Customixed Geometric risk premium estimator							
What is your riskfree rate		LT			Estimates of risk premiums from 1928, c		
Enter your starting year		1929			are provided at the bottom of this table.		
Value of stocks in starting year:				143.81116			
Value of T.Bills in starting year:				103.08			
Value of T.bonds in starting year:				100.83547			
Estimate of risk premium based on your i				3.89%			
Annual Returns on Investme				**Compounded Value of $ 100**			
Year	*Stocks*	*T.Bills*	*T.Bonds*	Stocks	T.Bills	T.Bonds	Stocks - Bil
1928	#####	3.08%	0.84%	$ 143.81	$ 103.08	$ 100.84	40.73%
1929	#####	3.16%	4.20%	$ 131.88	$ 106.34	$ 105.07	-11.46%
1930	#####	4.55%	4.54%	$ 98.75	$ 111.18	$ 109.85	-29.67%
1931	#####	2.31%	-2.56%	$ 55.46	$ 113.74	$ 107.03	-46.15%
1932	#####	1.07%	8.79%	$ 50.66	$ 114.96	$ 116.44	-9.71%
1933	#####	0.96%	1.86%	$ 75.99	$ 116.06	$ 118.60	49.02%
1934	#####	0.32%	7.96%	$ 75.09	$ 116.44	$ 128.05	-1.51%
1935	#####	0.18%	4.47%	$ 110.18	$ 116.64	$ 133.78	46.57%
1936	#####	0.17%	5.02%	$ 145.38	$ 116.84	$ 140.49	31.77%
1937	#####	0.30%	1.38%	$ 94.00	$ 117.19	$ 142.43	-35.64%
1938	#####	0.08%	4.21%	$ 121.53	$ 117.29	$ 148.43	29.21%
1939	#####	0.04%	4.41%	$ 120.20	$ 117.33	$ 154.98	-1.14%
1940	#####	0.03%	5.40%	$ 107.37	$ 117.36	$ 163.35	-10.70%
1941	#####	0.08%	-2.02%	$ 93.66	$ 117.46	$ 160.04	-12.85%
1942	#####	0.34%	2.29%	$ 111.61	$ 117.85	$ 163.72	18.84%
1943	#####	0.38%	2.49%	$ 139.59	$ 118.30	$ 167.79	24.68%
1944	#####	0.38%	2.58%	$ 166.15	$ 118.75	$ 172.12	18.65%
1945	#####	0.38%	3.80%	$ 225.67	$ 119.20	$ 178.67	35.44%
1946	#####	0.38%	3.13%	$ 206.65	$ 119.65	$ 184.26	-8.81%
1947	5.20%	0.57%	0.92%	$ 217.39	$ 120.33	$ 185.95	4.63%
1948	5.70%	1.02%	1.95%	$ 229.79	$ 121.56	$ 189.58	4.68%
1949	#####	1.10%	4.66%	$ 271.85	$ 122.90	$ 198.42	17.20%
1950	#####	1.17%	0.43%	$ 355.60	$ 124.34	$ 199.27	29.63%
1951	#####	1.48%	-0.30%	$ 439.80	$ 126.18	$ 198.68	22.20%
1952	#####	1.67%	2.27%	$ 519.62	$ 128.29	$ 203.19	16.48%
1953	#####	1.89%	4.14%	$ 513.35	$ 130.72	$ 211.61	-3.10%
1954	#####	0.96%	3.29%	$ 783.18	$ 131.98	$ 218.57	51.60%
1955	#####	1.66%	-1.34%	########	$ 134.17	$ 215.65	30.94%
1956	7.44%	2.56%	-2.26%	########	$ 137.60	$ 210.79	4.88%
1957	#####	3.23%	6.80%	$ 999.05	$ 142.04	$ 225.11	-13.69%

1958	#####	1.78%	-2.10%	########	$ 144.57	$ 220.39	41.94%
1959	#####	3.26%	-2.65%	########	$ 149.27	$ 214.56	8.80%
1960	0.34%	3.05%	11.64%	########	$ 153.82	$ 239.53	-2.71%
1961	#####	2.27%	2.06%	########	$ 157.30	$ 244.46	24.37%
1962	#####	2.78%	5.69%	########	$ 161.67	$ 258.38	-11.59%
1963	#####	3.11%	1.68%	########	$ 166.70	$ 262.74	19.50%
1964	#####	3.51%	3.73%	########	$ 172.54	$ 272.53	12.91%
1965	#####	3.90%	0.72%	########	$ 179.28	$ 274.49	8.50%
1966	#####	4.84%	2.91%	########	$ 187.95	$ 282.47	-14.81%
1967	#####	4.33%	-1.58%	########	$ 196.10	$ 278.01	19.47%
1968	#####	5.26%	3.27%	########	$ 206.41	$ 287.11	5.55%
1969	#####	6.56%	-5.01%	########	$ 219.96	$ 272.71	-14.80%
1970	3.56%	6.69%	16.75%	########	$ 234.66	$ 318.41	-3.12%
1971	#####	4.54%	9.79%	########	$ 245.32	$ 349.57	9.68%
1972	#####	3.95%	2.82%	########	$ 255.01	$ 359.42	14.80%
1973	#####	6.73%	3.66%	########	$ 272.16	$ 372.57	-21.03%
1974	#####	7.78%	1.99%	########	$ 293.33	$ 379.98	-33.68%
1975	#####	5.99%	3.61%	########	$ 310.90	$ 393.68	31.01%
1976	#####	4.97%	15.98%	########	$ 326.35	$ 456.61	18.86%
1977	#####	5.13%	1.29%	########	$ 343.09	$ 462.50	-12.11%
1978	6.51%	6.93%	-0.78%	########	$ 366.87	$ 458.90	-0.42%
1979	#####	9.94%	0.67%	########	$ 403.33	$ 461.98	8.58%
1980	#####	#####	-2.99%	########	$ 448.58	$ 448.17	20.52%
1981	#####	#####	8.20%	########	$ 512.73	$ 484.91	-19.00%
1982	#####	#####	32.81%	########	$ 569.18	$ 644.04	9.41%
1983	#####	8.45%	3.20%	########	$ 617.26	$ 664.65	13.89%
1984	6.15%	9.61%	13.73%	########	$ 676.60	$ 755.92	-3.47%
1985	#####	7.49%	25.71%	########	$ 727.26	$ 950.29	23.75%
1986	#####	6.04%	24.28%	########	$ 771.15	$ 1,181.06	12.46%
1987	5.81%	5.72%	-4.96%	########	$ 815.27	$ 1,122.47	0.09%
1988	#####	6.45%	8.22%	########	$ 867.86	$ 1,214.78	10.09%
1989	#####	8.11%	17.69%	########	$ 938.24	$ 1,429.72	23.37%
1990	#####	7.55%	6.24%	########	$ 1,009.08	$ 1,518.87	-10.61%
1991	#####	5.61%	15.00%	########	$ 1,065.69	$ 1,746.77	24.62%
1992	7.49%	3.41%	9.36%	########	$ 1,101.98	$ 1,910.30	4.09%
1993	9.97%	2.98%	14.21%	########	$ 1,134.84	$ 2,181.77	6.98%
1994	1.33%	3.99%	-8.04%	########	$ 1,180.07	$ 2,006.43	-2.66%
1995	#####	5.52%	23.48%	########	$ 1,245.15	$ 2,477.55	31.68%
1996	#####	5.02%	1.43%	########	$ 1,307.68	$ 2,512.94	18.79%
1997	#####	5.05%	9.94%	########	$ 1,373.76	$ 2,762.71	26.81%
1998	#####	4.73%	14.92%	########	$ 1,438.70	$ 3,174.95	23.61%

1999	#####	4.51%	-8.25%	########	$ 1,503.58	$ 2,912.88	16.38%
2000	#####	5.76%	16.66%	########	$ 1,590.23	$ 3,398.03	-14.79%
2001	#####	3.67%	5.57%	########	$ 1,648.63	$ 3,587.37	-15.52%
2002	#####	1.66%	15.12%	########	$ 1,675.96	$ 4,129.65	-23.62%
2003	#####	1.03%	0.38%	########	$ 1,693.22	$ 4,145.15	27.33%
2004	#####	1.23%	4.49%	########	$ 1,714.00	$ 4,331.30	9.52%
2005	4.83%	3.01%	2.87%	########	$ 1,765.59	$ 4,455.50	1.82%
2006	#####	4.68%	1.96%	########	$ 1,848.18	$ 4,542.87	10.94%
2007	5.48%	4.64%	10.21%	########	$ 1,933.98	$ 5,006.69	0.84%
2008	#####	1.59%	20.10%	########	$ 1,964.64	$ 6,013.10	-38.14%
2009	#####	0.14%	######	########	$ 1,967.29	$ 5,344.65	25.80%
2010	#####	0.13%	8.46%	########	$ 1,969.84	$ 5,796.96	14.69%
2011	2.07%	0.03%	16.04%	########	$ 1,970.44	$ 6,726.52	2.04%
					Risk Premium		***Standar***
Arithmetic Average					Stocks - T.Bi	Stocks - T.Bo	Stocks - T.E
1928-2011	#####	3.66%	5.41%		7.55%	5.79%	2.22%
1962-2011	#####	5.22%	7.24%		5.38%	3.36%	2.39%
2002-2011	4.93%	1.81%	6.85%		3.12%	-1.92%	6.46%
					Risk Premium		
Geometric Average					Stocks - T.Bi	Stocks - T.Bonds	
1928-2011	9.23%	3.61%	5.14%		5.62%	4.10%	
1962-2011	9.20%	5.19%	6.85%		4.02%	2.35%	
2002-2011	2.88%	1.80%	6.49%		1.08%	-3.61%	

ver the last 40 years and over the last 10 years			
Stocks - Bon	Historical risk premium		
42.98%			
-12.50%			
-29.66%			
-41.28%			
-17.43%			
48.13%			
-9.15%			
42.27%			
26.93%			
-36.72%			
25.07%			
-5.51%			
-16.08%			
-10.75%			
16.88%			
22.57%			
16.45%			
32.02%			
-11.56%			
4.28%			
3.75%			
13.64%			
30.38%			
23.97%			
15.88%			
-5.35%			
49.27%			
33.93%			
9.70%			
-17.25%			

45.82%			
14.70%			
-11.30%	6.11%		
24.58%	6.62%		
-14.51%	5.97%		
20.93%	6.36%		
12.69%	6.53%		
11.68%	6.66%		
-12.88%	6.11%		
25.38%	6.57%		
7.54%	6.60%		
-3.23%	6.33%		
-13.19%	5.90%		
4.43%	5.87%		
15.94%	6.08%		
-17.97%	5.50%		
-27.89%	4.64%		
33.39%	5.17%		
7.85%	5.22%		
-8.27%	4.93%		
7.29%	4.97%		
17.85%	5.21%		
34.72%	5.73%		
-12.90%	5.37%		
-12.40%	5.10%		
19.14%	5.34%		
-7.59%	5.12%		
5.52%	5.13%		
-5.79%	4.97%		
10.77%	5.07%		
8.31%	5.12%		
13.78%	5.24%		
-9.30%	5.00%		
15.23%	5.14%		
-1.87%	5.03%		
-4.24%	4.90%		
9.36%	4.97%		
13.71%	5.08%		
22.39%	5.32%		
21.92%	5.53%		
13.42%	5.63%		

29.14%	5.96%		
-25.69%	5.51%		
-17.42%	5.17%		
-37.08%	4.53%		
27.98%	4.82%		
6.25%	4.84%		
1.97%	4.80%		
13.65%	4.91%		
-4.73%	4.79%		
-56.65%	3.88%		
37.05%	4.29%		
6.36%	4.31%		
-13.97%	4.10%		
rd Error			
Stocks - T.Bonds			
2.36%			
2.68%			
8.94%			

Year	S&P 500	Dividends	)ividend Yiel	T.Bond rate	eturn on bond
1927	17.66	0.62	3.50%	3.17%	
1928	24.35	1.05	4.30%	3.45%	0.84%
1929	21.45	0.88	4.10%	3.36%	4.20%
1930	15.34	0.72	4.70%	3.22%	4.54%
1931	8.12	0.50	6.10%	3.93%	-2.56%
1932	6.92	0.50	7.20%	3.35%	8.79%
1933	9.97	0.41	4.10%	3.53%	1.86%
1934	9.5	0.35	3.70%	3.01%	7.96%
1935	13.43	0.51	3.80%	2.84%	4.47%
1936	17.18	0.54	3.14%	2.59%	5.02%
1937	10.55	0.56	5.30%	2.73%	1.38%
1938	13.14	0.50	3.80%	2.56%	4.21%
1939	12.46	0.54	4.30%	2.35%	4.41%
1940	10.58	0.55	5.20%	2.01%	5.40%
1941	8.69	0.54	6.20%	2.47%	-2.02%
1942	9.77	0.59	6.00%	2.49%	2.29%
1943	11.67	0.55	4.70%	2.49%	2.49%
1944	13.28	0.61	4.60%	2.48%	2.58%
1945	17.36	0.68	3.90%	2.33%	3.80%
1946	15.3	0.60	3.90%	2.24%	3.13%
1947	15.3	0.80	5.20%	2.39%	0.92%
1948	15.2	0.97	6.40%	2.44%	1.95%
1949	16.79	1.19	7.10%	2.19%	4.66%
1950	20.43	1.53	7.50%	2.39%	0.43%
1951	23.77	1.50	6.30%	2.70%	-0.30%
1952	26.57	1.51	5.70%	2.75%	2.27%
1953	24.81	1.44	5.80%	2.59%	4.14%
1954	35.98	1.87	5.20%	2.51%	3.29%
1955	45.48	2.23	4.90%	2.96%	-1.34%
1956	46.67	2.19	4.70%	3.59%	-2.26%
1957	39.99	1.80	4.50%	3.21%	6.80%
1958	55.21	2.26	4.10%	3.86%	-2.10%
1959	59.89	1.98	3.30%	4.69%	-2.65%
1960	58.11	1.98	3.41%	3.84%	11.64%
1961	71.55	2.04	2.85%	4.06%	2.06%
1962	63.1	2.15	3.40%	3.86%	5.69%
1963	75.02	2.35	3.13%	4.13%	1.68%
1964	84.75	2.58	3.05%	4.18%	3.73%
1965	92.43	2.83	3.06%	4.62%	0.72%

1966	80.33	2.88	3.59%	4.84%	2.91%	
1967	96.47	2.98	3.09%	5.70%	-1.58%	
1968	103.86	3.04	2.93%	6.03%	3.27%	
1969	92.06	3.24	3.52%	7.65%	-5.01%	
1970	92.15	3.19	3.46%	6.39%	16.75%	
1971	102.09	3.16	3.10%	5.93%	9.79%	
1972	118.05	3.19	2.70%	6.36%	2.82%	
1973	97.55	3.61	3.70%	6.74%	3.66%	
1974	68.56	3.72	5.43%	7.43%	1.99%	
1975	90.19	3.73	4.14%	8.00%	3.61%	
1976	107.46	4.22	3.93%	6.87%	15.98%	
1977	95.1	4.86	5.11%	7.69%	1.29%	
1978	96.11	5.18	5.39%	9.01%	-0.78%	
1979	107.94	5.97	5.53%	10.39%	0.67%	
1980	135.76	6.44	4.74%	12.84%	-2.99%	
1981	122.55	6.83	5.57%	13.72%	8.20%	
1982	140.64	6.93	4.93%	10.54%	32.81%	
1983	164.93	7.12	4.32%	11.83%	3.20%	
1984	167.24	7.83	4.68%	11.50%	13.73%	
1985	211.28	8.20	3.88%	9.26%	25.71%	
1986	242.17	8.19	3.38%	7.11%	24.28%	
1987	247.08	9.17	3.71%	8.99%	-4.96%	
1988	277.72	10.22	3.68%	9.11%	8.22%	
1989	353.4	11.73	3.32%	7.84%	17.69%	
1990	330.22	12.35	3.74%	8.08%	6.24%	
1991	417.09	12.97	3.11%	7.09%	15.00%	
1992	435.71	12.64	2.90%	6.77%	9.36%	
1993	466.45	12.69	2.72%	5.77%	14.21%	
1994	459.27	13.36	2.91%	7.81%	-8.04%	
1995	615.93	14.17	2.30%	5.71%	23.48%	
1996	747.74	14.89	1.99%	6.30%	1.43%	
1997	970.43	15.52	1.60%	5.81%	9.94%	
1998	1229.23	16.20	1.32%	4.65%	14.92%	
1999	1469.25	16.71	1.14%	6.44%	-8.25%	
2000	1320.28	16.27	1.23%	5.11%	16.66%	
2001	1148.09	15.74	1.37%	5.05%	5.57%	
2002	879.82	16.08	1.83%	3.82%	15.12%	
2003	1111.91	17.39	1.56%	4.25%	0.38%	
2004	1211.92	19.44	1.60%	4.22%	4.49%	
2005	1248.29	22.22	1.78%	4.39%	2.87%	
2006	1418.3	24.88	1.75%	4.70%	1.96%	

2007	1468.36	27.73	1.89%	4.02%	10.21%	
2008	903.25	28.39	3.14%	2.21%	20.10%	
2009	1115.1	22.41	2.01%	3.84%	-11.12%	
2010	1257.64	22.73	1.81%	3.29%	8.46%	
2011	1257.6	26.02	2.07%	1.88%	16.04%	

Title:	3-Month Treasury Bill: Secondary Market Rate					
Series ID:	TB3MS					
Source:	Board of Governors of the Federal Reserve System					
Release:	H.15 Selected Interest Rates					
Seasonal Adju	Not Applicable					
Frequency:	Monthly					
Units:	Percent					
Date Range:	1934-01-01 to 2008-11-01					
Last Updated:	2008-12-02 10:34 AM CST					
Notes:	Averages of Business Days, Discount Basis					
DATE	VALUE			Year	Sum	Average
Jan-34	0.72			1934	1.29	0.32%
Feb	0.62			1935	0.7	0.18%
Mar	0.24			1936	0.7	0.17%
Apr	0.15			1937	1.21	0.30%
May	0.16			1938	0.31	0.08%
June	0.15			1939	0.15	0.04%
july	0.15			1940	0.10	0.03%
Aug	0.19			1941	0.33	0.08%
Sept	0.21			1942	1.35	0.34%
Oct	0.27			1943	1.52	0.38%
Nov	0.25			1944	1.52	0.38%
Dec	0.23			1945	1.52	0.38%
Jan-35	0.20			1946	1.52	0.38%
Feb	0.19			1947	2.27	0.57%
Mar	0.15			1948	4.09	1.02%
Apr	0.15			1949	4.41	1.10%
May	0.15			1950	4.69	1.17%
June	0.15			1951	5.91	1.48%
july	0.15			1952	6.69	1.67%
Aug	0.16			1953	7.57	1.89%
Sept	0.20			1954	3.85	0.96%
Oct	0.20			1955	6.64	1.66%
Nov	0.16			1956	10.22	2.56%
Dec	0.15			1957	12.92	3.23%
Jan-36	0.20			1958	7.11	1.78%
Feb	0.20			1959	13.02	3.26%
Mar	0.20			1960	12.18	3.05%
Apr	0.20			1961	9.07	2.27%
May	0.20			1962	11.11	2.78%
June	0.20			1963	12.44	3.11%
july	0.15			1964	14.02	3.51%
Aug	0.20			1965	15.61	3.90%
Sept	0.16			1966	19.36	4.84%
Oct	0.13			1967	17.33	4.33%
Nov	0.11			1968	21.04	5.26%
Dec	0.12			1969	26.25	6.56%
Jan-37	0.17			1970	26.74	6.69%
Feb	0.15			1971	18.16	4.54%
Mar	0.38			1972	15.81	3.95%

Apr	0.56			1973	26.90	6.73%
May	0.41			1974	31.11	7.78%
June	0.36			1975	23.96	5.99%
july	0.28			1976	19.88	4.97%
Aug	0.29			1977	20.51	5.13%
Sept	0.31			1978	27.73	6.93%
Oct	0.20			1979	39.75	9.94%
Nov	0.09			1980	44.88	11.22%
Dec	0.11			1981	57.20	14.30%
Jan-38	0.10			1982	44.04	11.01%
Feb	0.08			1983	33.79	8.45%
Mar	0.08			1984	38.45	9.61%
Apr	0.09			1985	29.95	7.49%
May	0.05			1986	24.14	6.04%
June	0.05			1987	22.89	5.72%
july	0.07			1988	25.80	6.45%
Aug	0.06			1989	32.44	8.11%
Sept	0.08			1990	30.20	7.55%
Oct	0.05			1991	22.44	5.61%
Nov	0.04			1992	13.62	3.41%
Dec	0.03			1993	11.93	2.98%
Jan-39	0.03			1994	15.94	3.99%
Feb	0.03			1995	22.06	5.52%
Mar	0.03			1996	20.09	5.02%
Apr	0.03			1997	20.21	5.05%
May	0.03			1998	18.91	4.73%
June	0.03			1999	18.04	4.51%
july	0.04			2000	23.05	5.76%
Aug	0.05			2001	14.69	3.67%
Sept	0.14			2002	6.63	1.66%
Oct	0.05			2003	4.12	1.03%
Nov	0.05			2004	4.91	1.23%
Dec	0.04			2005	12.04	3.01%
Jan-40	0.01			2006	18.71	4.68%
Feb	0.02			2007	18.57	4.64%
Mar	0.02			2008	6.34	1.59%
Apr	0.02			2009	0.54	0.14%
May	0.06			2010		
June	0.10			2011		
july	0.05					
Aug	0.04					
Sept	0.05					
Oct	0.02					
Nov	0.02					
Dec	0.02					
Jan-41	0.02					
Feb	0.04					
Mar	0.11					
Apr	0.10					
May	0.11					
June	0.12					

july	0.12					
Aug	0.13					
Sept	0.10					
Oct	0.09					
Nov	0.28					
Dec	0.33					
Jan-42	0.27					
Feb	0.25					
Mar	0.25					
Apr	0.32					
May	0.37					
June	0.37					
july	0.38					
Aug	0.38					
Sept	0.38					
Oct	0.38					
Nov	0.38					
Dec	0.38					
Jan-43	0.38					
Feb	0.38					
Mar	0.38					
Apr	0.38					
May	0.38					
June	0.38					
july	0.38					
Aug	0.38					
Sept	0.38					
Oct	0.38					
Nov	0.38					
Dec	0.38					
Jan-44	0.38					
Feb	0.38					
Mar	0.38					
Apr	0.38					
May	0.38					
June	0.38					
july	0.38					
Aug	0.38					
Sept	0.38					
Oct	0.38					
Nov	0.38					
Dec	0.38					
Jan-45	0.38					
Feb	0.38					
Mar	0.38					
Apr	0.38					
May	0.38					
June	0.38					
july	0.38					
Aug	0.38					
Sept	0.38					

Oct	0.38					
Nov	0.38					
Dec	0.38					
Jan-46	0.38					
Feb	0.38					
Mar	0.38					
Apr	0.38					
May	0.38					
June	0.38					
july	0.38					
Aug	0.38					
Sept	0.38					
Oct	0.38					
Nov	0.38					
Dec	0.38					
Jan-47	0.38					
Feb	0.38					
Mar	0.38					
Apr	0.38					
May	0.38					
June	0.38					
july	0.66					
Aug	0.75					
Sept	0.80					
Oct	0.85					
Nov	0.92					
Dec	0.95					
Jan-48	0.97					
Feb	1.00					
Mar	1.00					
Apr	1.00					
May	1.00					
June	1.00					
july	1.00					
Aug	1.06					
Sept	1.09					
Oct	1.12					
Nov	1.14					
Dec	1.16					
Jan-49	1.17					
Feb	1.17					
Mar	1.17					
Apr	1.17					
May	1.17					
June	1.17					
july	1.02					
Aug	1.04					
Sept	1.07					
Oct	1.05					
Nov	1.08					
Dec	1.10					

Jan-50	1.07					
Feb	1.12					
Mar	1.12					
Apr	1.15					
May	1.16					
June	1.15					
july	1.16					
Aug	1.20					
Sept	1.30					
Oct	1.31					
Nov	1.36					
Dec	1.34					
Jan-51	1.34					
Feb	1.36					
Mar	1.40					
Apr	1.47					
May	1.55					
June	1.45					
july	1.56					
Aug	1.62					
Sept	1.63					
Oct	1.54					
Nov	1.56					
Dec	1.73					
Jan-52	1.57					
Feb	1.54					
Mar	1.59					
Apr	1.57					
May	1.67					
June	1.70					
july	1.81					
Aug	1.83					
Sept	1.71					
Oct	1.74					
Nov	1.85					
Dec	2.09					
Jan-53	1.96					
Feb	1.97					
Mar	2.01					
Apr	2.19					
May	2.16					
June	2.11					
july	2.04					
Aug	2.04					
Sept	1.79					
Oct	1.38					
Nov	1.44					
Dec	1.60					
Jan-54	1.18					
Feb	0.97					
Mar	1.03					

Apr	0.97					
May	0.76					
June	0.64					
july	0.72					
Aug	0.92					
Sept	1.01					
Oct	0.98					
Nov	0.93					
Dec	1.15					
Jan-55	1.22					
Feb	1.17					
Mar	1.28					
Apr	1.59					
May	1.45					
June	1.41					
july	1.60					
Aug	1.90					
Sept	2.07					
Oct	2.23					
Nov	2.24					
Dec	2.54					
Jan-56	2.41					
Feb	2.32					
Mar	2.25					
Apr	2.60					
May	2.61					
June	2.49					
july	2.31					
Aug	2.60					
Sept	2.84					
Oct	2.90					
Nov	2.99					
Dec	3.21					
Jan-57	3.11					
Feb	3.10					
Mar	3.08					
Apr	3.07					
May	3.06					
June	3.29					
july	3.16					
Aug	3.37					
Sept	3.53					
Oct	3.58					
Nov	3.31					
Dec	3.04					
Jan-58	2.44					
Feb	1.53					
Mar	1.30					
Apr	1.13					
May	0.91					
June	0.83					

july	0.91					
Aug	1.69					
Sept	2.44					
Oct	2.63					
Nov	2.67					
Dec	2.77					
Jan-59	2.82					
Feb	2.70					
Mar	2.80					
Apr	2.95					
May	2.84					
June	3.21					
july	3.20					
Aug	3.38					
Sept	4.04					
Oct	4.05					
Nov	4.15					
Dec	4.49					
Jan-60	4.35					
Feb	3.96					
Mar	3.31					
Apr	3.23					
May	3.29					
June	2.46					
july	2.30					
Aug	2.30					
Sept	2.48					
Oct	2.30					
Nov	2.37					
Dec	2.25					
Jan-61	2.24					
Feb	2.42					
Mar	2.39					
Apr	2.29					
May	2.29					
June	2.33					
july	2.24					
Aug	2.39					
Sept	2.28					
Oct	2.30					
Nov	2.48					
Dec	2.60					
Jan-62	2.72					
Feb	2.73					
Mar	2.72					
Apr	2.73					
May	2.69					
June	2.73					
july	2.92					
Aug	2.82					
Sept	2.78					

Oct	2.74					
Nov	2.83					
Dec	2.87					
Jan-63	2.91					
Feb	2.92					
Mar	2.89					
Apr	2.90					
May	2.93					
June	2.99					
july	3.18					
Aug	3.32					
Sept	3.38					
Oct	3.45					
Nov	3.52					
Dec	3.52					
Jan-64	3.52					
Feb	3.53					
Mar	3.54					
Apr	3.47					
May	3.48					
June	3.48					
july	3.46					
Aug	3.50					
Sept	3.53					
Oct	3.57					
Nov	3.64					
Dec	3.84					
Jan-65	3.81					
Feb	3.93					
Mar	3.93					
Apr	3.93					
May	3.89					
June	3.80					
july	3.84					
Aug	3.84					
Sept	3.92					
Oct	4.03					
Nov	4.09					
Dec	4.38					
Jan-66	4.59					
Feb	4.65					
Mar	4.59					
Apr	4.62					
May	4.64					
June	4.50					
july	4.80					
Aug	4.96					
Sept	5.37					
Oct	5.35					
Nov	5.32					
Dec	4.96					

Jan-67	4.72					
Feb	4.56					
Mar	4.26					
Apr	3.84					
May	3.60					
June	3.54					
july	4.21					
Aug	4.27					
Sept	4.42					
Oct	4.56					
Nov	4.73					
Dec	4.97					
Jan-68	5.00					
Feb	4.98					
Mar	5.17					
Apr	5.38					
May	5.66					
June	5.52					
july	5.31					
Aug	5.09					
Sept	5.19					
Oct	5.35					
Nov	5.45					
Dec	5.96					
Jan-69	6.14					
Feb	6.12					
Mar	6.02					
Apr	6.11					
May	6.04					
June	6.44					
july	7.00					
Aug	6.98					
Sept	7.09					
Oct	7.00					
Nov	7.24					
Dec	7.82					
Jan-70	7.87					
Feb	7.13					
Mar	6.63					
Apr	6.51					
May	6.84					
June	6.68					
july	6.45					
Aug	6.41					
Sept	6.12					
Oct	5.91					
Nov	5.28					
Dec	4.87					
Jan-71	4.44					
Feb	3.70					
Mar	3.38					

Apr	3.86					
May	4.14					
June	4.75					
july	5.40					
Aug	4.94					
Sept	4.69					
Oct	4.46					
Nov	4.22					
Dec	4.01					
Jan-72	3.38					
Feb	3.20					
Mar	3.73					
Apr	3.71					
May	3.69					
June	3.91					
july	3.98					
Aug	4.02					
Sept	4.66					
Oct	4.74					
Nov	4.78					
Dec	5.07					
Jan-73	5.41					
Feb	5.60					
Mar	6.09					
Apr	6.26					
May	6.36					
June	7.19					
july	8.01					
Aug	8.67					
Sept	8.29					
Oct	7.22					
Nov	7.83					
Dec	7.45					
Jan-74	7.77					
Feb	7.12					
Mar	7.96					
Apr	8.33					
May	8.23					
June	7.90					
july	7.55					
Aug	8.96					
Sept	8.06					
Oct	7.46					
Nov	7.47					
Dec	7.15					
Jan-75	6.26					
Feb	5.50					
Mar	5.49					
Apr	5.61					
May	5.23					
June	5.34					

july	6.13					
Aug	6.44					
Sept	6.42					
Oct	5.96					
Nov	5.48					
Dec	5.44					
Jan-76	4.87					
Feb	4.88					
Mar	5.00					
Apr	4.86					
May	5.20					
June	5.41					
july	5.23					
Aug	5.14					
Sept	5.08					
Oct	4.92					
Nov	4.75					
Dec	4.35					
Jan-77	4.62					
Feb	4.67					
Mar	4.60					
Apr	4.54					
May	4.96					
June	5.02					
july	5.19					
Aug	5.49					
Sept	5.81					
Oct	6.16					
Nov	6.10					
Dec	6.07					
Jan-78	6.44					
Feb	6.45					
Mar	6.29					
Apr	6.29					
May	6.41					
June	6.73					
july	7.01					
Aug	7.08					
Sept	7.85					
Oct	7.99					
Nov	8.64					
Dec	9.08					
Jan-79	9.35					
Feb	9.32					
Mar	9.48					
Apr	9.46					
May	9.61					
June	9.06					
july	9.24					
Aug	9.52					
Sept	10.26					

Oct	11.70					
Nov	11.79					
Dec	12.04					
Jan-80	12.00					
Feb	12.86					
Mar	15.20					
Apr	13.20					
May	8.58					
June	7.07					
july	8.06					
Aug	9.13					
Sept	10.27					
Oct	11.62					
Nov	13.73					
Dec	15.49					
Jan-81	15.02					
Feb	14.79					
Mar	13.36					
Apr	13.69					
May	16.30					
June	14.73					
july	14.95					
Aug	15.51					
Sept	14.70					
Oct	13.54					
Nov	10.86					
Dec	10.85					
Jan-82	12.28					
Feb	13.48					
Mar	12.68					
Apr	12.70					
May	12.09					
June	12.47					
july	11.35					
Aug	8.68					
Sept	7.92					
Oct	7.71					
Nov	8.07					
Dec	7.94					
Jan-83	7.86					
Feb	8.11					
Mar	8.35					
Apr	8.21					
May	8.19					
June	8.79					
july	9.08					
Aug	9.34					
Sept	9.00					
Oct	8.64					
Nov	8.76					
Dec	9.00					

Jan-84	8.90					
Feb	9.09					
Mar	9.52					
Apr	9.69					
May	9.83					
June	9.87					
july	10.12					
Aug	10.47					
Sept	10.37					
Oct	9.74					
Nov	8.61					
Dec	8.06					
Jan-85	7.76					
Feb	8.27					
Mar	8.52					
Apr	7.95					
May	7.48					
June	6.95					
july	7.08					
Aug	7.14					
Sept	7.10					
Oct	7.16					
Nov	7.24					
Dec	7.10					
Jan-86	7.07					
Feb	7.06					
Mar	6.56					
Apr	6.06					
May	6.15					
June	6.21					
july	5.83					
Aug	5.53					
Sept	5.21					
Oct	5.18					
Nov	5.35					
Dec	5.53					
Jan-87	5.43					
Feb	5.59					
Mar	5.59					
Apr	5.64					
May	5.66					
June	5.67					
july	5.69					
Aug	6.04					
Sept	6.40					
Oct	6.13					
Nov	5.69					
Dec	5.77					
Jan-88	5.81					
Feb	5.66					
Mar	5.70					

Apr	5.91					
May	6.26					
June	6.46					
july	6.73					
Aug	7.06					
Sept	7.24					
Oct	7.35					
Nov	7.76					
Dec	8.07					
Jan-89	8.27					
Feb	8.53					
Mar	8.82					
Apr	8.65					
May	8.43					
June	8.15					
july	7.88					
Aug	7.90					
Sept	7.75					
Oct	7.64					
Nov	7.69					
Dec	7.63					
Jan-90	7.64					
Feb	7.74					
Mar	7.90					
Apr	7.77					
May	7.74					
June	7.73					
july	7.62					
Aug	7.45					
Sept	7.36					
Oct	7.17					
Nov	7.06					
Dec	6.74					
Jan-91	6.22					
Feb	5.94					
Mar	5.91					
Apr	5.65					
May	5.46					
June	5.57					
july	5.58					
Aug	5.33					
Sept	5.22					
Oct	4.99					
Nov	4.56					
Dec	4.07					
Jan-92	3.80					
Feb	3.84					
Mar	4.04					
Apr	3.75					
May	3.63					
June	3.66					

july	3.21					
Aug	3.13					
Sept	2.91					
Oct	2.86					
Nov	3.13					
Dec	3.22					
Jan-93	3.00					
Feb	2.93					
Mar	2.95					
Apr	2.87					
May	2.96					
June	3.07					
july	3.04					
Aug	3.02					
Sept	2.95					
Oct	3.02					
Nov	3.10					
Dec	3.06					
Jan-94	2.98					
Feb	3.25					
Mar	3.50					
Apr	3.68					
May	4.14					
June	4.14					
july	4.33					
Aug	4.48					
Sept	4.62					
Oct	4.95					
Nov	5.29					
Dec	5.60					
Jan-95	5.71					
Feb	5.77					
Mar	5.73					
Apr	5.65					
May	5.67					
June	5.47					
july	5.42					
Aug	5.40					
Sept	5.28					
Oct	5.28					
Nov	5.36					
Dec	5.14		5.49			
Jan-96	5.00					
Feb	4.83					
Mar	4.96					
Apr	4.95					
May	5.02					
June	5.09					
july	5.15					
Aug	5.05					
Sept	5.09					

Oct	4.99					
Nov	5.03					
Dec	4.91		5.01			
Jan-97	5.03					
Feb	5.01					
Mar	5.14					
Apr	5.16					
May	5.05					
June	4.93					
july	5.05					
Aug	5.14					
Sept	4.95					
Oct	4.97					
Nov	5.14					
Dec	5.16		5.06			
Jan-98	5.04					
Feb	5.09					
Mar	5.03					
Apr	4.95					
May	5.00					
June	4.98					
july	4.96					
Aug	4.90					
Sept	4.61					
Oct	3.96					
Nov	4.41					
Dec	4.39		4.78			
Jan-99	4.34					
Feb	4.44					
Mar	4.44					
Apr	4.29					
May	4.50					
June	4.57					
july	4.55					
Aug	4.72					
Sept	4.68					
Oct	4.86					
Nov	5.07					
Dec	5.20		4.64			
Jan-00	5.32					
Feb	5.55					
Mar	5.69					
Apr	5.66					
May	5.79					
June	5.69					
july	5.96					
Aug	6.09					
Sept	6.00					
Oct	6.11					
Nov	6.17					
Dec	5.77		5.82			

Jan-01	5.15					
Feb	4.88					
Mar	4.42					
Apr	3.87					
May	3.62					
June	3.49					
july	3.51					
Aug	3.36					
Sept	2.64					
Oct	2.16					
Nov	1.87					
Dec	1.69		3.39			
Jan-02	1.65					
Feb	1.73					
Mar	1.79					
Apr	1.72					
May	1.73					
June	1.70					
july	1.68					
Aug	1.62					
Sept	1.63					
Oct	1.58					
Nov	1.23					
Dec	1.19		1.60			
Jan-03	1.17					
Feb	1.17					
Mar	1.13					
Apr	1.13					
May	1.07					
June	0.92					
july	0.90					
Aug	0.95					
Sept	0.94					
Oct	0.92					
Nov	0.93					
Dec	0.90		1.01			
Jan-04	0.88					
Feb	0.93					
Mar	0.94					
Apr	0.94					
May	1.02					
June	1.27					
july	1.33					
Aug	1.48					
Sept	1.65					
Oct	1.76					
Nov	2.07					
Dec	2.19		1.37			
Jan-05	2.33					
Feb	2.54					
Mar	2.74					

Apr	2.78					
May	2.84					
June	2.97					
july	3.22					
Aug	3.44					
Sept	3.42					
Oct	3.71					
Nov	3.88					
Dec	3.89		3.15			
Jan-06	4.24					
Feb	4.43					
Mar	4.51					
Apr	4.60					
May	4.72					
June	4.79					
july	4.95					
Aug	4.96					
Sept	4.81					
Oct	4.92					
Nov	4.94					
Dec	4.85		4.73			
Jan-07	4.98					
Feb	5.03					
Mar	4.94					
Apr	4.87					
May	4.73					
June	4.61					
july	4.82					
Aug	4.20					
Sept	3.89					
Oct	3.90					
Nov	3.27					
Dec	3.00		4.35			
Jan-08	2.75					
Feb	2.12					
Mar	1.26					
Apr	1.29					
May	1.73					
June	1.86					
july	1.63					
Aug	1.72					
Sept	1.13					
Oct	0.67					
Nov	0.19					
Dec	0.03		1.37			
January 09	0.13					
Feb	0.30					
Mar	0.21					
Apr	0.16					
May	0.18					
June	0.18					

July	0.18					
Aug	0.17					
Sept	0.12					
Oct	0.07					
Nov	0.05					
Dec	0.14		0.16			

Bond used:	US treasury 10-year bond at end of each year	
Source:	Federal Reserve of St. Louis (FRED)	
Computation	To compute the return on a constant maturity bond, I add two components - t	
	The return on the 10-year bond for 1928 = 3.17% (Coupon rate promised at t	

Year	T.Bond rate	eturn on bond
1927	3.17%	
1928	3.45%	0.84%
1929	3.36%	4.20%
1930	3.22%	4.54%
1931	3.93%	-2.56%
1932	3.35%	8.79%
1933	3.53%	1.86%
1934	3.01%	7.96%
1935	2.84%	4.47%
1936	2.59%	5.02%
1937	2.73%	1.38%
1938	2.56%	4.21%
1939	2.35%	4.41%
1940	2.01%	5.40%
1941	2.47%	-2.02%
1942	2.49%	2.29%
1943	2.49%	2.49%
1944	2.48%	2.58%
1945	2.33%	3.80%
1946	2.24%	3.13%
1947	2.39%	0.92%
1948	2.44%	1.95%
1949	2.19%	4.66%
1950	2.39%	0.43%
1951	2.70%	-0.30%
1952	2.75%	2.27%
1953	2.59%	4.14%
1954	2.51%	3.29%
1955	2.96%	-1.34%
1956	3.59%	-2.26%
1957	3.21%	6.80%
1958	3.86%	-2.10%
1959	4.69%	-2.65%
1960	3.84%	11.64%

1961	4.06%	2.06%				
1962	3.86%	5.69%				
1963	4.13%	1.68%				
1964	4.18%	3.73%				
1965	4.62%	0.72%				
1966	4.84%	2.91%				
1967	5.70%	-1.58%				
1968	6.03%	3.27%				
1969	7.65%	-5.01%				
1970	6.39%	16.75%				
1971	5.93%	9.79%				
1972	6.36%	2.82%				
1973	6.74%	3.66%				
1974	7.43%	1.99%				
1975	8.00%	3.61%				
1976	6.87%	15.98%				
1977	7.69%	1.29%				
1978	9.01%	-0.78%				
1979	10.39%	0.67%				
1980	12.84%	-2.99%				
1981	13.72%	8.20%				
1982	10.54%	32.81%				
1983	11.83%	3.20%				
1984	11.50%	13.73%				
1985	9.26%	25.71%				
1986	7.11%	24.28%				
1987	8.99%	-4.96%				
1988	9.11%	8.22%				
1989	7.84%	17.69%				
1990	8.08%	6.24%				
1991	7.09%	15.00%				
1992	6.77%	9.36%				
1993	5.77%	14.21%				
1994	7.81%	-8.04%				
1995	5.71%	23.48%				
1996	6.30%	1.43%				
1997	5.81%	9.94%				
1998	4.65%	14.92%				
1999	6.44%	-8.25%				
2000	5.11%	16.66%				
2001	5.05%	5.57%				

2002	3.82%	15.12%				
2003	4.25%	0.38%				
2004	4.22%	4.49%				
2005	4.39%	2.87%				
2006	4.70%	1.96%				
2007	4.02%	10.21%				
2008	2.21%	20.10%				
2009	3.84%	-11.12%				
2010	3.29%	8.46%				
2011	1.88%	16.04%				

he promised coupon at the start of the year and the price change due to interest rate changes.						
he end of 1927) - Price change on a bond with a coupon rate of 3.17%, when the interest rate						

goes to 3.45%.

	Arithmetic Average		Geometric Average		
	Stocks - T. Bills	Stocks - T. Bonds	Stocks - T. Bills	Stocks - T. Bonds	
1928-2011	7.55%	5.79%	5.62%	4.10%	
	2.22%	2.36%			
1962-2011	5.38%	3.36%	4.02%	2.35%	
	2.39%	2.68%			
2002-2011	3.12%	-1.92%	1.08%	-3.61%	
	6.46%	8.94%			