

Toms\_analysis\_of\_Fed\_Discount\_rates\_and\_stock\_index\_performance.xlsx

|      | Discount   | Discount   |           | S&P index | Jeff's  | Nasdaq Index | Jeff's    |         | 3x QQQ    | Jeff's   |         |
|------|------------|------------|-----------|-----------|---------|--------------|-----------|---------|-----------|----------|---------|
| Year | rate 01/01 | rate 12/31 | SPY start | SPY end   | Pct Chg | ^IXIC start  | ^IXIC end | Pct Chg | TQQQ star | TQQQ end | Pct chg |
| 2019 | 3.00%      |            | 2459.80   |           |         | 6506.91      |           |         | 34.78     |          |         |
| 2018 | 2.00%      | 3.00%      | 2678.40   | 2499.20   | -6.69%  | 6937.64      | 6635.28   | -4.36%  | 46.97     | 37.04    | -21.14% |
| 2017 | 1.25%      | 2.00%      | 2250.40   | 2668.60   | 18.58%  | 5425.62      | 6903.39   | 27.24%  | 21.60     | 46.24    | 114.07% |
| 2016 | 1.00%      | 1.25%      | 2004.90   | 2235.30   | 11.49%  | 4897.64      | 5444.5    | 11.17%  | 17.77     | 21.20    | 19.30%  |
| 2015 | 0.75%      | 1.00%      | 2058.90   | 2043.94   | -0.73%  | 4760.24      | 5007.41   | 5.19%   | 16.01     | 19.47    | 21.61%  |
| 2014 | 0.75%      | 0.75%      | 1845.86   | 2058.90   | 11.54%  | 4160.02      | 4736.04   | 13.85%  | 10.20     | 16.24    | 59.22%  |
| 2013 | 0.75%      | 0.75%      | 1426.19   | 1848.36   | 29.60%  | 3091.53      | 4176.58   | 35.10%  | 4.62      | 10.34    | 123.81% |
| 2012 | 0.75%      | 0.75%      | 1258.86   | 1426.19   | 13.29%  | 2657.38      | 3019.51   | 13.63%  | 2.99      | 4.31     | 44.15%  |
| 2011 | 0.75%      | 0.75%      | 1257.62   | 1257.60   | 0.00%   | 2676.64      | 2605.14   | -2.67%  | 3.16      | 2.83     | -10.44% |
| 2010 | 0.50%      | 0.75%      | 1116.56   | 1257.64   | 12.64%  | 2294.40      | 2652.87   | 15.62%  | 1.62      | 3.08     | 90.12%  |
| 2009 | 0.50%      | 0.50%      | 902.99    | 1115.10   | 23.49%  | 1578.87      | 2269.14   | 43.72%  |           |          |         |
| 2008 | 3.50%      | 0.50%      | 1467.97   | 903.25    | -38.47% | 2653.90      | 1577.03   | -40.58% |           |          |         |
| 2007 | 6.25%      | 3.50%      | 1418.03   | 1468.36   | 3.55%   | 2429.72      | 2652.28   | 9.16%   |           |          |         |
| 2006 | 5.50%      | 6.25%      | 1248.29   | 1418.30   | 13.62%  | 2216.53      | 2415.29   | 8.97%   |           |          |         |
| 2005 | 3.25%      | 5.50%      | 1211.92   | 1248.29   | 3.00%   | 2184.75      | 2205.32   | 0.94%   |           |          |         |
| 2004 | 2.00%      | 3.25%      | 1111.92   | 1211.92   | 8.99%   | 2011.08      | 2175.43   | 8.17%   |           |          |         |
| 2003 | 2.25%      | 2.00%      | 879.82    | 1111.92   | 26.38%  | 1346.93      | 2003.37   | 48.74%  |           |          |         |
| 2002 | 1.25%      | 2.25%      | 1148.08   | 879.82    | -23.37% | 1965.18      | 1335.51   | -32.04% |           |          |         |
| 2001 | 5.75%      | 1.25%      | 1320.28   | 1148.08   | -13.04% | 2474.16      | 1950.40   | -21.17% |           |          |         |
| 2000 | 5.00%      | 5.75%      | 1469.25   | 1320.28   | -10.14% | 4186.19      | 2470.52   | -40.98% |           |          |         |
| 1999 | 4.50%      | 5.00%      | 1244.00   | 1469.00   | 18.09%  | 2207.54      | 4069.31   | 84.34%  |           |          |         |
| 1998 | 5.00%      | 4.50%      | 970.43    | 1229.23   | 26.67%  | 1574.00      | 2192.00   | 39.26%  |           |          |         |
| 1997 | 5.00%      | 5.00%      | 740.74    | 970.43    | 31.01%  | 1292.00      | 1570.00   | 21.52%  |           |          |         |
| 1996 | 5.24%      | 5.00%      | 615.93    | 740.74    | 20.26%  | 1052.00      | 1291.00   | 22.72%  |           |          |         |
| 1995 | 4.75%      | 5.24%      | 459.21    | 615.93    | 34.13%  | 751.00       | 1052.00   | 40.08%  |           |          |         |
| 1994 | 3.00%      | 4.75%      | 466.51    | 459.21    | -1.56%  | 774.00       | 751.00    | -2.97%  |           |          |         |
| 1993 | 3.00%      | 3.00%      | 435.70    | 466.51    | 7.07%   | 675.00       | 776.00    | 14.96%  |           |          |         |
| 1992 | 3.50%      | 3.00%      | 417.03    | 435.70    | 4.48%   | 580.00       | 676.00    | 16.55%  |           |          |         |
| 1991 | 6.50%      | 3.50%      | 330.20    | 417.03    | 26.30%  | 373.00       | 586.00    | 57.10%  |           |          |         |
| 1990 | 7.00%      | 6.50%      | 359.00    | 330.22    | -8.02%  | 452.00       | 373.00    | -17.48% |           |          |         |
| 1989 | 6.50%      | 7.00%      | 277.72    | 353.40    | 27.25%  | 378.90       | 454.80    | 20.03%  |           |          |         |
| 1988 | 6.00%      | 6.50%      | 247.10    | 277.72    | 12.39%  | 335.10       | 381.40    | 13.82%  |           |          |         |
| 1987 | 5.50%      | 6.00%      | 242.17    | 247.08    | 2.03%   | 351.30       | 330.50    | -5.92%  |           |          |         |
| 1986 | 7.50%      | 5.50%      | 211.28    | 242.17    | 14.62%  | 325.00       | 351.30    | 8.09%   |           |          |         |
| 1985 | 8.00%      | 7.50%      | 167.20    | 211.28    | 26.36%  | 247.10       | 324.90    | 31.49%  |           |          |         |
| 1984 | 8.50%      | 8.00%      | 164.93    | 167.24    | 1.40%   | 277.63       | 247.10    | -11.00% |           |          |         |
| 1983 | 8.50%      | 8.50%      | 140.65    | 164.93    | 17.26%  | 230.59       | 278.00    | 20.56%  |           |          |         |
| 1982 | 12.00%     | 8.30%      | 122.55    | 140.64    | 14.76%  | 195.53       | 232.81    | 19.07%  |           |          |         |
| 1981 | 13.00%     | 12.10%     | 135.76    | 122.55    | -9.73%  | 203.55       | 195.53    | -3.94%  |           |          |         |
| 1980 | 12.00%     | 12.87%     | 107.94    | 135.76    | 25.77%  | 148.17       | 202.34    | 36.56%  |           |          |         |
| 1979 | 9.50%      | 12.00%     | 96.11     | 107.94    | 12.31%  | 117.84       | 151.14    | 28.26%  |           |          |         |
| 1978 | 6.37%      | 9.50%      | 95.10     | 96.11     | 1.06%   | 104.00       | 117.98    | 13.44%  |           |          |         |
| 1977 | 5.25%      | 6.37%      | 107.46    | 95.10     | -11.50% | 97.69        | 105.05    | 7.53%   |           |          |         |
| 1976 | 5.50%      | 5.25%      | 90.19     | 107.46    | 19.15%  | 78.00        | 97.88     | 25.49%  |           |          |         |
| 1975 | 7.40%      | 6.00%      | 68.65     | 90.19     | 31.38%  | 60.70        | 77.62     | 27.87%  |           |          |         |

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|      |       |       |        |        |         |        |        |         |  |  |  |
|------|-------|-------|--------|--------|---------|--------|--------|---------|--|--|--|
| 1974 | 7.50% | 7.40% | 97.55  | 68.65  | -29.63% | 92.50  | 59.82  | -35.33% |  |  |  |
| 1973 | 4.77% | 7.50% | 118.08 | 97.55  | -17.39% | 134.63 | 92.19  | -31.52% |  |  |  |
| 1972 | 4.50% | 4.77% | 102.09 | 118.08 | 15.66%  | 113.65 | 133.73 | 17.67%  |  |  |  |
| 1971 | 5.23% | 4.50% | 92.15  | 102.09 | 10.79%  | 100.00 | 114.12 | 14.12%  |  |  |  |