



# PORTFOLIO RISK & RETURN ANALYSIS

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# INTRODUCTION & OBJECTIVES



- Analyze 5 selected companies alongside SPY and a Risk-Free asset



- Construct Market-Weighted and Equal-Weighted portfolios



- Evaluate key risk-return metrics: Mean Return, Standard Deviation, Beta, Sharpe Ratio



- Visualize risk vs return across all assets

# OUR 5 CHOSEN STOCKS



ckckckk



3M

# PORTFOLIO CONSTRUCTION & METHODOLOGY



- Market-Weighted: Based on individual market capitalizations



- Equal-Weighted: Each asset carries equal weight



- Monthly returns calculated from April 2019 to April 2025



- SPY used as benchmark to determine beta

BQL	MMM Equity	TMUS Equity	TSLA Equity	CVS Equity	BLK Equity	SPY Equity
DATES	CUR_MKT_CAP	CUR_MKT_CAP	CUR_MKT_CAP	CUR_MKT_CAP	CUR_MKT_CAP	CUR_MKT_CAP
4/30/19	\$109,238,625,054	\$62,355,576,773	\$41,465,417,991	\$70,607,273,251	\$74,969,732,851	\$282,401,000,000
5/31/19	\$92,084,166,284	\$62,740,013,128	\$32,979,824,874	\$68,033,453,277	\$64,213,064,663	\$248,426,000,000
6/28/19	\$99,917,805,218	\$63,338,025,236	\$39,801,640,022	\$70,787,528,529	\$72,517,064,315	\$268,353,000,000
7/31/19	\$100,512,755,616	\$68,125,860,437	\$43,278,932,215	\$72,580,275,627	\$72,266,739,055	\$276,426,000,000
8/30/19	\$93,034,127,966	\$66,690,372,596	\$40,412,896,391	\$79,226,260,304	\$65,316,697,744	\$261,767,000,000
9/30/19	\$94,575,875,820	\$67,305,581,671	\$43,146,378,058	\$82,022,328,257	\$68,884,260,656	\$274,210,000,000
10/31/19	\$94,877,607,568	\$70,721,812,803	\$56,762,710,681	\$86,339,977,374	\$71,366,715,611	\$274,675,000,000
11/29/19	\$97,626,349,699	\$67,205,400,383	\$59,469,988,449	\$97,923,560,807	\$76,399,606,106	\$291,265,000,000
12/31/19	\$101,450,436,555	\$67,094,175,659	\$75,401,831,447	\$96,648,616,080	\$77,602,153,906	\$311,796,000,000
1/31/20	\$91,237,536,922	\$67,752,968,254	\$117,261,897,269	\$88,231,378,955	\$81,407,391,809	\$308,710,000,000
2/28/20	\$85,902,544,000	\$77,261,065,305	\$122,983,362,352	\$77,180,169,862	\$77,686,696,517	\$257,845,000,000
3/31/20	\$78,528,840,478	\$71,896,665,696	\$96,473,423,064	\$77,375,793,814	\$68,119,470,314	\$235,386,000,000
4/30/20	\$87,383,832,682	\$108,388,198,557	\$144,937,959,577	\$80,359,166,858	\$77,446,004,741	\$260,033,000,000
5/29/20	\$89,983,720,279	\$123,625,779,340	\$154,901,636,570	\$85,705,945,723	\$80,583,211,439	\$270,733,000,000
6/30/20	\$89,724,881,912	\$129,238,995,589	\$200,316,570,281	\$84,921,691,225	\$82,938,331,401	\$273,541,000,000
7/31/20	\$86,673,645,438	\$133,022,196,997	\$266,838,903,092	\$82,268,296,840	\$87,651,620,024	\$286,826,000,000
8/31/20	\$93,902,689,435	\$144,427,545,486	\$464,338,876,502	\$81,296,658,314	\$90,604,205,922	\$305,395,000,000
9/30/20	\$92,266,794,220	\$141,555,828,777	\$399,755,220,356	\$76,428,281,480	\$85,932,109,674	\$293,676,000,000
10/30/20	\$92,268,427,605	\$135,626,724,022	\$367,823,400,433	\$73,405,176,511	\$91,369,673,388	\$278,337,000,000
11/30/20	\$99,634,442,987	\$165,003,700,001	\$538,028,456,051	\$88,731,246,029	\$106,505,852,233	\$324,345,000,000
12/31/20	\$100,822,696,056	\$167,374,036,744	\$668,905,110,256	\$89,398,791,913	\$110,042,575,529	\$332,074,000,000
1/29/21	\$101,324,531,089	\$166,488,828,718	\$752,187,668,657	\$93,783,652,132	\$106,949,658,391	\$317,217,000,000
2/26/21	\$101,377,246,000	\$149,099,206,077	\$648,381,041,952	\$89,342,611,108	\$106,004,211,603	\$328,663,000,000
3/31/21	\$111,642,106,289	\$155,710,923,810	\$641,114,950,927	\$98,653,231,083	\$115,079,820,562	\$349,140,000,000
4/30/21	\$114,277,129,894	\$164,740,868,810	\$683,425,153,029	\$100,276,448,238	\$125,054,617,449	\$367,383,000,000
5/31/21	\$117,697,212,406	\$176,368,033,122	\$602,293,462,699	\$113,804,126,769	\$133,771,754,733	\$359,043,000,000
6/30/21	\$115,140,845,647	\$180,582,412,422	\$654,775,705,506	\$109,854,423,156	\$133,456,025,083	\$376,557,000,000
7/30/21	\$114,535,655,799	\$179,725,515,595	\$680,338,416,578	\$108,432,529,856	\$132,266,319,555	\$384,434,000,000
8/31/21	\$112,684,013,389	\$170,996,344,892	\$737,020,262,235	\$113,998,062,134	\$143,564,770,522	\$403,596,000,000
9/30/21	\$101,504,722,341	\$159,440,176,788	\$776,850,531,395	\$111,979,112,776	\$127,640,524,596	\$384,781,000,000
10/29/21	\$102,964,850,840	\$153,553,565,560	\$1,118,751,045,128	\$117,811,633,144	\$143,590,843,807	\$419,402,000,000
11/30/21	\$97,986,026,622	\$135,909,514,490	\$1,149,643,231,976	\$117,564,423,992	\$137,425,797,486	\$417,376,000,000
12/31/21	\$101,576,912,257	\$144,865,220,297	\$1,061,285,220,297	\$136,177,251,056	\$139,889,289,574	\$404,964,000,000
1/31/22	\$94,937,786,258	\$135,110,120,232	\$940,714,972,165	\$140,599,447,557	\$125,018,721,640	\$406,283,000,000
2/28/22	\$84,894,015,000	\$153,925,015,232	\$899,596,029,843	\$136,041,705,655	\$113,102,821,880	\$397,762,000,000
3/31/22	\$84,738,313,216	\$160,346,365,596	\$1,113,707,801,614	\$132,839,180,215	\$116,186,241,572	\$420,740,000,000
4/29/22	\$82,069,667,203	\$154,365,043,622	\$902,116,002,293	\$126,237,308,843	\$94,779,971,546	\$373,821,000,000
5/31/22	\$84,954,795,567	\$167,090,322,391	\$785,564,885,731	\$126,869,152,910	\$101,367,797,855	\$379,702,000,000
6/30/22	\$73,641,905,649	\$168,657,303,432	\$697,926,136,976	\$121,505,898,797	\$92,271,542,425	\$346,139,000,000
7/29/22	\$81,590,066,647	\$179,403,139,222	\$931,110,623,872	\$125,466,052,200	\$101,382,948,181	\$374,635,738,471
8/31/22	\$70,830,248,447	\$180,531,776,335	\$863,615,679,102	\$128,854,147,407	\$100,470,779,982	\$358,480,469,601
9/30/22	\$61,174,390,316	\$168,254,712,634	\$831,152,929,436	\$125,204,483,324	\$82,965,021,697	\$330,367,253,193
10/31/22	\$69,529,531,278	\$188,564,000,549	\$718,514,992,245	\$124,324,888,023	\$97,383,036,207	\$372,222,291,020
11/30/22	\$69,629,025,003	\$188,439,585,136	\$614,814,401,820	\$133,866,948,995	\$107,540,033,132	\$380,296,997,051
12/30/22	\$66,284,930,367	\$174,181,578,760	\$388,971,946,668	\$122,448,576,529	\$106,433,091,730	\$354,620,499,622
1/31/23	\$63,609,654,658	\$185,764,653,748	\$548,085,869,867	\$115,918,160,977	\$114,029,984,014	\$379,380,838,512
2/28/23	\$59,310,870,000	\$173,371,890,580	\$650,887,566,623	\$107,214,688,661	\$103,577,462,637	\$359,678,115,286
3/31/23	\$57,964,893,767	\$176,615,449,652	\$656,424,746,349	\$95,422,337,975	\$100,526,161,902	\$371,903,023,969
4/28/23	\$58,598,622,890	\$172,664,525,714	\$520,781,251,697	\$93,824,263,110	\$100,615,931,275	\$377,636,205,008
5/31/23	\$51,476,334,568	\$164,685,240,821	\$646,357,012,103	\$87,216,180,002	\$98,476,933,795	\$397,702,157,171
6/30/23	\$55,216,687,200	\$166,665,063,389	\$629,681,140,873	\$88,626,407,814	\$103,506,961,377	\$423,346,636,380
7/31/23	\$61,547,155,945	\$162,080,512,439	\$848,821,340,310	\$95,754,468,387	\$110,652,137,647	\$434,205,627,884
8/31/23	\$58,881,032,508	\$160,292,297,451	\$819,144,492,043	\$83,704,280,745	\$104,592,466,522	\$415,845,135,941
9/29/23	\$51,677,531,297	\$164,762,834,921	\$794,196,895,533	\$89,676,735,946	\$96,522,659,208	\$404,131,946,948
10/31/23	\$50,233,234,606	\$166,370,502,132	\$638,454,572,168	\$88,636,372,782	\$91,415,016,133	\$393,706,910,911
11/30/23	\$54,718,048,955	\$173,991,663,750	\$763,195,447,551	\$87,444,622,747	\$111,754,831,089	\$435,808,197,742
12/29/23	\$60,379,298,594	\$185,417,636,750	\$789,898,387,236	\$101,613,354,115	\$120,765,373,958	\$493,719,762,056
1/31/24	\$52,111,112,535	\$192,799,962,610	\$596,479,396,825	\$95,706,498,803	\$115,188,268,920	\$485,358,196,174
2/29/24	\$50,914,724,000	\$193,815,474,998	\$642,945,488,980	\$93,590,893,257	\$120,843,000,648	\$502,253,397,497
3/29/24	\$58,695,028,530	\$193,720,525,592	\$595,854,307,053	\$100,373,936,347	\$124,173,354,747	\$531,586,686,616
4/30/24	\$53,404,894,913	\$192,383,313,700	\$584,515,873,488	\$85,347,109,399	\$112,259,876,626	\$500,188,993,590
5/31/24	\$55,413,596,276	\$205,027,621,155	\$567,932,053,419	\$74,820,229,131	\$114,723,643,331	\$534,374,589,515
6/28/24	\$56,547,986,853	\$206,457,283,351	\$631,078,137,526	\$74,142,327,726	\$116,995,737,041	\$546,278,303,170
7/31/24	\$70,070,054,359	\$212,681,393,535	\$741,380,201,109	\$75,736,651,401	\$130,247,883,347	\$557,646,950,314
8/30/24	\$73,992,439,212	\$231,863,323,038	\$684,004,459,256	\$72,006,733,415	\$133,583,742,745	\$563,247,159,147
9/30/24	\$75,086,639,991	\$240,777,553,050	\$835,813,771,776	\$79,101,736,498	\$140,649,471,146	\$589,356,010,876
10/31/24	\$69,954,444,241	\$258,974,200,368	\$802,034,405,801	\$71,025,509,584	\$145,148,480,772	\$588,132,182,442
11/29/24	\$72,714,910,793	\$286,507,572,857	\$1,077,984,191,900	\$75,315,697,553	\$151,505,807,298	\$631,973,791,496
12/31/24	\$70,297,070,578	\$256,154,217,813	\$1,296,350,492,691	\$56,489,915,184	\$158,767,939,932	\$626,655,558,545
1/31/25	\$82,881,819,985	\$265,992,321,467	\$1,301,402,793,170	\$71,074,863,790	\$166,572,289,215	\$624,106,668,051
2/28/25	\$84,214,648,000	\$307,917,196,105	\$942,375,161,500	\$82,859,451,540	\$151,803,711,497	\$624,857,770,685
3/31/25	\$79,204,291,266	\$304,514,796,148	\$833,592,555,309	\$85,418,865,518	\$146,944,278,731	\$569,840,588,689
4/2/25	\$79,689,674,808	\$302,060,041,714	\$909,502,388,793	\$85,822,319,554	\$149,328,975,785	\$576,760,015,365

2		MMM Equity	TMUS Equity	TSLA Equity	CVS Equity	BLK Equity	SPY Equity	GBM Govt
3	DATES	PX_LAST	PX_LAST	PX_LAST	PX_LAST	PX_LAST	PX_LAST	PX_LAST
4	4/30/19	158.4	72.9	15.9	54.4		485.2	294.0
5	5/31/19	133.6	73.3	12.3	52.4		415.6	275.3
6	6/28/19	144.9	74.0	14.9	54.5		469.3	293.0
7	7/31/19	146.1	79.6	16.1	55.9		467.7	297.4
8	8/30/19	135.2	77.9	15.0	60.9		422.6	292.5
9	9/30/19	137.5	78.6	16.1	63.1		445.6	296.8
10	10/31/19	137.9	82.5	21.0	66.4		461.7	303.3
11	11/29/19	141.9	78.4	22.0	75.3		494.9	314.3
12	12/31/19	147.5	78.3	27.9	74.3		502.7	321.9
13	1/31/20	132.7	79.0	43.4	67.8		527.4	321.7
14	2/28/20	124.8	90.0	44.5	59.2		463.0	296.3
15	3/31/20	114.1	83.7	34.9	59.3		440.0	257.8
16	4/30/20	127.0	87.6	52.1	61.6		502.0	290.5
17	5/29/20	130.8	99.9	55.7	65.6		528.6	304.3
18	6/30/20	130.4	104.2	72.0	65.0		544.1	308.4
19	7/31/20	125.8	107.4	95.4	62.9		575.0	326.5
20	8/31/20	136.3	116.7	166.1	62.1		594.2	349.3
21	9/30/20	133.9	114.4	143.0	58.4		563.6	334.9
22	10/30/20	133.7	109.6	129.3	56.1		599.2	326.5
23	11/30/20	144.4	132.9	189.2	67.8		698.4	362.1
24	12/31/20	146.1	134.9	235.2	68.3		721.5	373.9
25	1/29/21	146.9	126.1	264.5	71.7		701.3	370.1
26	2/26/21	146.4	120.0	225.2	68.1		694.5	380.4
27	3/31/21	161.1	125.3	222.6	75.2		754.0	396.3
28	4/30/21	164.8	132.1	236.5	76.4		819.3	417.3
29	5/31/21	169.8	141.5	208.4	86.4		877.0	420.0
30	6/30/21	166.1	144.8	226.6	83.4		875.0	428.1
31	7/30/21	165.5	144.0	229.1	82.4		867.2	438.5
32	8/31/21	162.8	137.0	245.2	86.4		933.3	451.6
33	9/30/21	146.7	127.8	258.5	84.9		848.7	429.1
34	10/29/21	149.4	115.0	371.3	89.3		943.5	459.3
35	11/30/21	142.2	108.8	381.6	89.1		904.6	455.6
36	12/31/21	148.5	116.0	352.3	103.2		915.6	475.0
37	1/31/22	138.8	108.2	312.2	106.5		822.9	449.9
38	2/28/22	124.3	123.2	290.1	103.7		743.9	436.6
39	3/31/22	124.5	128.4	359.2	101.2		764.2	451.6
40	4/29/22	120.6	123.1	290.3	96.1		624.7	412.0
41	5/31/22	124.8	133.3	252.8	96.8		669.1	412.9
42	6/30/22	108.2	134.5	224.5	92.7		609.0	377.3
43	7/29/22	119.8	143.1	297.2	95.7		669.2	412.0
44	8/31/22	104.0	144.0	275.6	98.2		666.4	395.2
45	9/30/22	92.4	134.2	265.3	95.4		550.3	357.2
46	10/31/22	105.2	151.6	227.5	94.7		645.9	386.2
47	11/30/22	105.3	151.5	194.7	101.9		716.0	407.7
48	12/30/22	100.3	140.0	123.2	93.2		708.6	382.4
49	1/31/23	96.2	149.3	173.2	88.2		759.2	406.5
50	2/28/23	90.1	142.2	205.7	83.5		689.4	396.3
51	3/31/23	87.9	144.8	207.5	74.3		669.1	409.4
52	4/28/23	88.8	143.9	164.3	73.3		671.2	415.9
53	5/31/23	78.0	137.3	203.9	68.0		657.6	417.9
54	6/30/23	83.7	138.9	261.8	69.1		691.1	443.3
55	7/31/23	93.2	137.8	267.4	74.7		738.9	450.8
56	8/31/23	89.2	136.3	258.1	65.2		700.5	457.4
57	9/29/23	78.3	140.1	250.2	69.8		646.5	427.5
58	10/31/23	76.0	143.9	200.8	69.0		612.3	418.2
59	11/30/23	82.8	150.5	240.1	68.0		751.2	456.4
60	12/29/23	91.4	160.3	248.5	79.0		811.8	475.3
61	1/31/24	78.9	161.2	187.3	74.4		774.3	482.9
62	2/29/24	77.0	163.3	201.9	74.4		811.3	508.1
63	3/29/24	88.7	163.2	175.8	79.8		834.7	523.1
64	4/30/24	96.5	164.2	183.3	67.7		756.6	502.0
65	5/31/24	100.1	175.0	178.1	59.6		772.0	527.4
66	6/28/24	102.2	176.2	197.9	59.1		787.3	544.2
67	7/31/24	127.6	182.3	232.1	60.3		876.5	550.8
68	8/30/24	134.7	198.7	214.1	57.2		901.8	563.7
69	9/30/24	136.7	206.4	261.6	62.9		949.5	573.8
70	10/31/24	128.5	223.2	249.9	56.5		981.0	568.6
71	11/29/24	133.5	246.9	345.2	59.9		1022.8	602.6
72	12/31/24	129.1	220.7	403.8	44.9		1025.1	586.1
73	1/31/25	152.2	233.0	404.6	56.5		1075.5	601.8
74	2/28/25	155.1	269.7	293.0	65.7		977.8	594.2
75	3/31/25	146.9	266.7	259.2	67.8		946.5	559.4
76	4/2/25	147.8	264.6	282.8	68.1		961.8	564.5

	Monthly Returns					Equal-Weighted Returns					Market Weights					Market Weighted Value Portfolio				
	MMM Equity	TMUS Equity	TSLA Equity	CVS Equity	BLK Equity	SPY Equity	GBM Govt				MMM Equity	TMUS Equity	TSLA Equity	CVS Equity	BLK Equity		Total Market CAP			
5/31/19	-0.1570	0.0062	-0.2243	-0.3702		-0.1436	-0.0638	0.2018			0.30	0.17	0.12	0.20	0.21		\$358,636,625,921.60			-0.1100
6/28/19	0.0851	0.0095	0.2068	0.4005		0.1293	0.0644	0.1936			0.26	0.17	0.09	0.19	0.18		\$320,050,522,226.22			0.0734
7/31/19	0.0080	0.0754	0.0812	0.0253		-0.0035	0.0151	0.1776			0.28	0.18	0.11	0.20	0.20		\$346,362,063,318.96			0.0288
8/30/19	-0.0744	-0.0211	-0.0662	0.0904		-0.0965	-0.0167	0.1660			0.28	0.19	0.12	0.20	0.20		\$356,764,562,950.03			-0.0340
9/30/19	0.0166	0.0092	0.0676	0.0353		0.0546	0.0148	0.1742			0.26	0.19	0.11	0.22	0.18		\$344,680,355,001.91			0.0314
10/31/19	0.0036	0.0494	0.3074	0.0526		0.0360	0.0221	0.1556			0.26	0.19	0.12	0.07	0.23	0.19	\$355,934,424,461.55			0.0662
11/29/19	0.0290	-0.0497	0.0477	0.1338		0.0719	0.0362	0.1288			0.26	0.20	0.16	0.24	0.20		\$380,068,824,037.17			0.0519
12/31/19	0.0392	-0.0017	0.2679	-0.0130		0.0157	0.0240	0.1348			0.27	0.19	0.17	0.05	0.27	0.21	\$398,624,905,444.12			0.0546
1/31/20	-0.1007	0.0098	0.5552	-0.0871		0.0490	-0.0004	0.1211			0.28	0.19	0.21	0.27	0.22		\$418,197,213,647.63			0.0772
2/28/20	-0.0594	0.1385	0.0268	-0.1274		-0.1220	-0.0792	0.1286			0.25	0.19	0.33	-0.04	0.25	0.23	\$445,891,173,208.82			-0.0392
3/31/20	-0.0853	-0.0694	-0.2156	0.0025		-0.0498	-0.1300	0.1209			0.24	0.22	0.34	0.22	0.20		\$435,013,838,037.08			-0.1187
4/30/20	0.1129	0.0465	0.4921	0.0374		0.1411	0.1270	0.0019			0.22	0.20	0.27	0.20	0.19		\$392,394,193,185.55			0.2013
5/29/20	0.0298	0.1394	0.0679	0.0653		0.0530	0.0476	0.0063			0.24	0.30	0.40	0.20	0.22		\$498,515,162,415.49			0.1029
6/30/20	-0.0029	0.0430	0.2932	-0.0092		0.0292	0.0133	0.0099			0.25	0.34	0.43	0.35	0.24	0.22	\$534,800,293,351.22			0.1451
7/31/20	-0.0354	0.0310	0.3250	-0.0312		0.0568	0.0589	0.0109			0.25	0.19	0.36	0.56	0.24	0.23	\$587,130,470,408.48			0.1896
8/31/20	0.0834	0.0866	0.7415	-0.0130		0.0334	0.0698	0.0079			0.24	0.37	0.74	0.23	0.24		\$656,254,662,390.97			0.6087
9/30/20	-0.0174	-0.0199	-0.1391	0.0599		-0.0516	-0.0413	0.0072			0.26	0.40	1.29	0.23	0.25	0.40	\$874,569,975,658.33			-0.2193
10/30/20	-0.0014	-0.0419	-0.0955	-0.2096		0.0633	-0.0249	0.0062			0.26	0.39	1.11	0.21	0.24		\$795,938,234,507.67			-0.1166
11/30/20	0.0798	0.2133	0.4627	0.3986		0.1655	0.1088	0.0067			0.26	0.38	1.03	0.20	0.25		\$760,493,401,958.91			0.6606
12/10/20	0.0119	0.0144	0.2433	0.0075		0.0332	0.0326	0.0065			0.28	0.46	1.50	0.25	0.30		\$997,903,367,302.05			0.3866
1/29/21	0.0050	-0.0650	0.1245	0.0490		-0.0281	-0.0102	0.0036			0.28	0.47	1.87	0.25	0.31		\$1,136,543,210,497.51			0.2069
2/26/21	-0.0034	-0.0485	-0.1487	-0.0491		-0.0096	0.0278	0.0040			0.28	0.44	2.10	0.26	0.30		\$1,210,734,338,987.57			-0.3498
3/31/21	0.1007	0.0443	-0.0112	0.1042		0.0856	0.0420	0.0023			0.28	0.42	1.81	0.25	0.30		\$1,094,204,316,740.83			0.0779
4/30/21	0.0231	0.0546	0.0621	0.0156		0.0867	0.0529	0.0003			0.31	0.43	1.79	0.28	0.32		\$1,122,201,032,669.87			0.1741
5/31/21	0.0299	0.0705	-0.1187	0.1314		0.0705	0.0066	0.0003			0.32	0.46	1.91	0.28	0.35		\$1,187,774,217,420.51			-0.1230
6/30/21	-0.0217	0.0239	0.0871	-0.0347		-0.0024	0.0191	0.0000			0.33	0.49	1.68	0.32	0.37		\$1,143,934,589,729.37			0.1391
7/30/21	-0.0035	-0.0056	0.0110	-0.0129		-0.0089	0.0244	0.0036			0.32	0.50	1.83	0.31	0.37		\$1,193,809,411,814.30			0.0089
8/31/21	-0.0162	-0.0486	0.0706	0.0489		0.0878	0.0298	0.0033			0.32	0.50	1.90	0.30	0.37		\$1,215,298,436,981.87			0.1516
9/30/21	-0.0992	-0.0676	0.0540	-0.0177		-0.1109	-0.0497	0.0025			0.31	0.48	2.06	0.32	0.40		\$1,278,263,453,172.76			-0.0024
10/29/21	0.0186	-0.0996	0.4365	0.0521		0.1250	0.0702	0.0044			0.28	0.44	2.17	0.31	0.36		\$1,277,415,067,895.66			0.9673
11/30/21	-0.0484	-0.0541	0.0276	-0.0025		-0.0412	-0.0080	0.0043			0.29	0.40	3.12	0.33	0.40		\$1,626,671,738,479.14			0.0333
12/31/21	0.0446	0.0659	-0.0769	0.1583		0.0121	0.0426	0.0091			0.27	0.38	3.21	0.25	0.33	0.38	\$1,538,527,994,566.52			-0.1527
1/31/22	-0.0654	-0.0673	-0.1136	0.0325		-0.1012	-0.0527	0.0023			0.28	0.40	2.96	0.38	0.39		\$1,582,995,692,477.36			-0.4088
2/28/22	-0.1046	0.1390	-0.0708	-0.2699		-0.0961	-0.0295	0.0029			0.26	0.38	2.62	0.39	0.35		\$1,436,381,047,852.38			-0.2050
3/31/22	0.0015	0.0417	0.2380	-0.0235		0.0273	0.0344	0.0048			0.24	0.43	2.51	0.38	0.32		\$1,387,559,587,409.86			0.6150
4/29/22	-0.0313	-0.0406	-0.1919	-0.0502		-0.1825	-0.0878	0.0109			0.24	0.45	3.11	0.37	0.32		\$1,607,817,902,213.53			-0.6993
5/31/22	0.0352	0.0824	-0.1292	0.0064		0.0711	0.0023	0.0273			0.23	0.43	2.52	0.35	0.26		\$1,359,567,993,506.76			-0.2604
6/30/22	-0.1332	0.0094	-0.1119	-0.0423		-0.0897	-0.0864	0.0600			0.24	0.47	2.19	0.35	0.28		\$1,265,846,954,453.18			-0.3126
7/29/22	0.1069	0.0633	0.3238	0.0326		0.0987	0.0921	0.0850			0.21	0.47	1.95	0.34	0.26		\$1,154,002,787,278.93			0.7182
8/31/22	-0.1319	0.0063	-0.0725	0.0258		-0.0042	-0.0408	0.1793			0.23	0.50	2.60	0.35	0.28		\$1,418,952,830,121.85			-0.2072
9/30/22	-0.1114	-0.0680	-0.0376	-0.0283		-0.1742	-0.0962	0.1882			0.20	0.50	2.41	0.36	0.28		\$1,344,302,631,273.07			-0.2057
10/31/22	0.1384	0.1296	-0.1422	-0.0070		0.1738	0.0813	0.2232			0.17	0.47	2.32	0.35	0.23		\$1,268,751,537,406.88			-0.2073
11/30/22	0.0014	-0.0007	-0.1443	0.0758		0.1085	0.0556	0.3019			0.19	0.53	2.00	0.35	0.27		\$1,198,316,448,302.74			-0.2335
12/30/22	-0.0480	-0.0757	-0.3673	-0.0853		-0.0103	-0.0619	0.3290			0.19	0.53	1.71	0.37	0.30		\$1,114,289,994,085.05			-0.7137
1/31/23	-0.0404	0.0665	0.4062	-0.0533		0.0714	0.0629	0.3333			0.18	0.49	1.08	0.34	0.30		\$838,320,124,053.41			0.4684
2/28/23	-0.0638	-0.0478	0.1876	-0.0530		-0.0919	-0.0251	0.3769			0.18	0.20	1.53	0.32	0.32		\$1,027,498,323,263.77			0.2042
3/31/23	-0.0344	0.0187	0.0085	-0.1105		-0.0295	0.0331	0.3831			0.17	0.42	1.81	0.30	0.29		\$1,094,422,478,501.08			-0.0211
4/28/23	0.0106	-0.0065	-0.2080	-0.0135		0.0031	0.0160	0.3777			0.16	0.48	1.83	0.27	0.28		\$1,086,953,589,644.97			-0.3849
5/31/23	-0.1215	-0.0462	0.2411	-0.0720		-0.0203	0.0046	0.3483			0.16	0.48	1.45	0.26	0.28		\$946,484,594,686.03			0.2835
6/30/23	0.0727	0.0120	0.2836	0.0162		0.0511	0.0609	0.4298			0.14	0.46	1.80	0.24	0.27		\$1,048,211,401,290.19			0.5451
7/31/23	0.1140	-0.0081	0.0216	0.0804		0.0690	0.0327	0.4285			0.15	0.46	2.31	0.25	0.29		\$1,243,696,445,651.29			0.1036
8/31/23	-0.0433	-0.0110	-0.0350	-0.1275		-0.0519	-0.0163	0.4469			0.17	0.45	2.37	0.27	0.31		\$1,278,855,614,728.16			-0.1452
9/29/23	-0.1223	0.0279	-0.0305	0.0714		-0.0772	-0.0508	0.4484			0.16	0.45	2.28	0.28	0.29		\$1,226,614,569,269.09			-0.0830
10/31/23	-0.0285	0.0272	-0.1973	-0.0116		-0.0529	-0.0217	0.4469			0.14	0.46	2.21	0.25	0.27		\$1,196,836,656,904.72			-0.4458
11/30/23	0.0893	0.0458	0.1954	-0.0154		0.2269	0.0913	0.4495			0.14	0.46	1.78	0.25	0.25		\$1,035,109,697,821.06			0.4356
12/29/23	0.1035	0.0657	0.0350	0.1620		0.0806	0.0414	0.4482			0.15	0.49	2.13	0.24	0.31		\$1,191,104,614,092.17			0.1867
1/31/24	-0.1369	0.0056	-0.2463	-0.0581		-0.0462	0.0159	0.4502			0.17	0.52	2.20	0.28	0.34		\$1,258,074,050,652.36			-0.5946
2/29/24	-0.0236	0.0128	0.0779	0.0000		0.0478	0.0522	0.4477			0.15	0.54	1.66	0.27	0.32		\$1,052,285,239,694.00			0.1484
3/29/24	0.1514	-0.0005	-0.1292	0.0725		0.0276	0.0295	0.4497			0.14	0.54	1.79	0.28	0.34		\$1,102,109,581,882.25			-0.1823
4/30/24	0.0883	0.0058	0.0426	-0.1511		-0.0948	-0.0403	0.4464			0.16	0.54	1.56	0.28	0.35		\$1,036,817,152,268.32			0.0090
5/31/24	0.0376	0.0657	-0.0284	-0.1198		0.0230	0.0506	0.4483			0.15									

# CALCULATING BETA

SUMMARY OUTPUT EQUAL WEIGHTED BETA								
Regression Statistics								
Multiple R	0.81279509							
R Square	0.66063586							
Adjusted R Sq	0.6557878							
Standard Error	0.04205327							
Observations	72							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	0.24098705	0.24098705	5/15/00	0			
Residual	70	0.12379341	0.00176848					
Total	71	0.36478046						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	0.00859359	0.00506066	1.69811534	1/0/00	-0.0014996	0.01868675	-0.0014996	0.01868675
SPY Equity	1.1527257	0.09874812	11.6733934	1/0/00	0.95577878	1.34967262	0.95577878	1.34967262

SUMMARY OUTPUT MARKET WEIGHTED									
Regression Statistics									
Multiple R	0.64868639								
R Square	0.42079403								
Adjusted R Sq	0.41251966								
Standard Error	0.09228445								
Observations	72								
ANOVA									
	df	SS	MS	F	Significance F				
Regression	1	0.43310342	0.43310342	50.8551073	7.1947E-10				
Residual	70	0.59614936	0.00851642						
Total	71	1.02925279							
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
Intercept	0.01822962	0.01110545	1.64150237	0.10517893	-0.0039195	0.04037873	-0.0039195	0.04037873	
X Variable 1	1.54534315	0.21669937	7.1312767	7.1947E-10	1.11314989	1.97753641	1.11314989	1.97753641	

KEY STATS				
Asset	Mean Return	STD Risk	Sharpe Ratio	BETA
MMM	0.2353774	0.171755972	1.227183014	0.983
TMUS	0.227469517	0.203868565	0.995092734	0.532
TSLA	0.137035679	0.356031702	0.315798536	1.953
CVS	0.21679954	0.163820171	1.173226408	0.563
BLK	0.086084052	0.191993261	0.320233445	1.255
SPY	0.152025195	0.115354437	1.104628563	1
Market-Weighted	0.162564603	0.122531475	1.125941016	1.5453
Equal-Weighted	0.175798564	0.083796242	1.804343148	1.1527
Risk-Free Rate	0.024601	0.006341	0	0



# BETA RISK



KEY STATS				
Asset	Mean Return	STD Risk	Sharpe Ratio	BETA
MMM	0.2353774	0.171755972	1.227183014	0.983
TMUS	0.227469517	0.203868565	0.995092734	0.532
TSLA	0.137035679	0.356031702	0.315798536	1.953
CVS	0.21679954	0.163820171	1.173226408	0.563
BLK	0.086084052	0.191993261	0.320233445	1.255
SPY	0.152025195	0.115354437	1.104628563	1
Market-Weighted	0.162564603	0.122531475	1.125941016	1.5453
Equal-Weighted	0.175798564	0.083796242	1.804343148	1.1527
Risk-Free Rate	0.024601	0.006341	0	0



# STANDARD DEVIATION RISK

# CONCLUSION & RECOMMENDATIONS

- Equal-Weighted portfolio had the best Sharpe Ratio (1.80)
- TSLA carried the highest risk, but not the highest Sharpe
- Market-Weighted portfolio offered better risk-adjusted return than SPY
- Recommendation: Diversify with Equal-Weighted strategy for optimal performance