My Paper

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Abstract

This paper provides an example of a document with tables and figures that were automated using Stata.

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1 Summary

This example paper includes tables and figures that were created using Stata and outputted into the **/analysis/results** project folder. Copy the contents of that folder to **/paper** to update the tables and figures in this document.

Table 1 reports summary statistics for Stata's **auto.dta** dataset.[1] The average price of automobiles in this dataset is $6,165. The price distribution, iillustrated in Figure 1, is skewed right.

I estimate the association between automobile prices and fuel efficiency using the following linear model:

$$PRICE_i = \alpha + \beta X_i + \varepsilon \tag{1}$$

The outcome variable, $PRICE_i$, is the price of automobile i. The parameter of interest is β, a vector of coefficients. In my first specification ("spec 1"), the vector X_i includes miles per gallon. The second specification ("spec 2") also includes the car's weight. I estimate this model using ordinary least squares and report standard errors that are robust to heteroskedasticity. The analysis is performed first using Stata, and then repeated using R.

Table 2 reports my Stata estimates, separately for domestic and foreign cars. Column (1) reports that an increase in fuel efficiency of 1 mile per gallon is associated with a $329 reduction in the price of domestic automobiles. Column (2) shows that this association becomes positive and insignificant when I also include weight as a regressor. Columns (3) and (4) show that these associations are similar for foreign automobiles.

Table 3 compares these Stata estimates to estimates from R. Panel A reproduces the Stata estimates that were presented in Table 2. Panel B of Table 3 reports estimates when I repeat this analysis in R using the **lm_robust** command from the *estimatr* package. The point estimates and the standard errors are identical across both software packages.

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[1]Type **sysuse auto, clear** at the Stata prompt to load this dataset.

2 Figures and Tables

Figure 1: Automobile prices
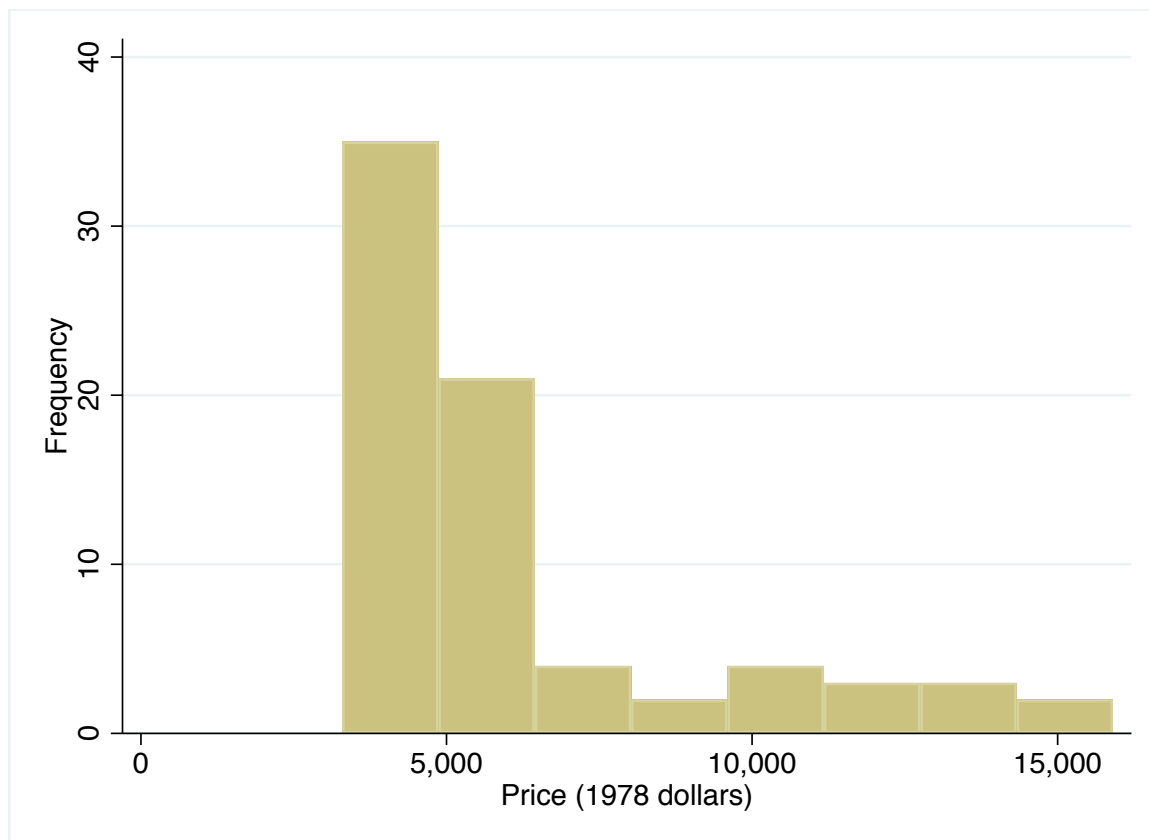
Notes: Data were obtained from Stata's built-in auto dataset.

Table 1: Summary statistics

	Mean	Stdev.	Min	Max	Count
Weight (pounds)	3,019	777	1,760	4,840	0
Miles per gallon	21.3	5.79	12	41	0
Price (1978 dollars)	6,165	2,949	3,291	15,906	0

Notes: Count reports the number of non-missing values for the variable.

Table 2: Association between automobile price and fuel efficiency

	(1)	(2)	(3)	(4)
	Domestic		Foreign	
	Spec 1	Spec 2	Spec 1	Spec 2
Miles per gallon	-329***	238	-250**	-19.8
	(81.2)	(203)	(88.2)	(51.7)
Weight (pounds)		4.42***		5.16***
		(1.34)		(0.770)
N	52	52	22	22
R^2	0.254	0.483	0.399	0.785

Notes: Outcome variable is price (1978 dollars). Columns (1) and (2) report estimates of β from equation (1) for domestic automobiles. Columns (3) and (4) report estimates for foreign automobiles. Robust standard errors are reported in parentheses. A */**/*** indicates significance at the 10/5/1% levels.

Table 3: Association between automobile price and fuel efficiency, Stata and R

	(1)	(2)	(3)	(4)
	Domestic		Foreign	
	Spec 1	Spec 2	Spec 1	Spec 2
A. Stata output (regress)				
Miles per gallon	-329***	238	-250**	-19.8
	(81.2)	(203)	(88.2)	(51.7)
Weight (pounds)		4.42***		5.16***
		(1.34)		(0.770)
B. R output (lm_robust)				
Miles per gallon	-329***	238	-250**	-19.8
	(81.2)	(203)	(88.2)	(51.7)
Weight (pounds)		4.42***		5.16***
		(1.34)		(0.770)

Notes: Outcome variable is price (1978 dollars). Columns (1) and (2) report estimates of β from equation (1) for domestic automobiles. Columns (3) and (4) report estimates for foreign automobiles. Robust standard errors are reported in parentheses. A */**/*** indicates significance at the 10/5/1% levels.