citizen; Teleporting; WattUp
2018	31.5	6902	Apple $1T; Tax Reform; Zero Carbon Nat Gas; 5G
2019			UPS Drones; Quantum Supremacy; Starlink L1

Annual data, 1900–1936

Yr: 19	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
S&P 500 Index Value	6	8	8	7	7	9	10	8	8	10	9	9	10	9	8	8	9	8	8	9	8	7	8	9	9	11	13	15	20	26	21	14	7	9	10	11	15
S&P 500 Div Yield (%)	4	4	4	5	5	4	4	5	5	4	5	5	5	6	6	5	5	7	8	6	7	7	6	6	6	5	5	5	4	4	5	7	9	5	5	4	4
CPI (Inflation %)	7	-2	6	1	0	1	3	6	-4	8	4	-8	7	3	1	1	8	17	18	15	16	-11	-6	2	0	2	1	-2	-2	0	-2	-9	-10	-5	3	2	1
GDP (Nominal %)	4	13	3	6	5	9	8	3	-7	12	5	3	8	5	-6	6	27	20	26	11	13	-16	0	17	3	4	7	-1	1	7	-12	-16	-23	-4	17	11	14
GDP (Real %)	2	12	2	3	4	9	4	-2	-5	12	0	3	6	4	-8	4	16	0	8	-3	-2	-4	7	14	3	2	6	1	2	7	-9	-6	-13	-1	11	9	13

Annual data, 1937–1985

Yr: 19	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
S&P 500 Index Value	15	11	12	11	10	9	12	12	15	17	15	16	15	18	22	24	25	30	40	47	44	46	57	56	66	62	70	81	88	85	92	98	98	83	98	109	107	83	86	102	98	96	103	119	128	120	160	160	187
S&P 500 Div Yield (%)	5	6	5	6	7	7	5	5	4	4	5	6	7	7	7	6	6	5	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3	4	4	4	4	5	5	5	5	6	4	5	4
CPI (Inflation %)	4	-2	-1	1	5	11	6	2	2	8	14	8	-1	1	8	2	1	1	0	1	3	3	1	2	1	1	1	1	2	3	3	4	5	6	4	3	6	11	9	6	7	8	11	13	10	6	3	4	4
GDP (Nominal %)	10	-6	7	10	26	28	22	10	2	0	10	10	-1	10	16	6	6	0	9	6	5	2	8	4	4	7	6	7	8	10	6	9	8	5	9	10	11	8	9	11	11	13	12	9	12	4	9	11	7
GDP (Real %)	5	-3	8	9	18	19	17	8	-1	-12	-1	4	-1	9	8	4	5	-1	7	2	2	-1	7	3	3	6	4	6	6	7	3	5	3	0	3	5	6	-1	0	5	5	6	3	0	3	-2	5	7	4

Annual data, 1986–2019

Yr: 19	86	87	88	89	90	91	92	93	94	95	96	97	98	99	2000	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19
S&P 500 Index Value	236	287	266	323	335	376	416	452	460	542	670	873	1086	1327	1427	1194	994	965	1131	1207	1310	1477	1220	948	1140	1268	1379	1644	1931	2061	2095	2449	2746	2913
S&P 500 Div Yield (%)	3	3	3	3	3	3	3	3	3	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
CPI (Inflation %)	2	4	4	5	5	4	3	3	3	3	3	2	2	2	3	2	2	2	3	3	3	3	4	0	2	3	2	1	2	0	1	2	2	2
GDP (Nominal %)	6	6	8	8	6	3	6	5	6	5	6	6	6	6	6	3	3	5	7	7	6	5	2	-2	4	4	4	4	4	4	3	4	5	4
GDP (Real %)	3	3	4	4	2	0	4	3	4	3	4	4	4	5	4	1	2	3	4	4	3	2	0	-3	3	2	2	2	3	3	2	2	3	2

GDP (Annualized %) by decade

Period	GDP (Annualized %), Nominal	GDP (Annualized %), Real
00–09	+5.3%	+3.9%
10–19	+10.0%	+2.9%
20–29	+3.1%	+3.4%
30–39	-1.1%	+1.0%
40–49	+11.3%	+5.6%
50–59	+6.7%	+4.2%
60–69	+6.9%	+4.5%
70–79	+9.9%	+3.2%
80–89	+7.9%	+3.1%
90–99	+5.5%	+3.2%
2000–'09	+4.1%	+1.9%
'10–'19	+4.0%	+2.3%

4.1% Avg (S&P 500 Div Yield %)
3.1% Avg (CPI Inflation %)
+6.1% Avg (GDP Nominal %)
+3.3% Avg (GDP Real %)

2019 MATRIX: AVERAGE ANNUAL DATA

NOTES:
1) Numbers reflect the percentage annual rate of return from the starting period to the ending period
2) Returns include index returns, dividends, and transaction costs/fees (bid/ask spread, commissions, fees, etc.) & exclude taxes; nominal returns include inflation (see assumptions)
3) Red: <0%; Pink: 0% - 3%; Blue: 3% - 7%; Light Green: 7% - 10%; Dark Green: >10%
4) Black type reflects P/E ratio increasing over the period; White type reflects P/E ratio decreasing over the period
5) The black diagonal line reflects the boundary of 20-year periods
6) S&P 500 & P/E reflect the methodology popularized by Robert Shiller with average daily index annually and other related data (P/E10)
7) Other data and information developed from various sources and believed to be reliable

LEGEND			
Red		<	0.0%
Pink	0.0%	-	3.0%
Blue	3.0%	-	7.0%
Light Green	7.0%	-	10.0%
Dark Green		>	10.0%

White Numbers: Decreasing P/E Ratio

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