Introduction to LaTeX

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1 Installing LaTeX

Visit `http://latex-project.org/ftp.html` and install a full TeX distribution appropriate for your operating system. I recommend MacTeX for Mac users, and proTeXt for those with PCs. MacTeX includes the front end TeXShop, and proTeXt includes the front end TeXstudio. Most Linux and Unix distributions include TeX systems, but if yours does not you should install TeX Live directly.

2 Typographic Conventions

```
When you see sentences in the font this sentence is in, then you are looking at
the .tex 'source'.
```

This sentence is the font that output is in.

Paragraphs are separated by a blank line.

3 Creating the .TeX File

3.1 The Header

Here is what the top of a .tex file looks like:

```
\documentclass[11pt]{article} % Defines type-size, and overall style (article)
\usepackage{fullpage}         % Defines page margins and length and width.
\usepackage{setspace}         % This package lets you call useful
                              % commands such as '\singlespace' or 'doublespace'
\usepackage{endnotes}         % This package formats endnotes. Can change to footnotes.
\usepackage{epsfig}           % This package formats figures.
\usepackage{psfrag}           % This package formats figures.
\usepackage{amsmath}          % This is a package for math features.
\usepackage{amsfonts}         % This is a package for math features.
\usepackage{amssymb}          % This is a package for math features.
\usepackage{rotating}         % This packages allows you to rotate figures and tables etc.
\usepackage{longtable}        % This package formats a particular type of table.
\usepackage{url}              % This package helps with formatting web addresses.
\usepackage{natbib}           % This has to do with citations and your bibliography
\setlength{\LTcapwidth}{5in}  % This sets width of figure and table titles.
\def\p3s{\phantom{xxx}}
\parskip=8pt                  % Space between paragraphs.
\parindent=30pt               % Indenting of first line of paragraph.
```

3.2 The Document Environment

3.2.1 Beginning the Document

Just under the header, include:

```
\begin{document}
\pagestyle{plain}    % Includes just a plain page number.
\singlespace         % Common alternatives are \doublespace and \onehalfspacing.
```

3.3 Ending the Document

At the very end of your document, include:

```
\end{document}
```

4   Creating the .PDF File

To compile in TeXShop and TeXstudio:

1. Run "LaTeX" once. Text will appear, but citations and references (including labels and cross-references) will not.

2. Run "BibTeX" once.

3. Run "LaTeX" a second time. The references section and all labels and cross-references will now appear.

4. Run "LaTeX" a third time. The in-text citations will appear, and you are done.

5   Font Tricks

```
\begin{small}
Here is some 'small' text.
\end{small}
```

Here is some 'small' text.

```
\begin{Large}
\begin{center}
Here is some 'Large' centered text.
\end{center}
\end{Large}
```

Here is some 'Large' centered text.

```
\noindent Here is \textbf{bold} and \textit{italics} text with no paragraph indent.
```

Here is **bold** and *italics* text with no paragraph indent.

6 Footnotes, Endnotes, and Page Breaks

```
This sentence has a footnote at the end of it.\footnote{This is the
first footnote.}
```

This sentence has a footnote at the end of it.[1]

```
This sentence has an endnote at the end of it.\endnote{This is the
first endnote.}
```

This sentence has an endnote at the end of it.[1]

To generate endnotes at the end of the document, we just include a line:

```
 \theendnotes
```

You can force a page break with:

```
\newpage
```

7 Lists

LaTeX can do lists:

```
\begin{enumerate}
\item Here is the first item in the list.
\begin{itemize}
\item You can have nested lists.
\item Which have many items.
\end{itemize}
\item Here is the second item of the list.
\end{enumerate}
```

1. Here is the first item in the list.

   - You can have nested lists.
   - Which have many items.

2. Here is the second item of the list.

---

[1]This is the first footnote.

8 Math

Here is some math:

`$x^2 ~+~ y^2 ~=~ \sqrt{z ~+~ q}$.`

$$x^2 + y^2 = \sqrt{z + q}.$$

```
\begin{eqnarray}
{ {P_{i}(C) | \{S\}}  \over  {P_{i}(L) | \{S\}} } = { {P_{i}(C) | \{T\}}
    \over {P_{i}(L) | \{T\}} }
\end{eqnarray}
```

$$\frac{P_i(C)|\{S\}}{P_i(L)|\{S\}} = \frac{P_i(C)|\{T\}}{P_i(L)|\{T\}} \tag{1}$$

Using 'eqnarray*' is the same as 'eqnarray', except the equations won't be numbered.

```
\begin{eqnarray*}
V_{ij} = a_{i}\psi_{j} ~+~ X_{ij}\beta ~+~ \epsilon_{ij}
\end{eqnarray*}
```

$$V_{ij} = a_i\psi_j + X_{ij}\beta + \epsilon_{ij}$$

You can repress the equation numbers until the last line by 'nonumber', and you can align the equations (in this case at the '=') by using '&' i.e. '&=&'.

```
\begin{eqnarray}
e'e &=& (y-X\hat{\beta})'(y-X\hat{\beta}) \nonumber\\
&=& y'y -\hat{\beta}'X'y - y'X\hat{\beta} + \hat{\beta}'X'X\hat{\beta} \nonumber\\
&=&y'y -2\hat{\beta}'X'y+ \hat{\beta}'X'X\hat{\beta}
\end{eqnarray}
```

$$
\begin{aligned}
e'e &= (y - X\hat{\beta})'(y - X\hat{\beta}) \\
&= y'y - \hat{\beta}'X'y - y'X\hat{\beta} + \hat{\beta}'X'X\hat{\beta} \\
&= y'y - 2\hat{\beta}'X'y + \hat{\beta}'X'X\hat{\beta}
\end{aligned} \tag{2}
$$

You can use 'mathbf' and 'eqnarray':

```
\begin{eqnarray}
\mathbf{V_{ij}} = \mathbf{a_{i}}\psi_{j} ~+~ \mathbf{X_{ij}} \beta
          ~+~ \epsilon_{ij}
\end{eqnarray}
```

$$\mathbf{V_{ij}} = \mathbf{a_i}\psi_j \; + \; \mathbf{X_{ij}}\beta \; + \; \epsilon_{ij} \tag{3}$$

Now some fractions. Notice how nicely we can make things line up with 'eqnarray' and the use of the '&' character. Also note the use of 'nonumber'.[2]

```
\begin{eqnarray}
1 & ~=~ & P_1 ~+~ P_1 ( { {P_{21}} \over {P_{12}} } ) ~+~
P_1 ( { {P_{31}} \over {P_{13}} } ) \\
\nonumber \\
\nonumber \\
 & ~=~ & P_1 (1 ~+~  { {P_{21}} \over {P_{12}} } ~+~
 { {P_{31}} \over {P_{13}} } ) \nonumber \\
\nonumber \\
\nonumber \\
P_1 & ~=~ & 1 / (1 ~+~  { {P_{21}} \over {P_{12}} } ~+~
 { {P_{31}} \over {P_{13}} } )
\end{eqnarray}
```

$$1 \quad = \quad P_1 \; + \; P_1(\frac{P_{21}}{P_{12}}) \; + \; P_1(\frac{P_{31}}{P_{13}}) \tag{4}$$

$$= \quad P_1(1 \; + \; \frac{P_{21}}{P_{12}} \; + \; \frac{P_{31}}{P_{13}})$$

$$P_1 \quad = \quad 1/(1 \; + \; \frac{P_{21}}{P_{12}} \; + \; \frac{P_{31}}{P_{13}}) \tag{5}$$

Now, a nice integral:

```
\begin{eqnarray}
P_{i1} =
\int_{-\infty}^{\tilde{U}_{12}}
\int_{-\infty}^{\tilde{U}_{13}}
b_{1}(\eta_{i,21},\eta_{i,31};r_{1})d\eta_{i,21} d\eta_{i,31}
\end{eqnarray}
```

$$P_{i1} = \int_{-\infty}^{\tilde{U}_{12}} \int_{-\infty}^{\tilde{U}_{13}} b_1(\eta_{i,21}, \eta_{i,31}; r_1) d\eta_{i,21} d\eta_{i,31} \tag{6}$$

```
\begin{eqnarray}
CivilianDeathToll
= \beta_{0}&+&\beta_{1}CivilWar + \beta_{2}Intervention \nonumber \\
         &+& \beta_{3}CivilWar \times Intervention      \nonumber \\
         &+& \beta_{4}Democracy + \beta_{5}Stability          \nonumber \\
         &+& \beta_{6}Democracy \times Stability + \epsilon \label{deathtoll}
\end{eqnarray}
```

$$
\begin{aligned}
CivilianDeathToll = \beta_0 \quad &+\quad \beta_1 CivilWar + \beta_2 Intervention \\
&+\quad \beta_3 CivilWar \times Intervention \\
&+\quad \beta_4 Democracy + \beta_5 Stability \\
&+\quad \beta_6 Democracy \times Stability + \epsilon
\end{aligned} \tag{7}
$$

```
\begin{eqnarray}
E(\epsilon \epsilon'|X)=
\left[\begin{array}{cccc}
E[\epsilon_{1}^{2}|X] & E[\epsilon_{1}\epsilon_{2}|X]
& \hdots & E[\epsilon_{1}\epsilon_{n}|X] \\
E[\epsilon_{2}\epsilon_{1}|X] & E[\epsilon_{2}^{2}|X]
& \hdots & E[\epsilon_{2}\epsilon_{n}|X] \\
\vdots     & \vdots        & \vdots  & \vdots\\
E[\epsilon_{n}\epsilon_{1}|X] & E[\epsilon_{n}\epsilon_{2}|X]
& \hdots & E[\epsilon_{n}^{2}|X] \\
\end{array} \right]
\end{eqnarray}
```

$$
E(\epsilon\epsilon'|X) = \begin{bmatrix}
E[\epsilon_1^2|X] & E[\epsilon_1\epsilon_2|X] & \dots & E[\epsilon_1\epsilon_n|X] \\
E[\epsilon_2\epsilon_1|X] & E[\epsilon_2^2|X] & \dots & E[\epsilon_2\epsilon_n|X] \\
\vdots & \vdots & \vdots & \vdots \\
E[\epsilon_n\epsilon_1|X] & E[\epsilon_n\epsilon_2|X] & \dots & E[\epsilon_n^2|X]
\end{bmatrix} \tag{8}
$$

9 Tables

```
Now let's look at Table~\ref{MyNumbers}
```

Now let's look at Table 1

We can use the label "ref{MyNumbers}" to refer to the table, that way if the numbering of tables changes TeX keeps control of that automatically.

```
\begin{table}
\begin{center}
\caption{Single-Method Repertoires of Personal Integrity Abuse, 1981-2007}
\label{MyNumbers}
\begin{tabular}{l c c c}\\
\hline
                    & \multicolumn{3}{c}{\bf THE NUMBERS!!} \\
                    & Frequency    & \% of Abuse-years  & \% of CYs \\
\hline
Disappearance       & 6            & 0.2                & 0.1 \\
Imprisonment        & 129          & 3.7                & 3.1 \\
Killing             & 15           & 0.4                & 0.4 \\
Torture             & 663          & 18.9               & 16.0 \\
\hline
\end{tabular}
\vskip 0.2in
\parbox{5in}{Table entries for column one present the frequency of each form of abuse,
in the absence of any other form of abuse, across all countries. Column two is the frequency
of each form of abuse, in the absence of any other form, as a percent of all years experiencing
at least some personal integrity abuse, and column three is the frequency of each form of abuse,
in the absence of any other form, as a percent of all country-years in our sample.}
\end{center}
\end{table}
```

Table 1: Single-Method Repertoires of Personal Integrity Abuse, 1981-2007

	THE NUMBERS!!		
	Frequency	% of Abuse-years	% of CYs
Disappearance	6	0.2	0.1
Imprisonment	129	3.7	3.1
Killing	15	0.4	0.4
Torture	663	18.9	16.0

Table entries for column one present the frequency of each form of abuse, in the absence of any other form of abuse, across all countries. Column two is the frequency of each form of abuse, in the absence of any other abuse, as a percent of all years experiencing at least some personal integrity abuse, and column three is the frequency of each form of abuse, in the absence of any other form, as a percent of all country-years in our sample.

```latex
\begin{sidewaystable}
\begin{center}
\caption{Effect of UNCHR Shaming on Substitution of Repressive Tactics}
\label{APSAResults}
\begin{tabular}{lcccc}\\
\hline \\
\bf{DV: Government Killing}       & BVP        & Probit      & BVP        & Probit  \\
\hline \\
Shaming Killing                   & 5.002*** & 0.752      & --        & --  \\
                                  & (0.162)  & (0.563)    &           &   \\
Shaming Imprisonment              & --       &  --        & 0.691     & 0.724    \\
                                  &          &            & (0.568)   & (0.659)\\
Democracy                         & -0.139   & -0.000     & -0.134    & -0.000  \\
                                  & (0.144)  & (0.013)    & (0.145)   & (0.013) \\
Shaming Killing * Democracy       & -3.841***& -0.085***  & --        & --  \\
                                  & (0.538)  & (0.026)    &           & \\
Shaming Imprisonment * Democracy  & --       & --         & 2.218*** & 0.051*  \\
                                  &          &            & (0.581)   & (0.028) \\
Lagged Dependent Variable         & 0.962*** & 0.951***   & 0.976*** & 0.968***  \\
                                  & (0.127)  &            & (0.235)   & (0.130) \\
War                               & 0.636*** & 0.663***   & 0.697*** & 0.721***  \\
                                  & (0.245)  & (0.240)    & (0.235)   & (0.233) \\
GDP                               & -0.000***& -0.000***  & -0.000***& -0.000*** \\
                                  & (0.000)  & (0.000)    & (0.000)   & (0.000)  \\
Population                        & 6.5e-6***& 6.7e-6***  & 6.5e-6***& 6.6e-6***  \\
                                  & (1.4e-6) & (1.5e-6)   & (1.5e-6)  & (1.5e-6) \\
Oil                               & 0.200    & 0.283      & 0.220     & 0.280  \\
                                  & (0.192)  & (0.204)    & (0.190)   & (0.203) \\
Constant                          & -0.248*  & -0.297*    & -0.238*   & -0.291* \\
                                  & (0.134)  & (0.177)    & (0.134)   & (0.178) \\
Log-likelihood                    & -491.259 & -267.469   & -494.323 & -268.972      \\
N                                 & 578      & 578        & 578       & 578  \\
\hline \\
\end{tabular}
\parbox{6in}{***p$<$.001, **p$<$.01, *p$<$.05, two-tailed tests. All
independent variables are lagged one year.  Results for second
dependent variable, political imprisonment, are omitted.}
\end{center}
\end{sidewaystable}
```

Table 2: Effect of UNCHR Shaming on Substitution of Repressive Tactics

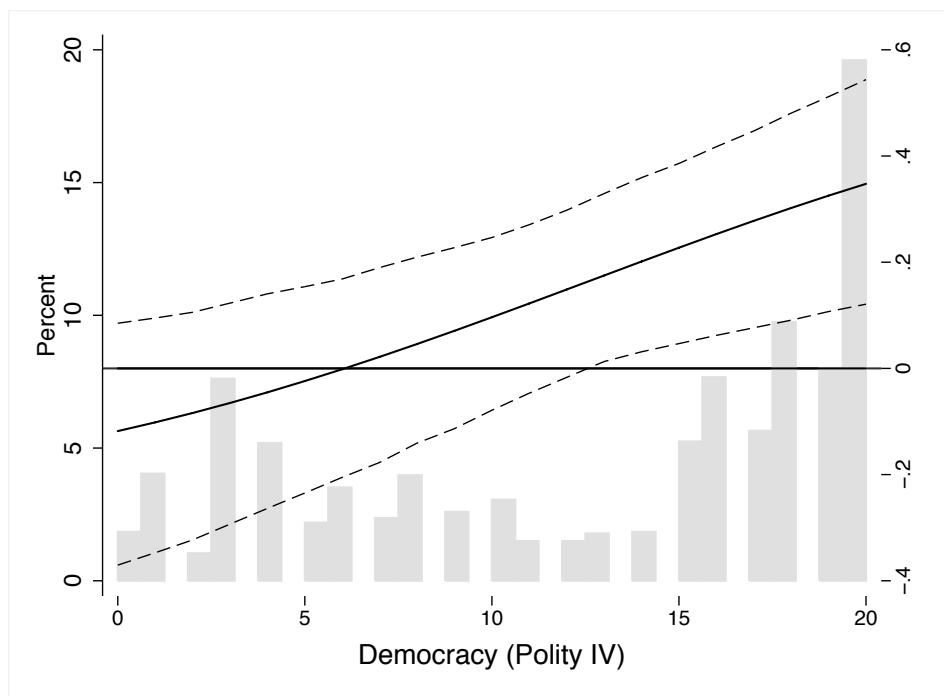| DV: Government Killing	BVP	Probit	BVP	Probit
Shaming Killing	5.002***	0.752	—	—
	(0.162)	(0.563)		
Shaming Imprisonment	—	—	0.691	0.724
			(0.568)	(0.659)
Democracy	-0.139	-0.000	-0.134	-0.000
	(0.144)	(0.013)	(0.145)	(0.013)
Shaming Killing * Democracy	-3.841***	-0.085***	—	—
	(0.538)	(0.026)		
Shaming Imprisonment * Democracy	—	—	2.218***	0.051*
			(0.581)	(0.028)
Lagged Dependent Variable	0.962***	0.951***	0.976***	0.968***
	(0.127)	(0.130)	(0.235)	(0.130)
War	0.636***	0.663***	0.697***	0.721***
	(0.245)	(0.240)	(0.235)	(0.233)
GDP	-0.000***	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Population	6.5e-6***	6.7e-6***	6.5e-6***	6.6e-6***
	(1.4e-6)	(1.5e-6)	(1.5e-6)	(1.5e-6)
Oil	0.200	0.283	0.220	0.280
	(0.192)	(0.204)	(0.190)	(0.203)
Constant	-0.248*	-0.297*	-0.238*	-0.291*
	(0.134)	(0.177)	(0.134)	(0.178)
Log-likelihood	-491.259	-267.469	-494.323	-268.972
N	578	578	578	578

***$p<.001$, **$p<.01$, *$p<.05$, two-tailed tests. All independent variables are lagged one year. Results for second dependent variable, political imprisonment, are omitted.

10 Figures

Now, let's import a figure.

```
\begin{figure}[h]
\caption{Effect of Shaming for Killing on Pr(Imprisonment)}
\label{fig1}
\begin{center}
\includegraphics[scale=0.9]{fig1}\vspace*{0.15cm}
\parbox{6.5in}{\footnotesize \singlespace{\textbf{Note:}
Figure \ref{fig1} plots the estimated effect of United Nations Human Rights Commission
(UNHRC) shaming for extrajudicial killing on the probability of political imprisonment
as democracy increases.  The gray histogram indicates where the Polity IV data used
in our analysis falls between 0 and 20. The percent label on the left y-axis in each of
these figures corresponds with these gray histograms.}}
\end{center}
\end{figure}
```

Figure 1: Effect of Shaming for Killing on Pr(Imprisonment)

Note: Figure 1 plots the estimated effect of United Nations Human Rights Commission (UNHRC) shaming for extrajudicial killing on the probability of political imprisonment as democracy increases. The gray histogram indicates where the Polity IV data used in our analysis falls between 0 and 20. The percent label on the left y-axis in each of these figures corresponds with these gray histograms.

11 Endnotes

Now let's generate the endnotes:

\theendnotes

Notes

[1] This is the first endnote.

[2] Here is another endnote. It will show up at the end!

12 References

You can generate references manually if you want. The 'section' command just puts a section heading on the thing, it doesn't generate the references for us.

\section*{References}

\noindent Goldhagen, Daniel Jonah. 1996. \textit{Hitler's Willing Executioners: Ordinary Germans and the Holocaust}. New York: Random House.

\noindent Mason, T. David and Dale A. Krane. 1989. ``The Political Economy of Death Squads: Toward a Theory of the Impact of State-Sanctioned Terror,'' \textit{International Studies Quarterly} 33(2): 175--198.

References

Goldhagen, Daniel Jonah. 1996. *Hitler's Willing Executioners: Ordinary Germans and the Holocaust.* New York: Random House.

Mason, T. David and Dale A. Krane. 1989. "The Political Economy of Death Squads: Toward a Theory of the Impact of State-Sanctioned Terror," *International Studies Quarterly* 33(2): 175–198.

However, I would recommend that you generate the references using BibTeX. With BibTeX you create a database of the entries you like to cite, then use specific LaTeX commands to indicate citations throughout your text. For a parenthetical citation such as "(Moore 2000)" use the format

\citep{Moore2000}

For an in-text citation such as "Moore (2000)" use the format

```
\citet{Moore2000}
```

At the end of the paper, you put the command:

```
\bibliography{bib_jackie}
```

and LaTeX automatically generates the list of references. You can use various styles, but I use APSR style:

```
\bibliographystyle{apsr}
```

Look at bib_jackie to see what the database looks like.