In the previous chapter we saw how easy it was for EViews to produce regression results.

Easy to therefore to think that regression analysis is just a mechanical application of data to an equation.

But regression analysis is not so much about the OLS estimation itself as it is about everything else!

Six Steps in Applied Regression Analysis:

This is how we approach regression analysis in the real world.

1. Review the literature and develop a theoretical model.
2. Specify the econometric model: Select the independent variables and functional form.
3. Hypothesize the expected signs of the coefficients.
4. Collect the data. Inspect and clean the data.
5. Estimate and evaluate the equation.
6. Document the results.

Step 1: Literature review and theoretical model

Need to have a clear grasp of what question you are trying to answer. Once this is determined, a solid understanding of the existing literature is required to build a theoretical model. Use economic theory.

Step 2: Model specification

This is the most important step in regression analysis. Specifying the theoretical regression model requires choosing the independent variables and their functional form.

Step 3: Hypothesized signs

Consider the relationship between the dependent and independent variables and what we might expect. We can use economic theory to ascertain why variables should have certain relationships.

Step 4: Data collection

We typically do use observational data.

Step 5: Estimation

EViews can do the estimation in a second!

We're interested in evaluating the resulting output. How well did we do? Did we get the signs "right" on the coefficients?

Step 6: Documentation

We should always document our results. Write-up should contain an explanation of the model, the data, the estimation results (coefficient estimates, standard errors, $\bar{R}^2$, n, etc.).