

**xthdidregress** — Heterogeneous difference in differences for panel data
[Description](#)[Quick start](#)[Menu](#)[Syntax](#)

## Description

`xthdidregress` estimates average treatment effect on the treated (ATETs) that may vary over time and over treatment cohorts. Treatment cohorts are groups subject to treatment at different points in time. `xthdidregress` provides four estimators: extended two-way fixed effects (TWFE), regression adjustment (RA), inverse-probability weighting (IPW), and augmented inverse-probability weighting (AIPW). See [\[CAUSAL\] teffects intro](#) for a discussion of RA, IPW, and AIPW estimators.

## Quick start

Estimate ATETs of treatment `treat` on outcome `y` with group `grpvar`; use the RA estimator and model `y` with covariate `x` on `xtset` data

```
xthdidregress ra (y x) (treat), group(grpvar)
```

Same as above, but use the TWFE estimator

```
xthdidregress twfe (y x) (treat), group(grpvar)
```

Use the IPW estimator and model `treat` using covariate `z`

```
xthdidregress ipw (y) (treat z), group(grpvar)
```

Use the AIPW estimator, model `y` using covariate `x`, and model `treat` using covariate `z`

```
xthdidregress aipw (y x) (treat z), group(grpvar)
```

Same as above, but use the not-yet-treated group as the control group

```
xthdidregress aipw (y x) (treat z), group(grpvar) ///
    controlgroup(notyet)
```

Same as above, but cluster at the county level

```
xthdidregress aipw (y x) (treat z), group(grpvar) ///
    controlgroup(notyet) vce(cluster county)
```

## Menu

Statistics > Longitudinal/panel data > Difference in differences (DID) > Heterogeneous DID (TWFE)

Statistics > Longitudinal/panel data > Difference in differences (DID) > Heterogeneous DID (RA)

Statistics > Longitudinal/panel data > Difference in differences (DID) > Heterogeneous DID (IPW)

Statistics > Longitudinal/panel data > Difference in differences (DID) > Heterogeneous DID (AIPW)

## Syntax

For syntax, methods, and all other information on `xthdidregress`, see [\[CAUSAL\] xthdidregress](#).

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