

1.3: Estimating Regression Coefficients

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Topic 1.3: Estimating Regression Coefficients

Read Sections 2.2 to 2.2.2 of your textbook. As you read, take notes on the following.

1. Write down the estimated simple linear regression equation and the estimated simple linear regression model.
2. Compare and contrast the estimated simple linear regression equation and the estimated simple linear regression model. What do each of these describe?
3. Write down the formulas for the following. Also, explain in words what these are describing.
 - Predicted / fitted value
 - Residuals
4. Describe, using your own words, how the regression coefficients are estimated using least-squares criterion.
5. Write down the formulas for the least-squares estimators for the coefficients of a simple linear regression equation.
6. The least-squares estimators for the regression coefficients are called the best linear unbiased estimators (BLUE). Describe, using your own words, what BLUE means.

Refer to this file for a more in-depth explanation of how the expected value and variance of the estimated slope are found.

 [mod1_derivation.pdf](#)

Derivation of Expected Value and Variance of Estimated Slope