# CRESTMONT STOCK MARKET MATRIX

## INDIVIDUAL INVESTOR (TAXPAYER) REAL RETURNS

*Real Returns (inflation adjusted), including dividends (reinvested), transaction costs, and taxes paid*

| COMPONENTS | |
|---|---|
| Index | Included |
| Dividends | Included (Reinvested) |
| Transaction Costs | Included |
| Taxes | Included (Paid) |
| Inflation | Real (Inflation Adjusted) |

NOTES:
1) Numbers reflect the percentage annual rate of return from the starting period to the ending period
2) Returns include index returns, dividends, transaction costs/fees (bid/ask spread, commissions, fees, etc.), and taxes; real returns excluding inflation (see assumptions)
3) Red: <0%; Pink: 0% - 3%; Blue: 3% - 7%; Lt Green: 7% - 10%; Dk 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&P500 index & P/E ratio reflect Robert Shiller's series and methodology of average daily prices annually, including related data
7) Other data and information developed from various sources and believed to be reliable

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| LEGEND | | | |
|---|---|---|---|
| Red | | < | 0.0% |
| Pink | 0.0% | - | 3.0% |
| Blue | 3.0% | - | 7.0% |
| Lt Green | 7.0% | - | 10.0% |
| Dk Green | | > | 10.0% |

*White Numbers: Decreasing P/E Ratio*

| FROM | P/E 1900=1.0 | Yr: 19 | P/E Ratio (1900 = 1.0, ←"TO" Year) | |
|---|---|---|---|---|
| 18.6 | 1.0 | 1900 | FROM | Rodin Completes 'The Thinker' |
| 22.7 | 1.3 | 1901 | 1901 | First Electric Typewriter |
| 22.0 | 1.3 | 1902 | 1902 | Navy Installs Radio |
| 17.6 | 1.1 | 1903 | 1903 | Wright Bros Fly |
| 16.3 | 1.1 | 1904 | 1904 | Crayola & Jell-O |
| 19.3 | 1.5 | 1905 | 1905 | Pen Gets Pocket Clip |
| 18.7 | 1.6 | 1906 | 1906 | S.F. Earthquake |
| 13.4 | 1.2 | 1907 | 1907 | Photocopier Marketed |
| 13.1 | 1.3 | 1908 | 1908 | Model T Introduced |
| 14.9 | 1.6 | 1909 | 1909 | Chlorine In Drinking Water |
| 13.5 | 1.5 | 1910 | 1910 | Electric Range Invented |
| 14.2 | 1.6 | 1911 | 1911 | Sherman Anti-Trust Act; Airmail Begins |
| 13.7 | 1.6 | 1912 | 1912 | Titanic Sinks; U.S. Radio Act |
| 11.9 | 1.5 | 1913 | 1913 | Income Tax & Federal Reserve |
| 11.1 | 1.4 | 1914 | 1914 | WWI Starts; First Transcon. Phone Call |
| 11.5 | 1.5 | 1915 | 1915 | Americans Avg 40 Phone Calls A Year |
| 12.0 | 1.6 | 1916 | 1916 | Keds & Electric Clock Invented |
| 8.8 | 1.3 | 1917 | 1917 | US Enters WWI; Einstein Theorizes Lasers |
| 6.4 | 1.0 | 1918 | 1918 | WWI Ends |
| 6.5 | 1.1 | 1919 | 1919 | Prohibition; Shortwave Radio; Dial Phones |
| 5.3 | 0.9 | 1920 | 1920 | Women's Right To Vote |
| 5.4 | 0.9 | 1921 | 1921 | World Series On Radio; Quartz Crystals |
| 7.5 | 1.2 | 1922 | 1922 | 100,000 Radios Made In U.S.; 3 Frequencies |
| 7.9 | 1.3 | 1923 | 1923 | 500,000 Radios Made; Neon Signs |
| 8.4 | 1.4 | 1924 | 1924 | 2.5 Million Radios Made; Frozen Food Invented |
| 10.1 | 1.7 | 1925 | 1925 | Commercial Picture Fax By Radio In U.S. |
| 11.7 | 2.0 | 1926 | 1926 | First Publicly Shown 'Talkie' |
| 15.9 | 2.5 | 1927 | 1927 | 2-Way Radio Phone: U.S. To London ($15/min) |
| 21.8 | 3.4 | 1928 | 1928 | Teletype Machine; Test TV In 3 Homes |
| 27.6 | 4.4 | 1929 | 1929 | Crash of '29; Car Radio |
| 21.5 | 3.7 | 1930 | 1930 | Photo Flash Bulbs |
| 14.7 | 2.7 | 1931 | 1931 | Radios In 40% Of Homes; Scotch Tape |
| 8.1 | 1.6 | 1932 | 1932 | Radar; 8 mm Cameras; Electric Eye Scanner |
| 11.1 | 2.3 | 1933 | 1933 | End of Prohibition; FM Radio; Wallboard |
| 12.2 | 2.5 | 1934 | 1934 | Radios In 50% Of Homes; AP Wirephoto |
| 13.1 | 2.7 | 1935 | 1935 | Social Security Act Passed |
| 19.3 | 4.0 | 1936 | 1936 | BBC First TV Service, 3 Hours A Day |
| 18.5 | 3.9 | 1937 | 1937 | Hindenburg Airship Crash |
| 13.9 | 3.0 | 1938 | 1938 | National Minimum Wage Enacted |
| 15.6 | 3.3 | 1939 | 1939 | Regular TV Broadcasts In U.S.; Helicopter |
| 14.7 | 3.1 | 1940 | 1940 | World War II Begins; Radar Invented |
| 12.2 | 2.7 | 1941 | 1941 | Pearl Harbor Attack; 2-Way Police Radio |
| 9.2 | 2.3 | 1942 | 1942 | U.S. Office Of Censorship Due To War |
| 11.0 | 3.0 | 1943 | 1943 | Phone Line Repeaters Help Service |
| 11.3 | 3.2 | 1944 | 1944 | D-Day, Normandy |
| 13.3 | 3.8 | 1945 | 1945 | World War II Ends; FCC Sets VHF Channels |
| 14.0 | 3.9 | 1946 | 1946 | ENIAC, 1st Computer; First Copy Machine Sold |
| 11.2 | 3.0 | 1947 | 1947 | Transistor Invented; Microwave Oven |
| 10.7 | 2.9 | 1948 | 1948 | Israel Established; RCA High Speed Fax |
| 9.9 | 2.9 | 1949 | 1949 | NATO Established; Network TV In U.S. |
| 11.2 | 3.6 | 1950 | 1950 | Korean War Begins; Credit Card Created |
| 12.0 | 4.2 | 1951 | 1951 | Color TV; Modern Plastic Invented |
| 12.5 | 4.6 | 1952 | 1952 | Phone Area Codes; EDVAC Computer |
| 12.0 | 4.6 | 1953 | 1953 | Korean War Ends; Magnetic Core Memory |
| 13.7 | 5.5 | 1954 | 1954 | TVs In 54% Of Homes; Transistor Radios |
| 17.5 | 7.7 | 1955 | 1955 | Tests Begin On Digital Fiber Optics |
| 18.3 | 8.6 | 1956 | 1956 | Transatlantic Phone Cable; The Pager |
| 15.6 | 7.8 | 1957 | 1957 | Sputnik, First Satellite; EEC Formed |
| 15.1 | 7.8 | 1958 | 1958 | Stereo LP Records; Data On Phone Lines |
| 18.4 | 9.7 | 1959 | 1959 | COBOL; Microchip; Plain Paper Xerox |
| 17.4 | 9.3 | 1960 | 1960 | 90% Homes w/TVs; Laser; Weather Satellite |
| 20.5 | 10.8 | 1961 | 1961 | Berlin Wall Built; IBM Selectric Typewriter |
| 18.8 | 10.0 | 1962 | 1962 | Cuban Missile Crisis; Mariner II At Venus |
| 20.3 | 11.0 | 1963 | 1963 | Kennedy Killed, Income Tax 91% To 70% |
| 22.6 | 12.6 | 1964 | 1964 | Vietnam Begins; Home VCR |
| 23.3 | 13.4 | 1965 | 1965 | First Minicomputer; Car Phones; Hypertext |
| 21.3 | 12.5 | 1966 | 1966 | Dow @ 1,000; 8-Tracks In Cars; Fax Machine |
| 21.6 | 13.1 | 1967 | 1967 | Floppy Disk; Cordless Phones; Dolby |
| 21.5 | 13.5 | 1968 | 1968 | Intelsat Global Satellite Link; Intel 1KB RAM |
| 19.4 | 12.7 | 1969 | 1969 | Neil Armstrong Walks On Moon; ATMs |
| 15.2 | 10.2 | 1970 | 1970 | Barcodes; First Internet Connections |
| 16.9 | 11.7 | 1971 | 1971 | Microchip, Pocket Controls; Answering Machine |
| 17.8 | 12.5 | 1972 | 1972 | Dow Closes Above 1,000; Pong; HBO |
| 16.1 | 11.6 | 1973 | 1973 | U.S. Leaves Vietnam; International Internet |
| 10.9 | 8.0 | 1974 | 1974 | Nixon Resigns; Wage & Price Controls End |
| 10.2 | 7.8 | 1975 | 1975 | Microsoft; Optical Videodisk Demo |
| 11.5 | 8.8 | 1976 | 1976 | Apple I; Cray-1; Home Satellite Dish |
| 10.4 | 8.0 | 1977 | 1977 | Elvis Dies; TRS-80 PC; Fiber Optic Call |
| 9.4 | 7.2 | 1978 | 1978 | Modems; Cell Phone Tests; Intel 16-bit Chip |
| 8.9 | 7.1 | 1979 | 1979 | CompuServe Online; VisiCalc Spreadsheet |
| 8.8 | 7.3 | 1980 | 1980 | CPI 13.5%; CNN; Sony Camcorder |
| 8.5 | 7.1 | 1981 | 1981 | IBM PC Introduced; 300 bps Modems |
| 7.3 | 6.2 | 1982 | 1982 | Dow Over 1,000; Compact Disk; 5.5 Mil. PCs |
| 9.6 | 8.2 | 1983 | 1983 | AT&T Breakup; 288k Chips; Domain Names |
| 9.4 | 7.7 | 1984 | 1984 | 3 1/2" Floppy; Intel 32-bit; 1 MB Chips |
| 10.7 | 8.7 | 1985 | 1985 | Cellphones; 2400k Modems; Windows OS |
| 13.4 | 10.7 | 1986 | 1986 | Laser Printers; TV On 7 Hrs/Day In U.S. |
| 16.0 | 12.3 | 1987 | 1987 | Stock Market Crash; 50% Have Cable TV |
| 14.4 | 10.4 | 1988 | 1988 | Transatlantic Fiberoptic Cable; Internet T1 |
| 16.6 | 11.6 | 1989 | 1989 | Poland Solidarity; Nintendo Profits @ $1 Bil. |
| 16.5 | 11.4 | 1990 | 1990 | World Wide Web (www) |
| 17.9 | 12.0 | 1991 | 1991 | Gulf War; USSR Breakup; 75% Have VCRs |
| 19.6 | 12.7 | 1992 | 1992 | 65 Mil. PCs; 200k On AOL; CDs > Cassettes |
| 20.7 | 13.1 | 1993 | 1993 | Pentium Chip; HTML; V-Chip |
| 20.5 | 12.7 | 1994 | 1994 | First WTC Attack; Satellite TV; 33% w/PC |
| 22.7 | 14.4 | 1995 | 1995 | NAFTA Enacted; Dot.com; Internet Audio |
| 25.9 | 17.1 | 1996 | 1996 | 100k Web Sites; 30 Mil In U.S. On Internet |
| 31.0 | 21.0 | 1997 | 1997 | Internet Video; 43% In U.S. Have PCs |
| 36.0 | 24.7 | 1998 | 1998 | Russia Debt Default; 75 Mil U.S. On Internet |
| 42.1 | 28.1 | 1999 | 1999 | Satellite Can See 3' Objects On Earth |
| 41.7 | 28.0 | 2000 | 2000 | Dow Hits 11,723; NASDAQ Hits 5,048 |
| 32.1 | 21.8 | 2001 | 2001 | WTC Attack (9/11); >50% U.S. On Internet; iPod |
| 25.9 | 17.6 | 2002 | 2002 | HDTV Grows; Wi-Fi Laptops; DVD Sales>VCR |
| 24.1 | 16.5 | 2003 | 2003 | Iraq Conflict; Home Networks; T-Bills @ <1% |
| 26.4 | 19.0 | 2004 | 2004 | Hybrid Cars; Flat Panel TVs; Blogs; VoIP |
| 26.0 | 19.6 | 2005 | 2005 | Hurricanes; $70 Oil; Podcasts; Housing Boom |
| 26.0 | 20.3 | 2006 | 2006 | YouTube; Dow High; Pluto Demoted; Fed Pause |
| 26.8 | 21.3 | 2007 | 2007 | iPhone; Sub-Prime; Going Green; Facebook |
| | | Yr: 19 | 2008 | Recession; Wall Street Crisis; $144 Oil; Obama |

| | 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 | 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 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | | |
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