

3. You have been assigned the task of estimating the expected returns for three different stocks: QRS, TUV, and WXY. Your preliminary analysis has established the historical risk premiums associated with three risk factors that could potentially be included in your calculations: the excess return on a proxy for the market portfolio (MKT), and two variables capturing general macroeconomic exposures (MACRO1 and MACRO2). These values are: $\lambda_{\text{MKT}} = 7.5\%$, $\lambda_{\text{MACRO1}} = -0.3\%$, and $\lambda_{\text{MACRO2}} = 0.6\%$. You have also estimated the following factor betas (i.e., loadings) for all three stocks with respect to each of these potential risk factors:

FACTOR LOADING			
Stock	MKT	MACRO1	MACRO2
QRS	1.24	-0.42	0.00
TUV	0.91	0.54	0.23
WXY	1.03	-0.09	0.00

- Calculate expected returns for the three stocks using just the MKT risk factor. Assume a risk-free rate of 4.5%.
- Calculate the expected returns for the three stocks using all three risk factors and the same 4.5% risk-free rate.
- Discuss the differences between the expected return estimates from the single-factor model and those from the multifactor model. Which estimates are most likely to be more useful in practice?
- What sort of exposure might MACRO2 represent? Given the estimated factor betas, is it really reasonable to consider it a common (i.e., systematic) risk factor?