Class Notes – Thursday 17th January 2008

Last Class

- Distributions include parameters we wish to estimate (CI's) or test (HT's);
- Usual Wald CI paradigm (estimate +/- 2 SE) works well in simple cases, but breaks down sometimes;
- Could then use the Wald paradigm on another scale and then "back-transform" e.g., odds ratio (p.3);
- When the above fails, use likelihood or other methods;
- SLR where X is a "dummy variable" for one of the treatments is equivalent to the equal-variance two independent sample t-test;
- This helps us extend to ANOVA and ANOCOV;
- Homework due next Friday; \$25.00 cash (preferred) or check (LUC) due next Tuesday for *Course Notes*.

<u>New Material</u>

- SLR assumptions important to consider and validate;
- Interpretation of slope parameter estimate is very important (bottom of p.2);
- Ex. 2 illustrates transforming both sides of the equation and complication with interpretation of slope in this case;
- Parameter estimates (b₀ and b₁) are random variables and are usually correlated confidence ellipses;
- MLR: several potential X's can be included, individual ttests are "one-at-a-time tests" given other X's in the model;

If we want to *simultaneously* drop several X's (and in other cases as well), we must use the <u>Full-and-Reduced F</u>
<u>test</u> on p.8 – this test is very important!