

What really buys happiness

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Abstract

Abstract to be written here. The abstract should not be too long and should provide the reader with a good understanding what you are writing about. Academic papers are not like novels where you keep the reader in suspense. To be effective in getting others to read your paper, be as open and concise about your findings here as possible. Ideally, upon reading your abstract, the reader should feel he / she must read your paper in entirety.

Keywords: Multivariate GARCH, Kalman Filter, Copula

JEL classification L250, L100

1. Introduction

Everybody wants to be happy. Today I set forth to present a convincing argument of what can buy happiness according to World Happiness Data.

Data

Notice how I used the curly brackets and dash to remove the numbering of the data section.

Discussion of data should be thorough with a table of statistics and ideally a figure.

In your tempalte folder, you will find a Data and a Code folder. In order to keep your data files neat, store all of them in your Data folder. Also, I strongly suggest keeping this Rmd file for writing and executing commands, not writing out long pieces of data-wrangling. In the example below, I simply create a ggplot template for scatter plot consistency. I suggest keeping all your data in a data folder.

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Contributions:

The authors would like to thank no institution for money donated to this project. Thank you sincerely.

To make your graphs look extra nice in latex world, you could use Tikz device. Replace dev - ‘png’ with ‘tikz’ in the chunk below. Notice this makes the build time longer and produces extra tex files - so if you are comfortable with this, set your device to Tikz and try it out:

2. Although the functions above are really simple, the principle is simple: containing calculations and data wrangling in their own functions will make this template much cleaner and more manageable.

3. When you start working, delete these meaningless functions and replace with your own...

To reference the plot above, add a ‘‘\label’’ after the caption in the chunk heading, as done a

```
<!-- ::::: {.columns data-latex="[T]"} -->
<!-- ::: {.column data-latex="{0.7\textwidth}"} -->
<!-- ‘‘{r, echo=FALSE, fig.width=4, fig.height=4} -->
<!-- par(mar = c(4, 4, .2, .1)) -->
<!-- plot(cars, pch = 19) -->
<!-- ‘‘‘ -->
<!-- ::: -->
<!-- ::: {.column data-latex="{0.05\textwidth}"} -->
<!-- \ -->
<!-- ::: -->
<!-- ::: {.column data-latex="{0.2\textwidth}"} -->
<!-- \scriptsize -->

<!-- ## Data {-} -->
<!-- The figure on the left-hand side shows the ‘cars’ data. -->

<!-- Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do -->
<!-- eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut -->
<!-- enim ad minim veniam, quis nostrud exercitation ullamco laboris -->
<!-- nisi ut aliquip ex ea commodo consequat. -->
<!-- ::: -->
<!-- ::::: -->
```

Subsection

Ideally do not overuse subsections. It equates to bad writing.[^][This is an example of a footnote]

```
<!-- $$ -->
<!-- This is a commented out section in the writing part. -->
<!-- Comments are created by highlighting text, amnd pressing CTL+C -->
<!-- \\begin{align} -->
<!-- \\beta = \\alpha^2 -->
<!-- \\end{align} -->
<!-- $$ -->
```

Results

Tables can be included as follows. Use the `_xtable_` (or `kable`) package for tables. Table placement

```
\begin{table}[H]
\centering
\begin{tabular}{rrrrrrrrrrrr}
\hline
& mpg & cyl & disp & hp & drat & wt & qsec & vs & am & gear & carb \\
\hline
1 & 21.00 & 6.00 & 160.00 & 110.00 & 3.90 & 2.62 & 16.46 & 0.00 & 1.00 & 4.00 & 4.00 \\
2 & 21.00 & 6.00 & 160.00 & 110.00 & 3.90 & 2.88 & 17.02 & 0.00 & 1.00 & 4.00 & 4.00 \\
3 & 22.80 & 4.00 & 108.00 & 93.00 & 3.85 & 2.32 & 18.61 & 1.00 & 1.00 & 4.00 & 1.00 \\
4 & 21.40 & 6.00 & 258.00 & 110.00 & 3.08 & 3.21 & 19.44 & 1.00 & 0.00 & 3.00 & 1.00 \\
5 & 18.70 & 8.00 & 360.00 & 175.00 & 3.15 & 3.44 & 17.02 & 0.00 & 0.00 & 3.00 & 2.00 \\
\hline
\end{tabular}
\caption{Short Table Example \label{tab1}}
\end{table}
```

To reference calculations `__in text__`, `_do this:_` From table `\ref{tab1}` we see the average value

Including tables that span across pages, use the following (note that I add below the table: ‘‘C

Use the following default settings to build your own possibly long tables. Note that the followi

```
\begin{group}\fontsize{12pt}{13pt}\selectfont
```

```
\begin{longtable}{rrrrrrrrrrr}
```

```
\caption{Long Table Example} \\\
```

```
\toprule
```

```
mpg & cyl & disp & hp & drat & wt & qsec & vs & am & gear & carb \\\
```

```
\hline
```

```
\endhead
```

```
\hline
```

```
{\footnotesize Continued on next page}
```

```
\endfoot
```

```
\endlastfoot
```

```
\midrule
```

```
21.00 & 6.00 & 160.00 & 110.00 & 3.90 & 2.62 & 16.46 & 0.00 & 1.00 & 4.00 & 4.00 \\\n 21.00 & 6.00 & 160.00 & 110.00 & 3.90 & 2.88 & 17.02 & 0.00 & 1.00 & 4.00 & 4.00 \\\n 22.80 & 4.00 & 108.00 & 93.00 & 3.85 & 2.32 & 18.61 & 1.00 & 1.00 & 4.00 & 1.00 \\\n 21.40 & 6.00 & 258.00 & 110.00 & 3.08 & 3.21 & 19.44 & 1.00 & 0.00 & 3.00 & 1.00 \\\n 18.70 & 8.00 & 360.00 & 175.00 & 3.15 & 3.44 & 17.02 & 0.00 & 0.00 & 3.00 & 2.00 \\\n 18.10 & 6.00 & 225.00 & 105.00 & 2.76 & 3.46 & 20.22 & 1.00 & 0.00 & 3.00 & 1.00 \\\n 14.30 & 8.00 & 360.00 & 245.00 & 3.21 & 3.57 & 15.84 & 0.00 & 0.00 & 3.00 & 4.00 \\\n 24.40 & 4.00 & 146.70 & 62.00 & 3.69 & 3.19 & 20.00 & 1.00 & 0.00 & 4.00 & 2.00 \\\n 22.80 & 4.00 & 140.80 & 95.00 & 3.92 & 3.15 & 22.90 & 1.00 & 0.00 & 4.00 & 2.00 \\\n 19.20 & 6.00 & 167.60 & 123.00 & 3.92 & 3.44 & 18.30 & 1.00 & 0.00 & 4.00 & 4.00 \\\n 17.80 & 6.00 & 167.60 & 123.00 & 3.92 & 3.44 & 18.90 & 1.00 & 0.00 & 4.00 & 4.00 \\\n 16.40 & 8.00 & 275.80 & 180.00 & 3.07 & 4.07 & 17.40 & 0.00 & 0.00 & 3.00 & 3.00 \\\n 17.30 & 8.00 & 275.80 & 180.00 & 3.07 & 3.73 & 17.60 & 0.00 & 0.00 & 3.00 & 3.00 \\\n 15.20 & 8.00 & 275.80 & 180.00 & 3.07 & 3.78 & 18.00 & 0.00 & 0.00 & 3.00 & 3.00 \\\n 10.40 & 8.00 & 472.00 & 205.00 & 2.93 & 5.25 & 17.98 & 0.00 & 0.00 & 3.00 & 4.00 \\\n 10.40 & 8.00 & 460.00 & 215.00 & 3.00 & 5.42 & 17.82 & 0.00 & 0.00 & 3.00 & 4.00 \\\n 14.70 & 8.00 & 440.00 & 230.00 & 3.23 & 5.34 & 17.42 & 0.00 & 0.00 & 3.00 & 4.00 \\\n 32.40 & 4.00 & 78.70 & 66.00 & 4.08 & 2.20 & 19.47 & 1.00 & 1.00 & 4.00 & 1.00 \\\n 30.40 & 4.00 & 75.70 & 52.00 & 4.93 & 1.61 & 18.52 & 1.00 & 1.00 & 4.00 & 2.00 \\\n 33.90 & 4.00 & 71.10 & 65.00 & 4.22 & 1.83 & 19.90 & 1.00 & 1.00 & 4.00 & 1.00 \\\n 21.50 & 4.00 & 120.10 & 97.00 & 3.70 & 2.46 & 20.01 & 1.00 & 0.00 & 3.00 & 1.00 \\\n 15.50 & 8.00 & 318.00 & 150.00 & 2.76 & 3.52 & 16.87 & 0.00 & 0.00 & 3.00 & 2.00 \\\n 15.20 & 8.00 & 304.00 & 150.00 & 3.15 & 3.44 & 17.30 & 0.00 & 0.00 & 3.00 & 2.00 \\\n 13.30 & 8.00 & 350.00 & 245.00 & 3.73 & 3.84 & 15.41 & 0.00 & 0.00 & 3.00 & 4.00 \\\n 19.20 & 8.00 & 400.00 & 175.00 & 3.08 & 3.85 & 17.05 & 0.00 & 0.00 & 3.00 & 2.00 \\\n 27.30 & 4.00 & 79.00 & 66.00 & 4.08 & 1.94 & 18.90 & 1.00 & 1.00 & 4.00 & 1.00 \\\n 26.00 & 4.00 & 120.30 & 91.00 & 4.43 & 2.14 & 16.70 & 0.00 & 1.00 & 5.00 & 2.00 \\\n
```

```

30.40 & 4.00 & 95.10 & 113.00 & 3.77 & 1.51 & 16.90 & 1.00 & 1.00 & 5.00 & 2.00 \\
15.80 & 8.00 & 351.00 & 264.00 & 4.22 & 3.17 & 14.50 & 0.00 & 1.00 & 5.00 & 4.00 \\
19.70 & 6.00 & 145.00 & 175.00 & 3.62 & 2.77 & 15.50 & 0.00 & 1.00 & 5.00 & 6.00 \\
15.00 & 8.00 & 301.00 & 335.00 & 3.54 & 3.57 & 14.60 & 0.00 & 1.00 & 5.00 & 8.00 \\
21.40 & 4.00 & 121.00 & 109.00 & 4.11 & 2.78 & 18.60 & 1.00 & 1.00 & 4.00 & 2.00 \\
\bottomrule
\end{longtable}
\endgroup

```

```
\hfill
```

```
<!-- hfill can be used to create a space, like here between text and table. -->
```

```
## Huxtable
```

Huxtable is a very nice package for making working with tables between Rmarkdown and Tex easier.

This cost some adjustment to the Tex templates to make it work, but it now works nicely.

See documentation for this package [here](<https://hughjonesd.github.io/huxtable/huxtable.html>).

If you are eager to use huxtable, comment out the Huxtable table in the Rmd template, and uncomm

Note that I do not include this in the ordinary template, as some latex users have complained it

```
““{=latex}
```

```

\providecommand{\huxb}[2]{\arrayrulecolor[RGB]{#1}\global\arrayrulewidth=#2pt}
\providecommand{\huxvb}[2]{\color[RGB]{#1}\vrule width #2pt}
\providecommand{\huxtpad}[1]{\rule{0pt}{#1}}
\providecommand{\huxbpad}[1]{\rule[-#1]{0pt}{#1}}

\begin{table}[ht]
\begin{centerbox}
\begin{threeparttable}
\captionsetup{justification=centering,singlelinecheck=off}

```

```

\caption{Regression Output}
\label{Reg01}
\setlength{\tabcolsep}{0pt}
\begin{tabular}{l l l l}

```

```

\hhline{>\huxb{0, 0, 0}{0.8}}->\huxb{0, 0, 0}{0.8}}->\huxb{0, 0, 0}{0.8}}->\huxb{0, 0, 0}{0.8}}
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```

```

\multicolumn{1}{!{\huxvb{0, 0, 0}{0}}c!{\huxvb{0, 0, 0}{0}}}{\huxtpad{6pt + 1em}\centering \hspace{6pt} {\fontsize{12pt}}
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\multicolumn{1}{c!{\huxvb{0, 0, 0}{0}}}{\huxtpad{6pt + 1em}\centering \hspace{6pt} {\fontsize{12pt}}

```

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\arrayrulecolor{black}

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\multicolumn{1}{!{\huxvb{0, 0, 0}{0}}l!{\huxvb{0, 0, 0}{0}}}{\huxtpad{6pt + 1em}\raggedright \hspace{6pt} {\fontsize{12pt}}
\multicolumn{1}{r!{\huxvb{0, 0, 0}{0}}}{\huxtpad{6pt + 1em}\raggedleft \hspace{6pt} {\fontsize{12pt}}
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\multicolumn{1}{r!{\huxvb{0, 0, 0}{0}}}{\huxtpad{6pt + 1em}\raggedleft \hspace{6pt} {\fontsize{12pt}}
\multicolumn{1}{r!{\huxvb{0, 0, 0}{0}}}{\huxtpad{6pt + 1em}\raggedleft \hspace{6pt} {\fontsize{12pt}}
\multicolumn{1}{r!{\huxvb{0, 0, 0}{0}}}{\huxtpad{6pt + 1em}\raggedleft \hspace{6pt} {\fontsize{12pt}}

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`\arrayrulecolor{black}`

`\multicolumn{1}{!{\huxvb{0, 0, 0}{0}}l!{\huxvb{0, 0, 0}{0}}}{\huxtpad{6pt + 1em}\raggedright \hs`

`\multicolumn{1}{r!{\huxvb{0, 0, 0}{0}}}{\huxtpad{6pt + 1em}\raggedleft \hspace{6pt} {\fontsize{1`

`\multicolumn{1}{r!{\huxvb{0, 0, 0}{0}}}{\huxtpad{6pt + 1em}\raggedleft \hspace{6pt} {\fontsize{1`

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\arrayrulecolor{black}

\multicolumn{1}{!{\hbox{0, 0, 0}{0}}l!{\hbox{0, 0, 0}{0}}}{\hbox{6pt + 1em}\raggedright \hspace{6pt} {\fontsize{10pt}
\multicolumn{1}{r!{\hbox{0, 0, 0}{0}}}{\hbox{6pt + 1em}\raggedleft \hspace{6pt} {\fontsize{10pt}
\multicolumn{1}{r!{\hbox{0, 0, 0}{0}}}{\hbox{6pt + 1em}\raggedleft \hspace{6pt} {\fontsize{10pt}
\multicolumn{1}{r!{\hbox{0, 0, 0}{0}}}{\hbox{6pt + 1em}\raggedleft \hspace{6pt} {\fontsize{10pt}

\hline>{\hbox{0, 0, 0}{0.8}}->{\hbox{0, 0, 0}{0.8}}->{\hbox{0, 0, 0}{0.8}}->{\hbox{0, 0, 0}{0.8}}
\arrayrulecolor{black}

\multicolumn{4}{!{\hbox{0, 0, 0}{0}}l!{\hbox{0, 0, 0}{0}}}{\hbox{6pt + 1em}\raggedright \hspace{6pt} {\fontsize{10pt}

\hline{}
\arrayrulecolor{black}
\end{tabular}
\end{threeparttable}\par\end{centerbox}

\end{table}

```

FYI - R also recently introduced the gt package, which is worthwhile exploring too.

4. Lists

To add lists, simply using the following notation

- This is really simple
 - Just note the spaces here - writing in R you have to sometimes be pedantic about spaces...
- Note that Rmarkdown notation removes the pain of defining \LaTeX environments!

5. Conclusion

I hope you find this template useful. Remember, stackoverflow is your friend - use it to find answers to questions. Feel free to write me a mail if you have any questions regarding the use of this package. To cite this package, simply type `citation("Texevier")` in Rstudio to get the citation for [Katzke \(2017\)](#) (Note that uncited references in your bibtex file will not be included in References).

References

10 Katzke, N.F. 2017. *Texevier: Package to create elsevier templates for rmarkdown*. Stellenbosch, South Africa: Bureau for Economic Research.