Stats 3520b Topics to be covered for the week of 24–28 February 2014

For this week, we aim to cover the following theories/concepts:

- 1. Model building approach: The linear model and the two-asset case (cont'd)
- 2. Stress testing
- 3. Back testing
- 4. Comparison between historical approach and model-building approach

5. Some elements of stochastic processes in discrete time These would include the discussion of:

- (a) probability space
- (b) random or stochastic process
- (c) probability measure
- (d) filtration
- (e) general contingent claims
- (f) conditional operator/conditional expectation
- (g) previsible process
- (h) martingales
- (i) law of iterated expectations (or tower law)