

**Inference requirements** — Requirements for inference[Description](#)[Remarks and examples](#)[Also see](#)

## Description

The `ds`, `po`, and `xpo` commands, like other estimation procedures, require certain conditions be met so that their inferential results are valid. In addition, the plugin and CV selection methods have distinct properties and may perform differently under some conditions.

## Remarks and examples

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We assume you have read [\[LASSO\] Lasso inference intro](#).

We fit a model with, for example, `dsregress` with the default plugin selection method, and then we refit the model using CV. We get slightly different results. Which is correct?

Plugin and CV are more than just different numerical techniques for model estimation. They make different assumptions, have different requirements, and have different properties. Asking which is correct has only one answer. Each is correct when their assumptions and requirements are met.

In terms of practical advice, we have two alternative recommendations.

The first one involves lots of computer time.

1. Fit the model with `xpo` and the default plugin.
2. Fit the model with `xpo` and CV.
3. Compare results. If they are similar, use the results from step 1.

This alternative will save computer time.

1. Fit the model with `ds` with the default plugin.
2. Fit it again with `ds` but with CV.
3. Fit it again with `po` with the default plugin.
4. Fit it again with `po` but with CV.
5. Compare results. If they are similar, you are likely on solid ground. If so, perform step 6.
6. Fit the model again with `xpo` with the default plugin and use those results.

You can combine these two recommendations. Start with the alternative, and if it fails at step 5, follow the first set of recommendations.

## Also see

[\[LASSO\] Lasso inference intro](#) — Introduction to inferential lasso models

[\[LASSO\] lasso](#) — Lasso for prediction and model selection

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