

## 1. Results for 12 periods:

**Initial portfolio value = \$ 1000012.93**

**Period 1:** start date 01/02/2020, end date 02/28/2020

Strategy "Buy and Hold", value begin = \$ 1000012.93, value end = \$ 893956.75

Strategy "Equally Weighted Portfolio", value begin = \$ 990811.32, value end = \$ 892822.09

Strategy "Minimum Variance Portfolio", value begin = \$ 992706.83, value end = \$ 916195.86

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 990062.84, value end = \$ 917072.81

**Period 2:** start date 03/02/2020, end date 04/30/2020

Strategy "Buy and Hold", value begin = \$ 945076.08, value end = \$ 949228.39

Strategy "Equally Weighted Portfolio", value begin = \$ 930982.28, value end = \$ 861993.24

Strategy "Minimum Variance Portfolio", value begin = \$ 955928.63, value end = \$ 850157.53

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 947474.02, value end = \$ 1001794.19

**Period 3:** start date 05/01/2020, end date 06/30/2020

Strategy "Buy and Hold", value begin = \$ 937916.81, value end = \$ 913415.30

Strategy "Equally Weighted Portfolio", value begin = \$ 830758.03, value end = \$ 933762.21

Strategy "Minimum Variance Portfolio", value begin = \$ 825743.83, value end = \$ 853349.45

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 959601.54, value end = \$ 1157696.37

**Period 4:** start date 07/01/2020, end date 08/31/2020

Strategy "Buy and Hold", value begin = \$ 905419.63, value end = \$ 994693.42

Strategy "Equally Weighted Portfolio", value begin = \$ 927361.20, value end = \$ 1060298.21

Strategy "Minimum Variance Portfolio", value begin = \$ 855822.55, value end = \$ 980963.44

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1195916.24, value end = \$ 1678307.43

**Period 5:** start date 09/01/2020, end date 10/30/2020

Strategy "Buy and Hold", value begin = \$ 993194.54, value end = \$ 971914.18

Strategy "Equally Weighted Portfolio", value begin = \$ 1067904.54, value end = \$ 998791.02

Strategy "Minimum Variance Portfolio", value begin = \$ 982710.65, value end = \$ 942059.35

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1717590.47, value end =

\$ 1402896.00

**Period 6:** start date 11/02/2020, end date 12/31/2020

Strategy "Buy and Hold", value begin = \$ 983801.02, value end = \$ 1004435.67

Strategy "Equally Weighted Portfolio", value begin = \$ 1007621.18, value end = \$ 1193698.37

Strategy "Minimum Variance Portfolio", value begin = \$ 950477.21, value end = \$ 1005285.11

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1378054.16, value end = \$ 1531469.65

**Period 7:** start date 01/04/2021, end date 02/26/2021

Strategy "Buy and Hold", value begin = \$ 1005601.39, value end = \$ 956244.15

Strategy "Equally Weighted Portfolio", value begin = \$ 1180172.25, value end = \$ 1266561.95

Strategy "Minimum Variance Portfolio", value begin = \$ 1003284.62, value end = \$ 974449.28

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1493510.69, value end = \$ 1649989.68

**Period 8:** start date 03/01/2021, end date 04/30/2021

Strategy "Buy and Hold", value begin = \$ 957791.42, value end = \$ 1019731.31

Strategy "Equally Weighted Portfolio", value begin = \$ 1296914.88, value end = \$ 1398169.13

Strategy "Minimum Variance Portfolio", value begin = \$ 974823.74, value end = \$ 1087901.70

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1724319.68, value end = \$ 1660992.54

**Period 9:** start date 05/03/2021, end date 06/30/2021

Strategy "Buy and Hold", value begin = \$ 1022204.61, value end = \$ 987842.85

Strategy "Equally Weighted Portfolio", value begin = \$ 1397046.90, value end = \$ 1458592.23

Strategy "Minimum Variance Portfolio", value begin = \$ 1087630.43, value end = \$ 1076570.68

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1657290.59, value end = \$ 1564819.63

**Period 10:** start date 07/01/2021, end date 08/31/2021

Strategy "Buy and Hold", value begin = \$ 993283.49, value end = \$ 975250.12

Strategy "Equally Weighted Portfolio", value begin = \$ 1465990.00, value end = \$ 1517002.40

Strategy "Minimum Variance Portfolio", value begin = \$ 1076589.93, value end = \$ 1086503.39

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1588808.07, value end = \$ 1759908.66

**Period 11:** start date 09/01/2021, end date 10/29/2021

Strategy "Buy and Hold", value begin = \$ 974520.08, value end = \$ 949068.41

Strategy "Equally Weighted Portfolio", value begin = \$ 1512774.80, value end = \$ 1562673.35

Strategy "Minimum Variance Portfolio", value begin = \$ 1080947.99, value end = \$ 1057065.34

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1746757.08, value end = \$ 1909368.37

**Period 12:** start date 11/01/2021, end date 12/31/2021

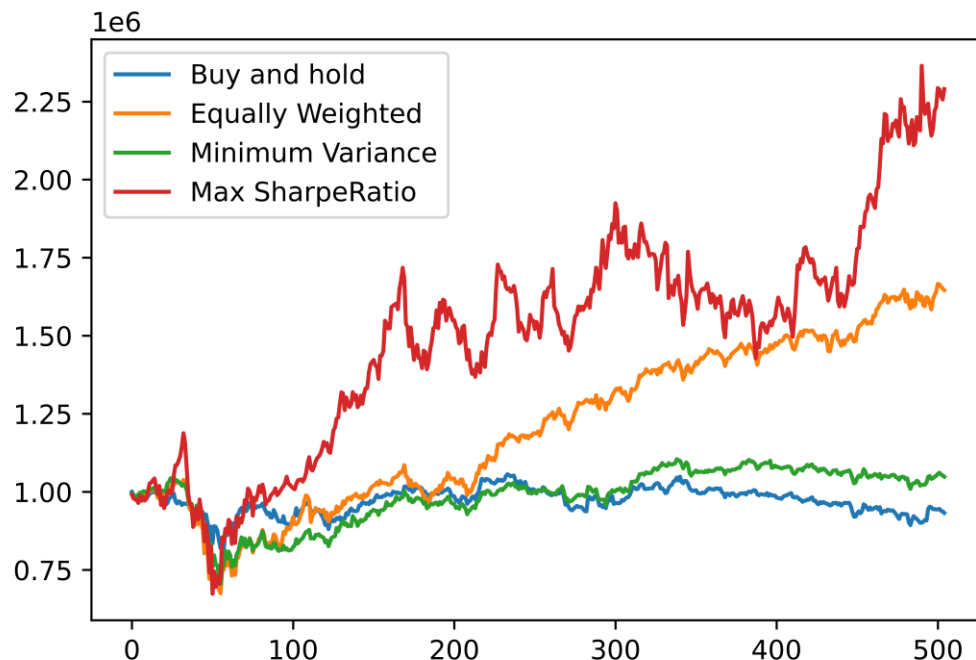
Strategy "Buy and Hold", value begin = \$ 951350.41, value end = \$ 932471.35

Strategy "Equally Weighted Portfolio", value begin = \$ 1584031.18, value end = \$ 1645811.90

Strategy "Minimum Variance Portfolio", value begin = \$ 1054320.20, value end = \$ 1048451.03

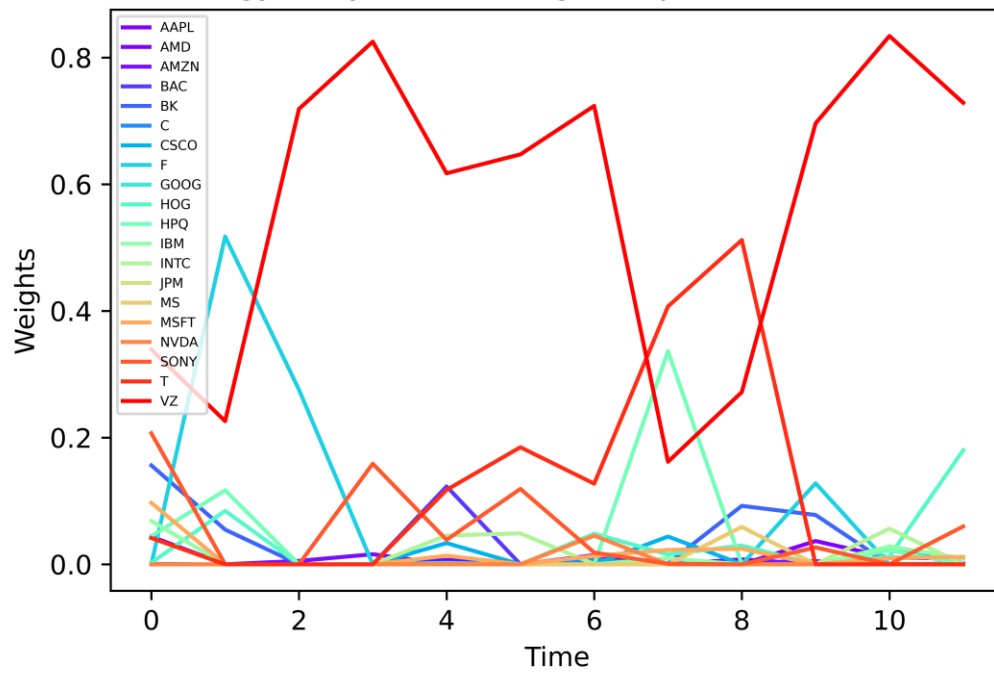
Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1968980.72, value end = \$ 2289768.42

## 2. Daily value of portfolio (for each trading strategy) over the years 2020-2021:

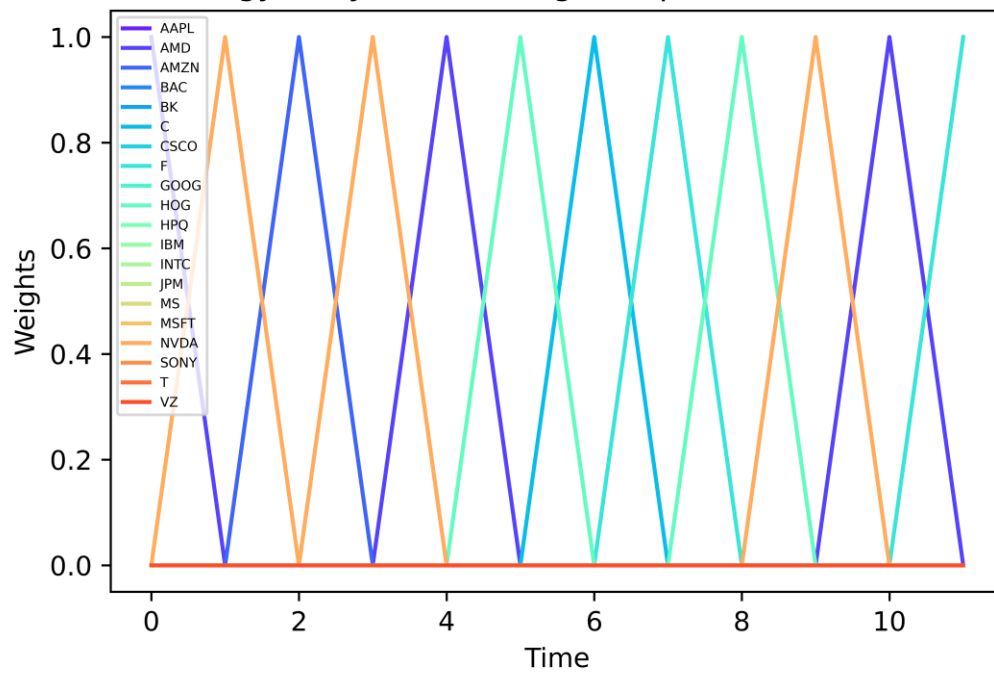


## 3. Dynamic changes in portfolio allocations for strategy 3 and 4:

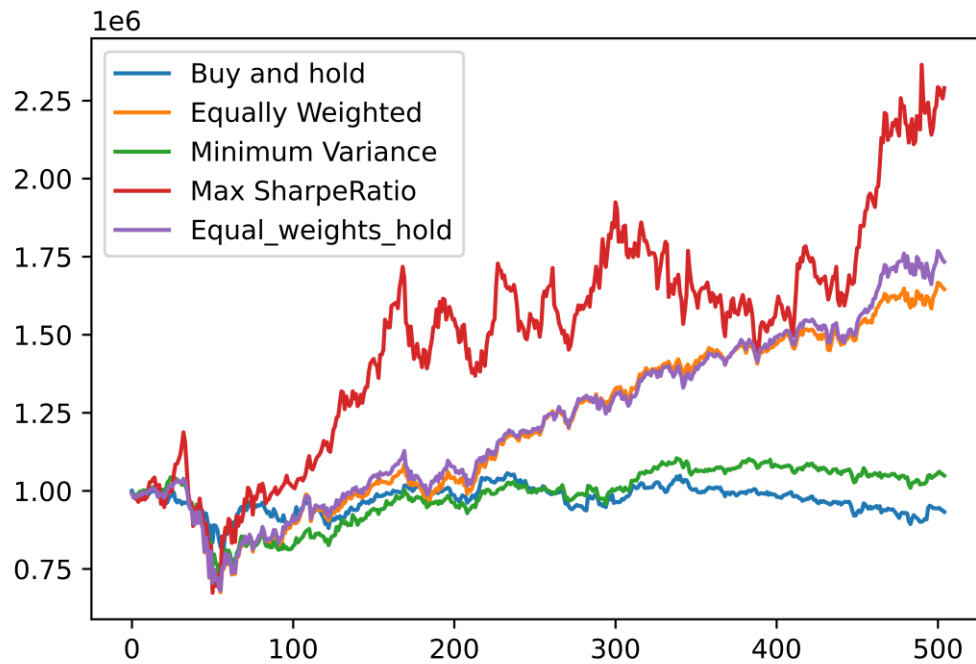
Strategy 3: dynamic changes in portfolio allocations



Strategy 4: dynamic changes in portfolio allocations



#### 4. Test another Strategy:



Period 1: start date 01/02/2020, end date 02/28/2020

Strategy "Buy and Hold", value begin = \$ 1000012.93, value end = \$ 893956.75

Strategy "Equally Weighted Portfolio", value begin = \$ 990811.32, value end = \$ 892822.09

Strategy "Minimum Variance Portfolio", value begin = \$ 992706.83, value end = \$ 916195.86

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 990062.84, value end = \$ 917072.81

Strategy "1/n weight and hold", value begin = \$ 990811.32, value end = \$ 892822.09

Period 2: start date 03/02/2020, end date 04/30/2020

Strategy "Buy and Hold", value begin = \$ 945076.08, value end = \$ 949228.39

Strategy "Equally Weighted Portfolio", value begin = \$ 930982.28, value end = \$ 861993.24

Strategy "Minimum Variance Portfolio", value begin = \$ 955928.63, value end = \$ 850157.53

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 947474.02, value end = \$ 1001794.19

Strategy "1/n weight and hold", value begin = \$ 931431.86, value end = \$ 869697.72

Period 3: start date 05/01/2020, end date 06/30/2020

Strategy "Buy and Hold", value begin = \$ 937916.81, value end = \$ 913415.30

Strategy "Equally Weighted Portfolio", value begin = \$ 830758.03, value end = \$ 933762.21

Strategy "Minimum Variance Portfolio", value begin = \$ 825743.83, value end =

\$ 853349.45

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 959601.54, value end = \$ 1157696.37

Strategy "1/n weight and hold", value begin = \$ 838544.93, value end = \$ 946637.59

Period 4: start date 07/01/2020, end date 08/31/2020

Strategy "Buy and Hold", value begin = \$ 905419.63, value end = \$ 994693.42

Strategy "Equally Weighted Portfolio", value begin = \$ 927361.20, value end = \$ 1060298.21

Strategy "Minimum Variance Portfolio", value begin = \$ 855822.55, value end = \$ 980963.44

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1195916.24, value end = \$ 1678307.43

Strategy "1/n weight and hold", value begin = \$ 943358.63, value end = \$ 1100144.95

Period 5: start date 09/01/2020, end date 10/30/2020

Strategy "Buy and Hold", value begin = \$ 993194.54, value end = \$ 971914.18

Strategy "Equally Weighted Portfolio", value begin = \$ 1067904.54, value end = \$ 998791.02

Strategy "Minimum Variance Portfolio", value begin = \$ 982710.65, value end = \$ 942059.35

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1717590.47, value end = \$ 1402896.00

Strategy "1/n weight and hold", value begin = \$ 1111609.97, value end = \$ 1021938.96

Period 6: start date 11/02/2020, end date 12/31/2020

Strategy "Buy and Hold", value begin = \$ 983801.02, value end = \$ 1004435.67

Strategy "Equally Weighted Portfolio", value begin = \$ 1007621.18, value end = \$ 1193698.37

Strategy "Minimum Variance Portfolio", value begin = \$ 950477.21, value end = \$ 1005285.11

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1378054.16, value end = \$ 1531469.65

Strategy "1/n weight and hold", value begin = \$ 1028951.18, value end = \$ 1202324.39

Period 7: start date 01/04/2021, end date 02/26/2021

Strategy "Buy and Hold", value begin = \$ 1005601.39, value end = \$ 956244.15

Strategy "Equally Weighted Portfolio", value begin = \$ 1180172.25, value end = \$ 1266561.95

Strategy "Minimum Variance Portfolio", value begin = \$ 1003284.62, value end =

\$ 974449.28

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1493510.69, value end = \$ 1649989.68

Strategy "1/n weight and hold", value begin = \$ 1189791.15, value end = \$ 1262081.45

Period 8: start date 03/01/2021, end date 04/30/2021

Strategy "Buy and Hold", value begin = \$ 957791.42, value end = \$ 1019731.31

Strategy "Equally Weighted Portfolio", value begin = \$ 1296914.88, value end = \$ 1398169.13

Strategy "Minimum Variance Portfolio", value begin = \$ 974823.74, value end = \$ 1087901.70

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1724319.68, value end = \$ 1660992.54

Strategy "1/n weight and hold", value begin = \$ 1292297.23, value end = \$ 1382847.52

Period 9: start date 05/03/2021, end date 06/30/2021

Strategy "Buy and Hold", value begin = \$ 1022204.61, value end = \$ 987842.85

Strategy "Equally Weighted Portfolio", value begin = \$ 1397046.90, value end = \$ 1458592.23

Strategy "Minimum Variance Portfolio", value begin = \$ 1087630.43, value end = \$ 1076570.68

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1657290.59, value end = \$ 1564819.63

Strategy "1/n weight and hold", value begin = \$ 1379386.64, value end = \$ 1463825.14

Period 10: start date 07/01/2021, end date 08/31/2021

Strategy "Buy and Hold", value begin = \$ 993283.49, value end = \$ 975250.12

Strategy "Equally Weighted Portfolio", value begin = \$ 1465990.00, value end = \$ 1517002.40

Strategy "Minimum Variance Portfolio", value begin = \$ 1076589.93, value end = \$ 1086503.39

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1588808.07, value end = \$ 1759908.66

Strategy "1/n weight and hold", value begin = \$ 1471827.47, value end = \$ 1544995.31

Period 11: start date 09/01/2021, end date 10/29/2021

Strategy "Buy and Hold", value begin = \$ 974520.08, value end = \$ 949068.41

Strategy "Equally Weighted Portfolio", value begin = \$ 1512774.80, value end = \$ 1562673.35

Strategy "Minimum Variance Portfolio", value begin = \$ 1080947.99, value end =

\$ 1057065.34

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1746757.08, value end = \$ 1909368.37

Strategy "1/n weight and hold", value begin = \$ 1542806.45, value end = \$ 1615992.76

Period 12: start date 11/01/2021, end date 12/31/2021

Strategy "Buy and Hold", value begin = \$ 951350.41, value end = \$ 932471.35

Strategy "Equally Weighted Portfolio", value begin = \$ 1584031.18, value end = \$ 1645811.90

Strategy "Minimum Variance Portfolio", value begin = \$ 1054320.20, value end = \$ 1048451.03

Strategy "Maximum Sharpe Ratio Portfolio", value begin = \$ 1968980.72, value end = \$ 2289768.42

Strategy "1/n weight and hold", value begin = \$ 1636560.31, value end = \$ 1733525.11