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
  . cmset id mode

Summarize your data
Tabulate chosen alternatives
  . cmtab, choice(chosen)

Summarize variables (time and cost) across chosen alternatives
  . cmsummarize time cost, choice(chosen)

Tabulate choice sets
  . cmchoiceset

Fit a discrete choice model
Conditional logit (McFadden’s choice) model; traveltime varies across alternatives; income is constant within id
  . cmclogit chosen traveltime, casevars(income)

Multinomial probit
  . cmmprobit chosen traveltime, casevars(income)

Mixed logit with random coefficients for cost
  . cmmixlogit chosen traveltime, random(cost) casevars(income)

Fit a model for a rank-ordered outcome
Rank-ordered probit
  . cmproprobit rank traveltime, casevars(income)

Rank-ordered logit
  . cmrologit rank traveltime cost

Fit a model to panel-data
Mixed logit model
  . cmset id time mode
  . cmxtmixlogit chosen traveltime, random(cost) casevars(income)
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?**

After estimating the model, you can use the `margins` command to calculate the expected probabilities for each travel mode.

```
. margins
```

This will give you the expected probabilities for each travel mode.

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?**

You can use the `margins` command again, this time specifying the income range.

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

```
(output omitted)
```

Easily visualize the result.

```
. marginsplot
```

As income levels increase, what happens to the expected proportions of each travel method?

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

**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?**

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

```
. marginsplot
```

What would we expect if air travel time increases by an hour while car travel time decreases by 30 minutes?

```
. margins, alternative(air)
at(time=generate(time))
at(time=generate(time-30))
```

What would we expect if the price of train travel increases by 20%?

```
. margins, alternative(air)
at(price=train) outcome(car)
```

What would we expect if ...?

You can now answer questions like these and many others.

Learn more about choice models and other Stata features at [stata.com/features](http://stata.com/features).