

Practical Application of Statistical Analysis: Overview: Modeling and Forecasting

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Econometrician's Task is:

- To develop and estimate models of reality
- to minimize unexplained component (error term) of any model he/she builds.

-NOTE:

Parameters of the econometric model can be estimated by minimizing the unexplained component.

This can be done easily using any statistical program (for example Eviews).

How to Interpret Parameter Estimates

Sign of the parameter estimate must correspond to the theoretical implication derived from the model.

Size Value of the parameter estimate must correspond to the theoretical understanding and our intuition regarding the knowledge from the realistic situations.

Significance of the parameter estimate is measured by estimate over its standard error (or deviation) that must exceed certain value (t-test where value of t must be close to or exceed 2). It is another indicator why the variable should be in the model.

Assumptions regarding the standard errors

- 1. Estimated errors are not auto correlated
- 2. Estimated errors have constant variance (homogenous)

Violation of assumptions (1) and (2) imply lack of precision in our model. It implies that we used incorrect model for estimation.

Summary & Conclusion

- Econometrics starts with economic theory and economic models of reality
- Estimated parameters of models allow us to conduct policy analysis and forecast other potential observations.
- Based on our forecast we can make decisions