BFC3540 Week 5 Excel Spreadsheet –
The Capital Market Line

Download the Excel File from the Week 5 Spreadsheet Material Folder and save it to your disk.

Open the Excel File. There are 2 worksheets (Name and EfficientFrontier) in this workbook. The default worksheet when you open the file is **Name**.

You are given the variance-covariance matrix and mean returns for four companies as follows:

Variance-Covariance Matrix					
	WWW	**XXX**	**YYY**	**ZZZ**	**Mean returns**
WWW	0.40	0.03	0.02	0.00	0.06
XXX	0.03	0.20	0.00	-0.06	0.05
YYY	0.02	0.00	0.30	0.03	0.07
ZZZ	0.00	-0.06	0.03	0.10	0.08

i. **Problem 1**: Given this matrix, and assuming that the risk-free rate (i.e constant, c) is 0 percent, calculate the efficient portfolio of these four companies (see Week 5 SpreadSheet Movie Efficient Frontier Problem 1).

   Repeat, assuming that the risk-free rate (i.e constant, c) is 6.5 percent.

ii. **Problem 2**: You are required to calculate the mean, variance, standard deviation, covariance and correlation coefficient for the two portfolios companies (see Week 5 SpreadSheet Movie Efficient Frontier Problem 2).

iii. **Problem 3**: Use these two portfolios to generate an efficient frontier for the four companies. Once you have populated the data table the efficient frontier is plotted automatically (see Week 5 SpreadSheet Movie Efficient Frontier Problem 3).

1. Download the file "Week 5 SpreadSheet Template: The Capital Market Line**.xls**" from Black Board.

2. In this tutorial, you are given the variance-covariance matrix and mean returns for four companies as follows:

Variance-Covariance Matrix					
	WWW	**XXX**	**YYY**	**ZZZ**	**Mean returns**
WWW	0.40	0.03	0.02	0.00	0.06
XX	0.03	0.20	0.00	-0.06	0.05
YY	0.02	0.00	0.30	0.03	0.07
ZZZ	0.00	-0.06	0.03	0.10	0.08

   (a) **Problem 1**: Given this matrix, and assuming that the risk-free rate (i.e constant, c) is 0 percent, calculate the efficient portfolio of these four companies (see Week 5 SpreadSheet Movie Efficient Frontier Problem 1).

   (b) Repeat, assuming that the risk-free rate (i.e constant, c) is 6.5 percent.

   (c) **Problem 2**: You are required to calculate the mean, variance, standard deviation, covariance and correlation coefficient for the two portfolios companies (see Week 5 SpreadSheet Movie Efficient Frontier Problem 2).

   (d) **Problem 3**: Use these two portfolios to generate an efficient frontier for the four companies. Once you have populated the data table the efficient frontier is plotted automatically (see Week 5 SpreadSheet Movie Efficient Frontier Problem 3).