

Checklist for forecasting using regression analysis

1. Select variables using prior knowledge, logic based on known relationships, and experimental studies	<input type="checkbox"/>
2. Specify the directions of variable effects and effect sizes from #1	<input type="checkbox"/>
3. Discard a causal variable if it cannot be forecast or controlled	<input type="checkbox"/>
4. Discard a causal variable if it does not vary much in the estimation data	<input type="checkbox"/>
5. Discard variables expected <i>a priori</i> to be less important until no more than 3 remain in each model*	<input type="checkbox"/>
6. Specify a simple model—one that is understandable to those with a legitimate interest in the forecasts	<input type="checkbox"/>
7. Include all relevant knowledge in the model, such that the model is the prior hypothesis	<input type="checkbox"/>
8. Specify alternative simple models that are also consistent with all relevant knowledge	<input type="checkbox"/>
9. Ensure that the data for estimation are reliable and free of errors, especially for the dependent variable	<input type="checkbox"/>
10. Estimate the models using large samples of data	<input type="checkbox"/>
11. Discard a variable if the relationship estimated conflicts with prior evidence on direction	<input type="checkbox"/>
12. Estimate models once only in order to test prior hypotheses	<input type="checkbox"/>
13. Revise a model only after documenting the revisions and the reasons in order to ensure full disclosure	<input type="checkbox"/>
14. Damp model coefficients toward equal weights to adjust for excluded sources of error in model	<input type="checkbox"/>
15. Specify forecasting models by averaging the <i>a priori</i> coefficients with those estimated from the data	<input type="checkbox"/>
16. Average the forecasts from alternative regression models	<input type="checkbox"/>
17. Estimate prediction intervals using only out-of-sample data	<input type="checkbox"/>
18. Ignore statistical significance and fit to the data for all aspects of the forecasting task	<input type="checkbox"/>

*Not counting variables used to take account of known effects, such as using population to transform data to per capita, or a price index to adjust for currency inflation.

J. Scott Armstrong & Kesten C. Green, 11 July 2017 draft.

From “Forecasting methods and principles: Evidence-based checklists” available from https://www.researchgate.net/publication/318392870_Forecasting_Methods_and_Principles_Evidence-Based_Checklists