

Expert advice from experts

Professor Marie Curie

Nobel Prize, PhD

Dr Pierre Curie

Nobel Prize, PhD

Report for
Acme Corporation

20 February 2025

**Department of
Econometrics &
Business Statistics**

☎ (03) 9905 2478
✉ BusEco-Econometrics@monash.edu

ABN: 45 528 328 299

1 Introduction

In a famous paper, Box & Cox ([1964](#)) introduced a family of transformations ...

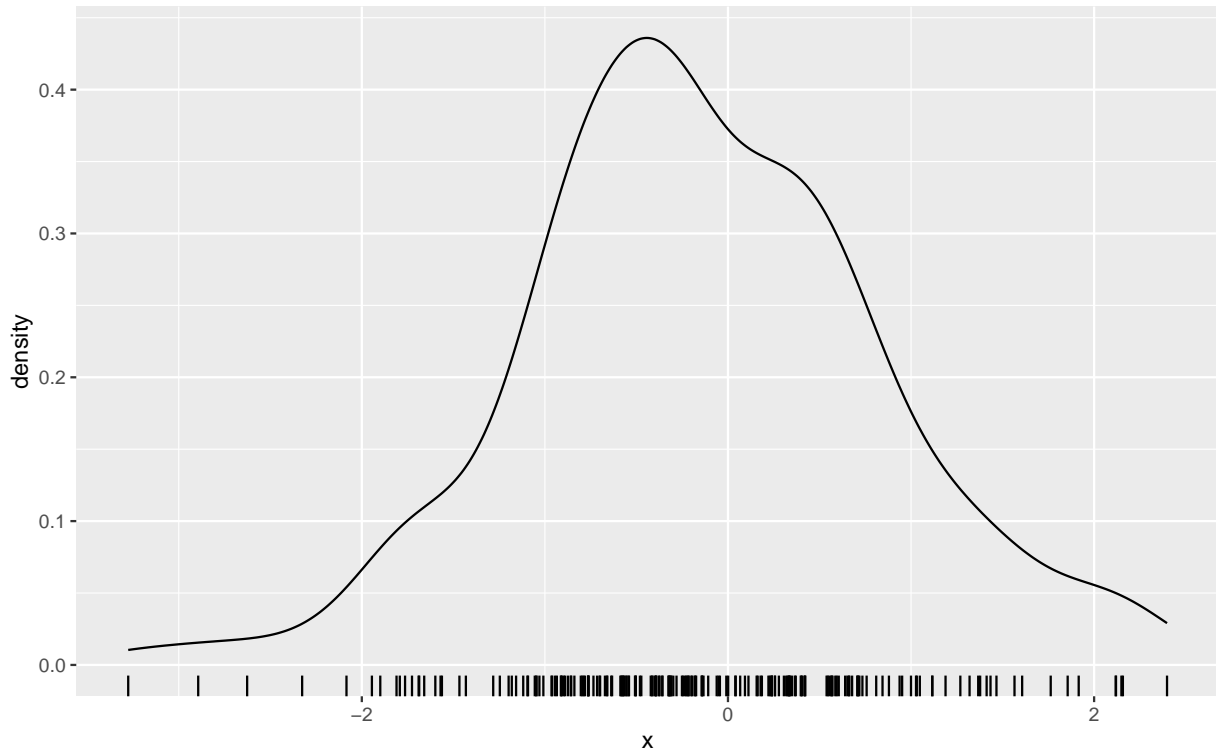


Figure 1: *Simulated data from a $N(0,1)$ distribution.*

Figure [1](#) shows a kernel density estimate of simulated data from a $N(0,1)$ distribution. The sample variance is given by

$$s^2 = \frac{1}{n-1} \sum_{i=1}^n (x_i - \bar{x})^2 = 0.98. \quad (1)$$

Note that Equation [1](#) is an unbiased estimate of the variance, but it is not the maximum likelihood estimate (Rice [2007](#), p. 269).

References

Box, GEP & DR Cox (1964). An analysis of transformations. *Journal of the Royal Statistical Society, Series B* **26**(2), 211–252.

Rice, JA (2007). *Mathematical Statistics and Data Analysis*. 3rd edition. Duxbury.