Financial Engineering Lab

MA374 Lab05

Submitted by –

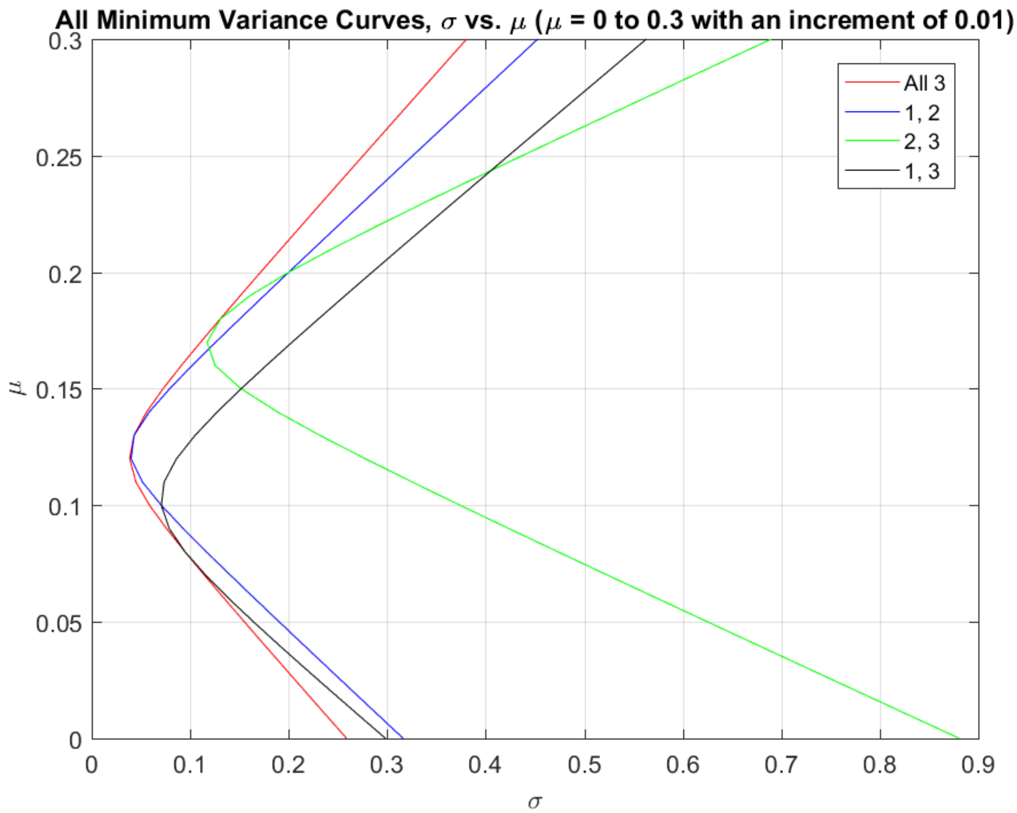
Ashish Kumar Poddar

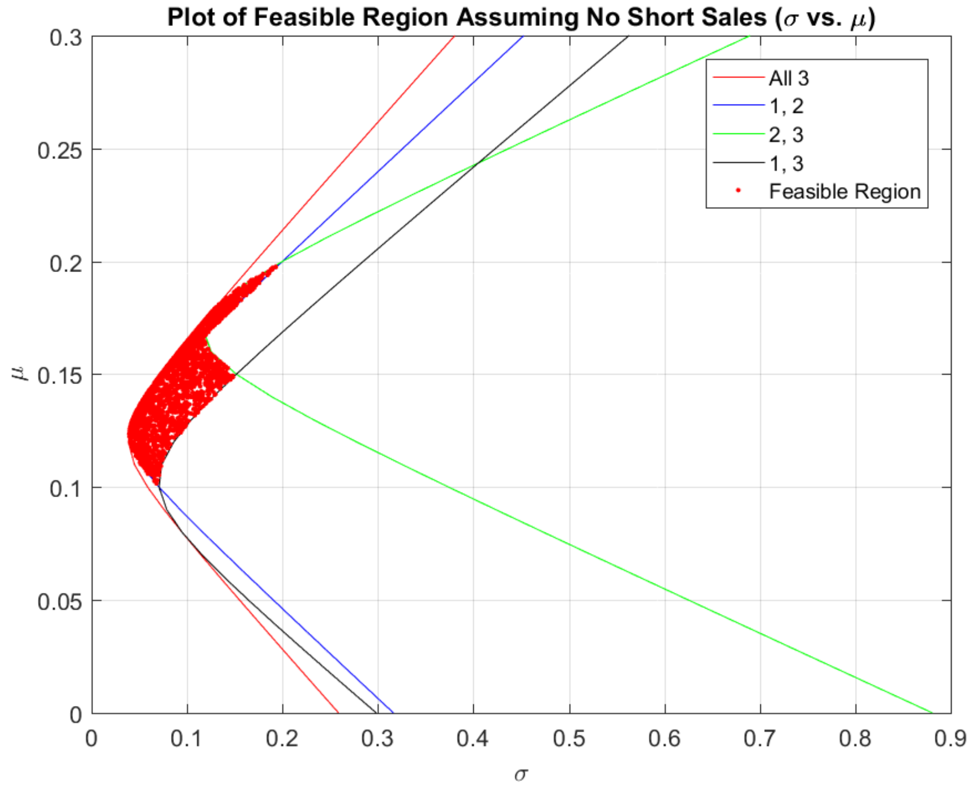
Roll No. – 150123049

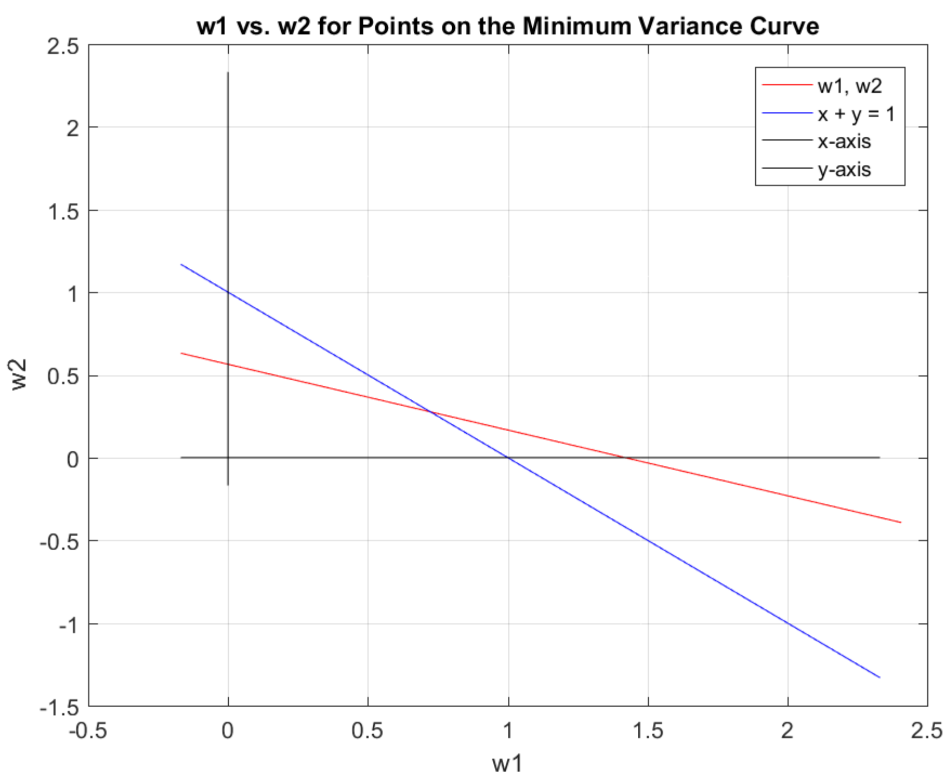
Date – 21st February, 2018

Question 1

We were supposed to construct the efficient frontier, the minimum variance curve and find the feasible region assuming that short sales are not allowed.




Plot of Feasible Region Assuming No Short Sales (σ vs. μ)
All 3
1, 2
2, 3
1, 3
Feasible Region
μ
σ
0.3
0.25
0.2
0.15
0.1
0.05
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9


w1 vs. w2 for Points on the Minimum Variance Curve
w1, w2
x + y = 1
x-axis
y-axis
w2
w1
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-0.5
0
0.5
1
1.5
2
2.5

Question 2

We calculated the betas of the securities using the actual data and computing it for each index. They came out as –

NSE Indexed Betas -

1.0377 1.0183 1.0132 1.0524 0.9553 0.9830 0.9061
0.9338 0.9540 1.0638

NSE Non-Indexed Betas -

1.0601 1.0191 1.0360 1.0745 0.9307 1.0140 0.9173
1.1208 1.1470 1.1801

BSE Indexed Betas -

0.9089 0.6062 1.0156 NaN 0.9572 0.9851 0.9561 1.0662
0.9346 0.9736

BSE Non-Indexed Betas -

1.0620 1.0208 1.0378 1.0764 0.9324 1.0157 0.9189
1.1228 1.1490 1.1821