

11.4: Summary

Whew! Now, using matrix algebra **and** calculus, you have derived the squared-error minimizing formula for multiple regression. Not only that, you can use the matrix form, in R , to calculate the estimated slope and intercept coefficients, predict Y , and even calculate the regression residuals. We're on our way to true Geekdome!

Next stop: the key assumptions necessary for OLS to provide the best, unbiased, linear estimates (BLUE) and the basis for statistical controls using multiple independent variables in regression models.

20. It is useful to keep in mind the difference between “multiple regression” and “multivariate regression”. The latter predicts 2 or more dependent variables using an independent variable.↵
 21. The use of “prime” in matrix algebra should not be confused with the use of prime" in the expression of a derivative, as in $X'X'$.↵
-

This page titled [11.4: Summary](#) is shared under a [CC BY 4.0](#) license and was authored, remixed, and/or curated by [Jenkins-Smith et al. \(University of Oklahoma Libraries\)](#) via [source content](#) that was edited to the style and standards of the LibreTexts platform.