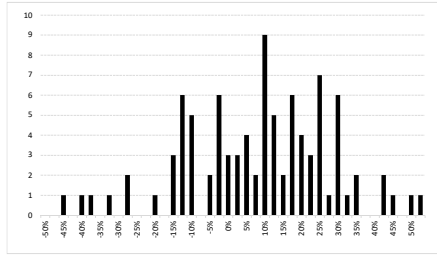
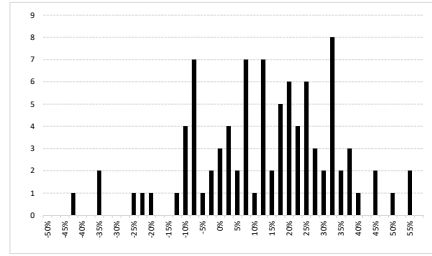


Frequency Distribution of Market Risk Premium, 1926 - 2017



Frequency Distribution of Market Returns, 1926 - 2017



Source: Duff & Phelps, 2018 SBBI Yearbook at Appendix A-1, A-7

Market Risk Premium, 1926 - 2017

Year	Large Company Stocks Total Returns		Long-Term Government Bond Income Returns		MRP
	Jan-Dec*	Jan-Dec*	Jan-Dec*	Jan-Dec*	
1926	0.1162	0.0373	0.0373	7.89%	
1927	0.3749	0.0341	0.0341	34.08%	
1928	0.4361	0.0322	0.0322	40.39%	
1929	-0.0842	0.0347	0.0347	-11.89%	
1930	-0.2490	0.0332	0.0332	-28.22%	
1931	-0.4334	0.0333	0.0333	-46.67%	
1932	-0.0819	0.0369	0.0369	-11.88%	
1933	0.5399	0.0312	0.0312	50.87%	
1934	-0.3144	0.0318	0.0318	-4.62%	
1935	0.4767	0.0281	0.0281	44.86%	
1936	0.3392	0.0277	0.0277	31.15%	
1937	-0.3503	0.0266	0.0266	-37.69%	
1938	0.3112	0.0264	0.0264	28.48%	
1939	-0.0041	0.0240	0.0240	-2.81%	
1940	-0.0978	0.0223	0.0223	-12.01%	
1941	-0.1159	0.0194	0.0194	-13.53%	
1942	0.2034	0.0246	0.0246	17.88%	
1943	0.2590	0.0244	0.0244	23.46%	
1944	0.1975	0.0246	0.0246	17.29%	
1945	0.3644	0.0234	0.0234	34.10%	
1946	-0.0807	0.0204	0.0204	-10.11%	
1947	0.0571	0.0213	0.0213	3.58%	
1948	0.0550	0.0240	0.0240	3.10%	
1949	0.1879	0.0225	0.0225	16.54%	
1950	0.3171	0.0212	0.0212	29.59%	
1951	0.2402	0.0238	0.0238	21.64%	
1952	0.1837	0.0266	0.0266	15.71%	
1953	-0.0099	0.0284	0.0284	-8.83%	
1954	0.5262	0.0279	0.0279	49.83%	
1955	0.3166	0.0275	0.0275	28.81%	
1956	0.0656	0.0299	0.0299	3.57%	
1957	-0.1078	0.0344	0.0344	-14.22%	
1958	0.4336	0.0327	0.0327	40.09%	
1959	0.1196	0.0401	0.0401	7.95%	
1960	0.0047	0.0426	0.0426	-3.79%	
1961	0.2689	0.0383	0.0383	23.06%	
1962	-0.0873	0.0400	0.0400	-12.73%	
1963	0.2280	0.0389	0.0389	18.91%	
1964	0.1648	0.0415	0.0415	12.33%	
1965	0.1245	0.0420	0.0420	8.25%	
1966	-0.1006	0.0449	0.0449	-14.55%	
1967	0.2398	0.0459	0.0459	19.39%	
1968	0.1106	0.0550	0.0550	5.56%	
1969	-0.0850	0.0595	0.0595	-14.45%	
1970	0.0386	0.0674	0.0674	-2.88%	
1971	0.1430	0.0632	0.0632	7.98%	
1972	0.1899	0.0587	0.0587	13.12%	
1973	-0.1469	0.0651	0.0651	-21.20%	
1974	-0.2647	0.0727	0.0727	-33.74%	
1975	0.3723	0.0799	0.0799	29.24%	
1976	0.2393	0.0789	0.0789	16.04%	
1977	-0.0716	0.0714	0.0714	-14.30%	
1978	0.0657	0.0790	0.0790	-1.33%	
1979	0.1861	0.0886	0.0886	9.75%	
1980	0.3250	0.0997	0.0997	22.53%	
1981	-0.0492	0.1155	0.1155	-16.47%	
1982	0.2155	0.1350	0.1350	8.05%	
1983	0.2256	0.1038	0.1038	12.18%	
1984	0.0627	0.1174	0.1174	-5.47%	
1985	0.3173	0.1125	0.1125	20.48%	
1986	0.1367	0.0898	0.0898	9.69%	
1987	0.0525	0.0792	0.0792	-2.67%	
1988	0.1661	0.0897	0.0897	7.64%	
1989	0.3169	0.0881	0.0881	22.88%	
1990	-0.0310	0.0819	0.0819	-11.29%	
1991	0.3047	0.0822	0.0822	22.25%	
1992	0.0762	0.0726	0.0726	0.36%	
1993	0.1008	0.0717	0.0717	2.91%	
1994	0.0132	0.0659	0.0659	-5.27%	
1995	0.3758	0.0760	0.0760	29.98%	
1996	0.2296	0.0616	0.0616	16.78%	
1997	0.3336	0.0664	0.0664	26.72%	
1998	0.2858	0.0583	0.0583	22.75%	
1999	0.2104	0.0557	0.0557	15.47%	
2000	-0.0910	0.0650	0.0650	-15.60%	
2001	-0.1189	0.0553	0.0553	-17.42%	
2002	-0.2210	0.0559	0.0559	-27.69%	
2003	0.2868	0.0480	0.0480	23.88%	
2004	0.1088	0.0502	0.0502	5.86%	
2005	0.0491	0.0469	0.0469	0.22%	
2006	0.1579	0.0468	0.0468	11.11%	
2007	0.0549	0.0486	0.0486	0.63%	
2008	-0.3700	0.0445	0.0445	-41.45%	
2009	0.2646	0.0347	0.0347	22.99%	
2010	0.1506	0.0425	0.0425	10.81%	
2011	0.0211	0.0390	0.0390	-1.79%	
2012	0.1600	0.0246	0.0246	13.54%	
2013	0.3239	0.0288	0.0288	29.51%	
2014	0.1369	0.0341	0.0341	10.28%	
2015	0.0198	0.0247	0.0247	-1.09%	
2016	0.1196	0.0230	0.0230	9.66%	
2017	0.2183	0.0267	0.0267	19.16%	
Average	0.1206	0.0499	0.0499	7.07%	
Std. Dev.	0.1980	0.0263	0.0263		

Market Risk Premium

Bin	Frequency	Cumulative %
-50.00%	0	0.00%
-47.50%	0	0.00%
-45.00%	1	1.09%
-42.50%	0	1.09%
-40.00%	1	2.17%
-37.50%	1	3.26%
-35.00%	0	3.26%
-32.50%	1	4.35%
-30.00%	0	4.35%
-27.50%	2	6.52%
-25.00%	0	6.52%
-22.50%	0	6.52%
-20.00%	1	7.61%
-17.50%	0	7.61%
-15.00%	3	10.87%
-12.50%	6	17.39%
-10.00%	5	22.83%
-7.50%	0	22.83%
-5.00%	2	25.00%
-2.50%	6	31.52%
0.00%	3	34.78%
2.50%	3	38.04%
5.00%	4	42.39%
7.50%	2	44.57%
10.00%	9	54.35%
12.50%	5	59.78%
15.00%	2	61.96%
17.50%	6	68.48%
20.00%	4	72.83%
22.50%	3	76.09%
25.00%	7	83.70%
27.50%	1	84.78%
30.00%	6	91.30%
32.50%	1	92.39%
35.00%	2	94.57%
37.50%	0	94.57%
40.00%	0	94.57%
42.50%	2	96.74%
45.00%	1	97.83%
47.50%	0	97.83%
50.00%	1	98.91%
51.00%	1	100.00%

Count: 92

Hevent Direct MRP	Rank
11.78%	57.60%
12.49%	59.30%

Market Return

Bin	Frequency	Cumulative %
-50.00%	0	0.00%
-47.50%	0	0.00%
-45.00%	0	0.00%
-42.50%	1	1.09%
-40.00%	0	1.09%
-37.50%	0	1.09%
-35.00%	2	3.26%
-32.50%	0	3.26%
-30.00%	0	3.26%
-27.50%	0	3.26%
-25.00%	1	4.35%
-22.50%	1	5.43%
-20.00%	1	6.52%
-17.50%	0	6.52%
-15.00%	0	6.52%
-12.50%	1	7.61%
-10.00%	4	11.96%
-7.50%	7	19.57%
-5.00%	1	20.65%
-2.50%	2	22.83%
0.00%	3	26.09%
2.50%	4	30.43%
5.00%	2	32.61%
7.50%	7	40.22%
10.00%	1	41.30%
12.50%	7	48.91%
15.00%	2	51.09%
17.50%	5	56.52%
20.00%	6	63.04%
22.50%	4	67.39%
25.00%	6	73.91%
27.50%	3	77.17%
30.00%	2	79.35%
32.50%	8	88.04%
35.00%	2	90.22%
37.50%	3	93.48%
40.00%	1	94.57%
42.50%	0	94.57%
45.00%	2	96.74%
47.50%	0	96.74%
50.00%	1	97.83%
52.50%	0	97.83%
55.00%	2	100.00%
57.50%	0	100.00%

Count: 92

Hevent	% Rank	Occurrence
14.84%	51.30%	45
15.54%	52.30%	44