**Master of Liberal Arts 60643**
**Economic Controversies**
Homework Assignment #3 (2018)
DUE: February 6

INSTRUCTIONS: Oh no, not a Harvey Test! I want you to have a look and see how volatile these numbers are relative to one another. For each column, calculate the percentage change from one year to the next and then find the average of the absolute values of these numbers (otherwise positive changes just cancel out negative changes and make the data series look stable). To calculate percentage change, do this for **real S&P** 1980-1, for example: (134-139)/139. You may multiply this by 100 to make it look like a percent or leave it as is. It doesn't matter as long as you are consistent. Show each calculation and the averages and comment on the relative volatilities.

| Year | real S&P | GDP | Invest |
|---|---|---|---|
| 1980 | 139 | 5,834.0 | 715.2 |
| 1981 | 134 | 5,982.1 | 779.6 |
| 1982 | 119 | 5,865.9 | 670.3 |
| 1983 | 155 | 6,130.9 | 732.8 |
| 1984 | 149 | 6,571.5 | 948.7 |
| 1985 | 166 | 6,843.4 | 939.8 |
| 1986 | 207 | 7,080.5 | 933.5 |
| 1987 | 243 | 7,307.0 | 962.2 |
| 1988 | 215 | 7,607.4 | 984.9 |
| 1989 | 250 | 7,879.2 | 1,024.4 |
| 1990 | 246 | 8,027.1 | 989.9 |
| 1991 | 265 | 8,008.3 | 909.4 |
| 1992 | 285 | 8,280.0 | 983.1 |
| 1993 | 303 | 8,516.2 | 1,070.9 |
| 1994 | 301 | 8,863.1 | 1,216.4 |
| 1995 | 344 | 9,086.0 | 1,254.3 |
| 1996 | 412 | 9,425.8 | 1,365.3 |
| 1997 | 527 | 9,845.9 | 1,535.2 |
| 1998 | 645 | 10,274.7 | 1,688.9 |
| 1999 | 765 | 10,770.7 | 1,837.6 |
| 2000 | 806 | 11,216.4 | 1,963.1 |
| 2001 | 651 | 11,337.5 | 1,825.2 |
| 2002 | 534 | 11,543.1 | 1,800.4 |
| 2003 | 503 | 11,836.4 | 1,870.1 |
| 2004 | 577 | 12,246.9 | 2,058.2 |
| 2005 | 594 | 12,623.0 | 2,172.3 |
| 2006 | 627 | 12,958.5 | 2,231.8 |
| 2007 | 688 | 13,206.4 | 2,159.5 |
| 2008 | 545 | 13,161.9 | 1,939.8 |
| 2009 | 422 | 12,703.1 | 1,454.2 |
| 2010 | 506 | 13,088.0 | 1,714.9 |
| 2011 | 542 | 13,313.4 | 1,795.2 |

Real S&P is S&P 500 Index average daily close deflated by CPI 100 = 1982-4 (*www.economagic.com*).
GDP and Invest billions of chained 2005 dollars and as defined in Homework Assignment #1 (*Economic Report of the President*).