Stata’s choice modeling suite makes it easy to explore discrete choice data, fit choice models, and interpret the results. Get answers to real research questions.

- Summarize choice data
- Model discrete choices
  - Conditional logit
  - Mixed logit
  - Multinomial probit
  - Rank-ordered logit
  - Rank-ordered probit
  - Panel-data mixed logit
- Truly interpret the results
  - Expected probabilities
    - For any alternative
    - For any subpopulation
    - At specific covariate levels
  - Differences in probabilities (effects)
    - As a covariate changes for an alternative
      Increased airfare decreases probability of flying
    - As a covariate changes for another alternative
      Increased airfare increases probability of car travel
  - Marginal effects
  - Tests and confidence intervals for everything

### Prepare your data
Declare variables that identify individuals and alternatives
```stata
.cmset id mode
```

### Summarize your data
Tabulate chosen alternatives
```stata
.cmtab, choice(chosen)
```
Summarize variables (time and cost) across chosen alternatives
```stata
.cmsummarize time cost, choice(chosen)
```
Tabulate choice sets
```stata
.cmchoiceset
```

### Fit a discrete choice model
Conditional logit (McFadden’s choice) model; traveltime varies across alternatives; income is constant within id
```stata
.cmcmdlogit chosen traveltime, casevars(income)
```
Multinomial probit
```stata
.cmcmdprobit chosen traveltime, casevars(income)
```
Mixed logit with random coefficients for cost
```stata
.cmcmdmixlogit chosen traveltime, random(cost) casevars(income)
```

### Fit a model for a rank-ordered outcome
Rank-ordered probit
```stata
.cmcmdroprobit rank traveltime, casevars(income)
```
Rank-ordered logit
```stata
.cmcmdrologit rank traveltime cost
```

### Fit a model to panel-data
Mixed logit model
```stata
.cmset id time mode
.cmcmdxtmixlogit chosen traveltime, random(cost) casevars(income)
```
Learn more about choice models and other Stata features at [stata.com/features](http://stata.com/features).

After fitting a choice model with any `cm` command, you can easily answer interesting research questions.

What proportion of individuals do we expect will select air travel? Train travel? Bus travel? Car travel? We expect 28% to select air, 30% to select train, 14% to select bus, and 28% to select car.

What proportion are expected to select car travel for individuals with income levels ranging from $30,000 to $70,000 per year? As income levels increase, what happens to the expected proportions of each travel method? Type:

```
. margins, at(income=(30(10)70)) outcome(car)
```

```
Expected probability of each travel mode
```

What if wait times at airports increase by an hour? How do we expect this to affect the probability of selecting air travel? How does it affect the probability of selecting car travel? Train travel? Bus travel? Why not consider:

```
. margins, alternative(air)
at(time=generate(time))
at(time=generate(time+60))
```

```
Probability of selecting modes of transportation
```

What would we expect if air travel time increases by an hour while car travel time decreases by 30 minutes? What would we expect if the price of train travel increases by 20%? What would we expect if ...? You can now answer questions like these and many others.

Easily visualize the result.

```
Expected probability of traveling by car
```

```
Expected probability of each travel mode
```

```
Probability of selecting modes of transportation
```

You can now answer questions like these and many others.