

**Difference-in-differences decomposition**

1. Repeat the Smith-Welch example analysis from the slides ([5-did.pdf](#)) and evaluate how changing the reference and “benchmark” estimates (as they are called in the help file) affects the results. Try to provide clear interpretations of the different elements of the output and explain how the interpretations change depending on the choice of the reference and benchmark estimates.
2. Optional: Compute bootstrap standard errors for the different decompositions.
3. Optional: Compute the “interventionist” decomposition proposed by Kröger and Hartmann (2021) (see the slides) using 1995 as the starting point and interpret the results. Optionally provide bootstrap standard errors.

Hint: You can try to use the `xtoaxaca` command provided by Kröger and Hartmann (type `findit xtoaxaca`). However, we find it more transparent to do this decomposition “by hand” using the formulas on the slides. A further alternative is to compute the “interventionist” decomposition from the results returned by `smithwelch`.