

# Exercises

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# Regression Tables

1. Open the Hosmer & Lemeshow low birth weight data (`webuse lbw`).
2. Estimate a `logit` model for whether low birth weight depends on whether the mother smoked during pregnancy.
3. Estimate a second model in which you add control variables (age, weight, race, premature labor history, and hypertension of mother).
4. Create a regression table of the two models containing logit coefficients and t-values; add the pseudo  $R^2$ , the BIC and the Log Likelihood; use better labels for the models in the header; change the display formats of the numbers to whatever you think might be appropriate (using options `b()` and `t()`).
5. Label the coefficients using the labels defined in the data or using some custom labels; use a better label for the Log Likelihood; get rid of the boldface label at the top of the table (which is an “equation label”).

## Regression Tables

6. Improve the labeling of the race variable by including a subheading (see `estout`'s `refcat()` option).
7. Export the table to Word. Export a second time placing coefficients and t-values into the same cell. Export a third time placing coefficients and t-values in separate cells side by side. Export a third fourth time including a title for the table (in boldface).
8. Change the table such that coefficients significant at the 10% level are also marked.
9. Change the table to include 95% confidence intervals instead of t-values and remove the significance stars.
10. Create a table that displays odds ratios instead of logit coefficients.
11. Create a table for the second model that displays logit coefficients as well as odds ratios.

# Regression Tables

12. Compute average marginal effects for the two models (`margins`). Create a table that displays odds ratios and t-statistics as well as marginal effects for both models (using `estadd` and the `cells()` option). Create a second table that only displays marginal effects (including the standard errors of the marginal effects; by directly tabulating the results returned by `margins`).

## Other tables using estpost

1. Create a table of summary statistics (mean and standard deviation) of the variables in the dataset (using `estpost summarize` or `estpost tabstat`) and export it to Word.
2. Create a table in which the summary statistics are divided by mother's smoking status (using the `by()` option of `estpost tabstat`; in `esttab` use option `unstack` to place the groups side by side) and export it to Word.
3. Create a table containing results from t-test by mother's smoking status and export it to Word.
4. Create a correlation table of the variables in the above logit model and export it to Word.
5. Create a twoway table of race by smoking status and export it to Word. Include row percentages in the table.

## Graphs (coefplot and grstyle)

1. Take the logit models from above and display their coefficients and confidence intervals in a plot. Think about rescaling some of the coefficients such that the confidence spikes are informative.
2. Create a second plot that has two panels: the first panel displays the coefficients as above, the second panel displays average marginal effects.
3. Change the confidence intervals to capped spikes. Do some work on the labeling; for example, add a subheading for race, change the subgraph headings and labels in the legend.
4. Add p-values to the graph.
5. Create a graph that displays significant and non-significant effects in different styles.
6. Create a bar chart of smoking status by race.

## Graphs (coefplot and grstyle)

7. Take one of the graphs from above and play around with different `grstyle` settings. For example, try to adapt the graph's appearance to the standards that are typically used in your discipline.