

Math 420, Spring 2012

Second Project: Statistical Validation of IID Models

presentation due Monday, 30 April, 2012

report due Wednesday, 9 May, 2012

This project explores how to use a statistical test to guide the choice of the risk aversion coefficient. Consider the following groups of assets.

- (A) This will be the Group A from the first project of one of the team members. It will be filled in once the team is assigned.
- (B) This will be the Group B from the first project of one of the team members. It will be filled in once the team is assigned.

For each of the years ending June 30 of the years 2006-2011 use one-year histories of daily return rates and uniform weights to calibrate \mathbf{m} and \mathbf{V} . Also use one-year histories of weekly return rates and uniform weights to calibrate \mathbf{m}_W and \mathbf{V}_W .

How should \mathbf{m}_W and \mathbf{m} , and \mathbf{V}_W and \mathbf{V} be related if the IID model is valid? Devise one or more measures of how well this relationship is satisfied.

Repeat the last homework assignment with $\chi = 0, .25, .5, .75, 1, 1.25, 1.5, 1.75$ and 2 . Determine which value of χ yields the best performing portfolios in the subsequent year. Look for a correlation between this χ and the measures that you devised above. Identify the measure with the best correlation.