An Analysis of Some Rather Arbitrary Stuff: Illustrating LaTeX basics*

Me Myself I

January 26, 2022

Abstract

This abstract is the short version of the much longer version below. The longer version below is longer than this shorter version. This shorter version, though, is still longer than it needs to be, but not as much longer-than-it-needs-to-be as the longer version that follows.

*Thanks to all those who made this possible, but shouldn't have.

This is where the paper begins, with a beginning, outlining what I will try to persuade the reader to believe. In this paper, I will explore randomly typed numbers. Some scholars hold that randomly typed numbers hold little significance in terms of understanding causal processes (Dover 1999). Others, on the other hand, suggest the sources of randomness are hardly random, but derive from keen interest in brewed or fermented spirits (Adams 1766). The careful reader will also notice the paper illustrates a large number of basic features of LaTeX. (Binmore, Shaked & Sutton 1985)

The Next Section

Some math: suppose two matrices as follows:

$$\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 2 & 4 & 9 \end{bmatrix} \begin{pmatrix} 1 \\ 1 \\ 1 \end{pmatrix}$$

and a model like this:

$$ln\mathrm{L} = \sum_{i=1}^{n} - \left(\frac{z_1\gamma_1}{2}\right) - \left(\frac{z_2\gamma_2}{2}\right) - \left(\frac{ln(1-\rho^2)}{2}\right) - \frac{1}{2(1-\rho^2)}$$

$$\left[\frac{(y_1 - x_1\beta_1)^2}{e^{z_1\gamma_1}} - 2\rho\frac{(y_1 - x_1\beta_1)(y_2 - x_2\beta_2)}{e^{\left(\frac{z_1\gamma_1}{2}\right)}e^{\left(\frac{z_2\gamma_2}{2}\right)}} + \frac{(y_2 - x_2\beta_2)^2}{e^{(z_1\gamma_1)}}\right]$$

This is a long equation meant to illustrate a number of things. One might also want "in-line" math which means math in the line of the text (rather than off-set as the equation above. Accomplishing that is simple: the error in the model described above is $\epsilon \sim N_2(\beta_{1,2}, \sigma^2_{1,2}, \rho_{1,2})$.

Good Grief, Another Section

Yet more words still.

A Subsection, no less

More words hopefully related to the theme of the section. The foregoing discussion leads to the following hypotheses:

Hypothesis 1 *If I randomly type numbers in a table, the numbers in the table will be random.*

Further, it follows that:

Hypothesis 2 *A figure of randomly chosen numbers will be just as meaningless as a table of those same numbers.*

Evaluating these hypotheses requires unique data. I will generate appropriate data using the "gennorm" feature in "Stata."[1]

Another Subsection, believe it or not

This subsection contains a list:

- This is the **first** thing on the list.
- This is the *second* thing on the list.

Another Section because damn, this is a long paper

This section has a table in it. It uses the "threeparttable.sty" style, those three parts being a caption, the body of the table, and table notes explaining what the table contains.

[1] While it is true I am making up the data, I am doing so with the highest sort of principles. To make sure the random data are random, I replicated this process using "generate double z = runiform() and achieved the same results.

Table 1: A Table of Some Numbers I Made Up[†]

	Coefficient	Std. Err.	z-score
Meaningful Variable 1	0.001	0.019	0.06
Meaningful Variable 2	11.525*	3.010	3.83
Meaningful Variable 3	-1.296*	0.529	-2.45
intercept	-2.023*	0.143	-14.16
N	3		
model χ^2	63.53*		

[†] These numbers are the numbers I randomly hit on the keyboard.
* $p \leq .01$

The model estimates in Table 1 are broadly consistent with my having typed numbers into a table. This is what my hypotheses anticipated. Figure 1 illustrates the strong support for the hypotheses.

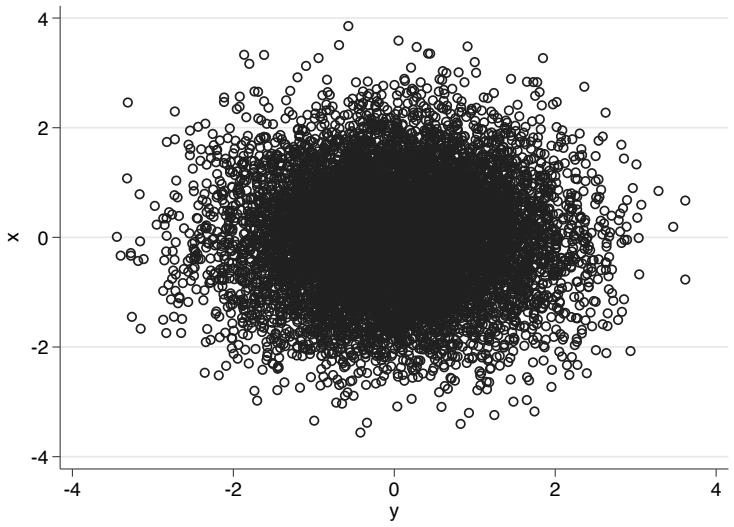

Figure 1: The relationship between random typing and numbers in a table.

As you can see, randomly generated, uncorrelated numbers are, in fact, unrelated to one another. The pattern in Figure 1 is clear evidence two random series are unrelated.

The Last Section

This section discusses my findings, namely that random numbers generally seem to lack a pattern. Despite that, it still remains potentially interesting to explore how randomness arises, and if it sometimes might arise due to consumption. As Sam Adams, brewer and patriot, is alleged to have once said, "brewing is not random, but my cousin John sure as hell is" (Adams 1766).[2] Moreover, as the inimitable Colonel Sanders famously said, "I'm too drunk to taste this chicken" (Ferrell 2006). If that does not prove the point, then it is not clear what will.

[2]I made this up. Completely. It's fake.

References

Adams, Sam. 1766. *Brewing for Patriots*. Boston: Lobsterback Books.

Binmore, Ken, Avner Shaked & John Sutton. 1985. "Testing Noncooperative Bargaining Theory: A Preliminary Study." *American Economic Review* 75(5):1178–1180.

Dover, Ben. 1999. "The Insignificance of Randomly Typed Digits." *Journal of Irreproducible Results* 52(3):647–674.

Ferrell, Will. 2006. *Talladega Nights: The Ballad of Ricky Bobby*. Talladega, NC: Spidermonkey Press.