Discrete Choice Modeling
William Greene
Stern School of Business, New York University

Lab Session 10 Assignment
Combining Revealed and Stated Preference Data

This short assignment consists of estimation of a model using a data set that combines stated and revealed preference data. The different scaling needed to accommodate the two parts of the data set is built into the model by using a nested logit specification. The specification below embodies many of the more advanced features of the conditional logit model, including the nesting with degenerate branches to reveal the scaling and choice based sampling in the revealed preference data. The data set is also complicated by having the choice sets vary across individuals, with each individual choosing from a possibly different subset of the master choice set.

To carry out the assignment, you need only load the sprp.lpj data set, then execute the command set below, which is replicated in LabAssignment-10.lim. Then, examine the estimates of the model components to see how the specification has (or has not) captured the important features of this data set.

```
/* ?
? Data for this application are in SPRP.LPJ
?
? Application of revealed/stated preference data
? Uses nested logit to handle scaling.
? Sample is also choice based, as shown by weights.
? Choice variable is CHOSEN
? Number of choices in choice set is CSET
? Specific choices from master set given by ALTIJ
? FCOST = fuel cost
? AUTOTIME = time spent commuting by car.
? Numerous other variables in the data set are not used here.
?
*/
NLOGIT
 ;lhs=chosen,cset,altij
 ;choices=RPDA,RPRS,RPBS,RPTN,SPDA,SPRS,SPBS,SPTN,SPLR,SPBW
         /.592,.208,.089,.111, 1.0, 1.0, 1.0, 1.0,1.0,1.0
 ;tree=Commute [  rp  (RPDA,RPRS,RPBS,RPTN),
                  spda(SPDA), sprs(SPRS),spbs(SPBS),sptn(SPTN),
                  splr(SPLR),spbw(SPBW)]
    ;ivset: (rp)=[1.0]  ;ru1 ;maxit=150
    ;model:
U(RPDA) = rdasc  + invc*fcost+tmrs*autotime /
U(RPRS) = rrsasc + invc*fcost+tmrs*autotime /
U(RPBS) = rbsasc + invc*mptrfare+mtpt*mptrtime/
U(RPTN) =          cstrs*mptrfare+mtpt*mptrtime/
U(SPDA) = sdasc  + invc*fueld + tmrs*time+cavda*carav /
U(SPRS) = srsasc + invc*fueld + tmrs*time/? cavrs*carav/
U(SPBS) =          invc*fared + mtpt*time +acegt*spacegtm/
U(SPTN) = stnasc + invc*fared + mtpt*time+acegt*spacegtm/
U(SPLR) = slrasc + invc*fared + mtpt*time+acegt*spacegtm/
U(SPBW) = sbwasc + invc*fared + mtpt*time+acegt*spacegtm$
```