`starpolishr`: Post-processing of `stagazer` output

Chandler Lutz

2017-09-24

First note that the first argument in all `starpolishr` functions is a `stargazer` table, allowing for easy compatibility with the magrittr `%>%`. Also, all of the functions in the `starpolishr` package begin with `star_` for easy `tab` completion in emacs or rstudio.

Basic Stargazer Tables

To start, let's run a couple of regressions. These will be miles per gallon, `mpg`, on `hp` and `cyl` from the `mtcars` dataset. We'll also produce a basic stargazer table.

```
library(stargazer); library(starpolishr); library(magrittr)
data(mtcars)
mod.mtcars.1 <- lm(mpg ~ hp, mtcars)
mod.mtcars.2 <- lm(mpg ~ hp + cyl, mtcars)
star.out.1 <- stargazer(mod.mtcars.1, mod.mtcars.2,
                        title = "Motor Car Regressions",
                        type = "latex",
                        #For exact latex positioning using the latex 'float' package
                        table.placement = "H",
                        keep.stat = "n",
                        header = FALSE)
```

Table 1: Motor Car Regressions

	Dependent variable:	
	mpg	
	(1)	(2)
hp	−0.068***	−0.019
	(0.010)	(0.015)
cyl		−2.265***
		(0.576)
Constant	30.099***	36.908***
	(1.634)	(2.191)
Observations	32	32
Note:	*p<0.1; **p<0.05; ***p<0.01	

Obviously, a potential confound is the vehicle weight, `wt`. For the purposes of this vignette, let's say we want the regressions that employ the `wt` variable in a separate table:

```
#Second set of models with weight as a regressor
mod.mtcars.3 <- lm(mpg ~ hp + wt, mtcars)
mod.mtcars.4 <- lm(mpg ~ hp + cyl + wt, mtcars)
star.out.2 <- stargazer(mod.mtcars.3, mod.mtcars.4,
                        #For exact latex positioning using the latex 'float' package
                        table.placement = "H",
                        keep.stat = c("n", "rsq"),
                        header = FALSE)
```

Table 2

	Dependent variable:	
	mpg	
	(1)	(2)
hp	−0.032***	−0.018
	(0.009)	(0.012)
cyl		−0.942*
		(0.551)
wt	−3.878***	−3.167***
	(0.633)	(0.741)
Constant	37.227***	38.752***
	(1.599)	(1.787)
Observations	32	32
R^2	0.827	0.843
Note:	*p<0.1; **p<0.05; ***p<0.01	

Updating Regression Variable Names

We can improve a number of things about these tables. First, the left-hand and right-hand side variables are a bit cryptic. Let's clean this up using `starpolishr` `star_lhs_names()` and `star_rhs_names()` functions, which use regular expressions to replace variable names. The advantage of these functions is that they allow the variable names to span more than one line. As we want to apply these functions to both tables, let's create a function to minimize duplicative code.

```
clean_var_names <- function(table) {
    table %>%
        #Update the RHS names
        star_rhs_names(pattern = c("hp", "cyl", "wt"),
```

```
                        line1 = c("Hoarsepower", "Number of", "Vehicle"),
                        line2 = c("", "Engine Cylinders", "Weight")) %>%
        star_lhs_names(pattern = c("mpg"),
                        line1 = "Miles per",
                        line2 = "Gallon")
}
```

Now let's apply the function to the two stargazer tables and print

```
star.out.1 <- clean_var_names(star.out.1)
star.out.2 <- clean_var_names(star.out.2)
```

```
cat(star.out.1)
```

Table 3: Motor Car Regressions

	Dependent variable:	
	Miles per Gallon	
	(1)	(2)
Hoarsepower	-0.068^{***}	-0.019
	(0.010)	(0.015)
Number of Engine Cylinders		-2.265^{***}
		(0.576)
Constant	30.099^{***}	36.908^{***}
	(1.634)	(2.191)
Observations	32	32
Note:	*p<0.1; **p<0.05; ***p<0.01	

```
cat(star.out.2)
```

Table 4

	Dependent variable:	
	Miles per Gallon	
	(1)	(2)
Hoarsepower	-0.032^{***}	-0.018
	(0.009)	(0.012)
Number of Engine Cylinders		-0.942^{*}
		(0.551)
Vehicle Weight	-3.878^{***}	-3.167^{***}
	(0.633)	(0.741)
Constant	37.227^{***}	38.752^{***}
	(1.599)	(1.787)
Observations	32	32
R^2	0.827	0.843
Note:	*p<0.1; **p<0.05; ***p<0.01	

Create a table with 2 panels and add custom notes

Now let's combine the tables into a two panel single table using the `star_panel()` function and add custom table notes using the `star_notes_tex()` function. Finally, we'll print the output

```
star_panel(star.out.1, star.out.2,
           panel.names = c("Reg Without Weight", "Reg With Weight"),
           panel.label.fontface = "bold" #For bold panel names
           ) %>%
    #Add table notes
    star_notes_tex(note.type = "caption", #Use the latex 'caption' package for notes
                   note = "Standard errors are in parentheses") %>%
    cat
```

Table 5: Motor Car Regressions

	Dependent variable:	
	Miles per Gallon	
	(1)	(2)
Panel A: Reg Without Weight		
Hoarsepower	-0.068^{***}	-0.019
	(0.010)	(0.015)
Number of Engine Cylinders		-2.265^{***}
		(0.576)
Constant	30.099^{***}	36.908^{***}
	(1.634)	(2.191)
Panel B: Reg With Weight		
Hoarsepower	-0.032^{***}	-0.018
	(0.009)	(0.012)
Number of Engine Cylinders		-0.942^{*}
		(0.551)
Vehicle Weight	-3.878^{***}	-3.167^{***}
	(0.633)	(0.741)
Constant	37.227^{***}	38.752^{***}
	(1.599)	(1.787)
Observations	32	32

Notes: Standard errors are in parentheses