

## 0.1 zelig: Estimating a Statistical Model

### Description

The `zelig` command estimates a variety of statistical models. Use `zelig` output with `setx` and `sim` to compute quantities of interest, such as predicted probabilities, expected values, and first differences, along with the associated measures of uncertainty (standard errors and confidence intervals).

### Usage

```
z.out <- zelig(formula, model, data, by, save.data, cite, ...)
```

### Arguments

<code>formula</code>	a symbolic representation of the model to be estimated, in the form $y \sim x_1 + x_2$ , where $y$ is the dependent variable and $x_1$ and $x_2$ are the explanatory variables, and $y$ , $x_1$ , and $x_2$ are contained in the same dataset. (You may include more than two explanatory variables, of course.) The $+$ symbol means “inclusion” not “addition.” You may also include interaction terms and main effects in the form $x_1*x_2$ without computing them in prior steps; $I(x_1*x_2)$ to include only the interaction term and exclude the main effects; and quadratic terms in the form $I(x_1^2)$ .
<code>model</code>	the name of a statistical model, enclosed in <code>"</code> . Type <code>help.zelig("models")</code> to see a list of currently supported models.
<code>data</code>	the name of a data frame containing the variables referenced in the formula, or a list of multiply imputed data frames each having the same variable names and row numbers (created by <code>mi</code> ).
<code>save.data</code>	If is set to <code>"TRUE"</code> , the input dataframe will be saved as an attribute ( <code>"zelig.data"</code> ) of the <code>zelig</code> output object.
<code>cite</code>	If is set to <code>"TRUE"</code> (default), the model citation will be printed out when this function is called.
<code>by</code>	a factor variable contained in <code>data</code> . Zelig will subset the data frame based on the levels in the <code>by</code> variable, and estimate a model for each subset. This is a particularly powerful option which will allow you to save a considerable amount of effort. For example, to run the same model on all fifty states, you could type: <code>z.out &lt;- zelig(y ~ x1 + x2, data = mydata, model = "ls", by = "state")</code> You may also use <code>by</code> to run models using MatchIt subclass.
<code>...</code>	additional arguments passed to <code>zelig</code> , depending on the model to be estimated.

## Value

Depending on the class of model selected, `zelig` will return an object with elements including `coefficients`, `residuals`, and `formula` which may be summarized using `summary(z.out)` or individually extracted using, for example, `z.out$coefficients`. See the specific models listed above for additional output values, or simply type `names(z.out)`.

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## See Also

The full Zelig manual is available at <http://gking.harvard.edu/zelig>.