

# 1 Example of a StatWeave document

## 1.1 Some Standard Features

### 1.1.1 Some simple Stata input and output

Here is a regression example using the obligatory `auto` dataset, using good physics

```
. clear
. sysuse auto
. // making the physics right
. gen gp100m = 100/mpg
. regress gp100m weight displacement gear_ratio foreign
```

(1978 Automobile Data)

Source	SS	df	MS	Number of obs	=	74
				F(4, 69)	=	56.84
Model	91.7374232	4	22.9343558	Prob > F	=	0.0000
Residual	27.8388375	69	.403461414	R-squared	=	0.7672
				Adj R-squared	=	0.7537
Total	119.576261	73	1.63803097	Root MSE	=	.63519

gp100m	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
weight	.0014428	.000216	6.68	0.000	.0010118	.0018737
displacement	.0012388	.0021161	0.59	0.560	-.0029828	.0054603
gear_ratio	-.2037991	.3258603	-0.63	0.534	-.8538726	.4462744
foreign	.733736	.2301493	3.19	0.002	.2746007	1.192871
_cons	.8147969	1.239181	0.66	0.513	-1.657301	3.286895

### 1.1.2 Including a result in the body of a sentence.

This is useful for including results in sentences in a paper.

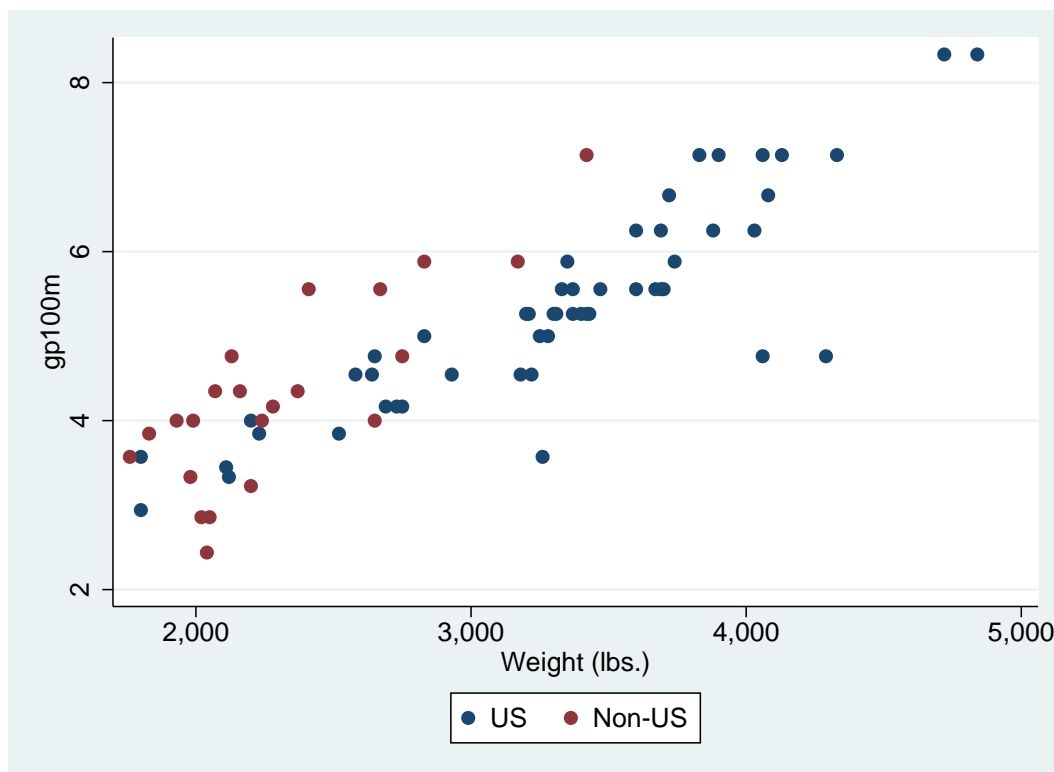
StatWeave can use inline expansions. As an example, we can see that the coefficient for the foreign variable is 0.734. To put something inline, think of it as being fed to a `display` command.

### 1.1.3 Including a graph.

Here is an example scatterplot command:

```
. twoway (scatter gp100m weight if !foreign) ///
  (scatter gp100m weight if foreign), ///
  legend(order(1 "US" 2 "Non-US"))
```

Here is the graph.



Need to work around two corners a little, but not too awful.

#### 1.1.4 Hiding commands and showing only results

It can be useful to hide commands and show just their output. Here, for example, is the output from a summarize command:

Variable	Obs	Mean	Std. Dev.	Min	Max
-----+-----					
gp100m	74	5.01928	1.279856	2.439024	8.333333
weight	74	3019.459	777.1936	1760	4840
displacement	74	197.2973	91.83722	79	425
gear_ratio	74	3.014865	.4562871	2.19	3.89

Showing just commands works similarly.

Showing just commands or output is done line by line.

#### 1.1.5 Splitting input and output.

StatWeave is special because it can directly split input and output from Stata commands. This is worthwhile in teaching documents, for the most part:

This command:

```
. summarize gp100m
```

will give summary statistics about the gp100m variable

Variable	Obs	Mean	Std. Dev.	Min	Max
gp100m	74	5.01928	1.279856	2.439024	8.333333

The downside of StatWeave splitting output is that it puts all commands before all output for every codeblock. This is very unStata-like.

```
. summarize weight
. regress gp100m weight
```

Variable	Obs	Mean	Std. Dev.	Min	Max
weight	74	3019.459	777.1936	1760	4840

Source	SS	df	MS	Number of obs	=	74
Model	87.2964969	1	87.2964969	F(1, 72)	=	194.71
Residual	32.2797639	72	.448330054	Prob > F	=	0.0000
				R-squared	=	0.7300
				Adj R-squared	=	0.7263
Total	119.576261	73	1.63803097	Root MSE	=	.66957

gp100m	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
weight	.001407	.0001008	13.95	0.000	.001206 .0016081
_cons	.7707669	.3142571	2.45	0.017	.1443069 1.397227

This behavior came because StatWeave was originally SASWeave, but was expanded to handle Stata, SAS, and R.

## 1.2 Some other features to check

### 1.2.1 Showing Mata code and output

Here is some Mata code.

```
. mata
: X = (76, 53, 48 \ 53, 88, 46 \ 48, 46, 63)
: Xi = invsym(X)
```

```
----- mata (type end to exit) -----
```

It is useful to see the output from checking that  $X_i$  is really the inverse of  $X$ .

```
: Xi*X
: end
```

	1	2	3
1	1	-1.11022e-16	-1.11022e-16
2	-1.11022e-16	1	0
3	0	0	1

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