

# Package ‘fwlplot’

June 24, 2024

**Title** Scatter Plot After Residualizing Using 'fixest' Package

**Version** 0.3.0

**Description** Creates a scatter plot after residualizing using a set of covariates. The residuals are calculated using the 'fixest' package which allows very fast estimation that scales. Details of the (Yule-)Frisch-Waugh-Lovell theorem is given in Basu (2023) <[doi:10.48550/arXiv.2307.00369](https://doi.org/10.48550/arXiv.2307.00369)>.

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**Encoding** UTF-8

**RoxygenNote** 7.3.1

**Imports** data.table, fixest, tinyplot

**Suggests** ggplot2

**NeedsCompilation** no

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fml_breaker	<i>Break apart formula (from right to left) based on a symbole (~ or  )</i>
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## Description

Break apart formula (from right to left) based on a symbole (~ or |)

**Usage**

```
fml_breaker(fml, op)
```

**Arguments**

fml	Formula following fixest syntax.
op	String. Either ~ or

**Value**

list of symbol or language from right to left that are split at each occurrence of op.

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fml_plot	<i>FWL Plot</i>
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**Description**

This function creates a bivariate plot of y and x after residualizing over a set of covariates w.

**Usage**

```
fml_plot(fml, data, ggplot = FALSE, n_sample = 1000, alpha = 0.5, ...)
```

```
fmlplot(fml, data, ggplot = FALSE, n_sample = 1000, alpha = 0.5, ...)
```

**Arguments**

fml	Of the form $y \sim x + covs \mid fes$ following the fixest formula syntax. The x variable you want plotted should come first.
data	A dataframe object that contains the variables in fml.
ggplot	Boolean. Default is to use base R plot but if TRUE, use ggplot.
n_sample	Numeric. Number of observations to sample for each facet.
alpha	Numeric. Alpha transparency of each individual point. If NULL, will plot all rows.
...	Additional arguments passed to <code>fixest::feols</code> .

**Value**

Either NULL if ggplot = FALSE or a ggplot object if ggplot = TRUE. In either case, plots the figure.

**Examples**

```
fml_plot(mpg ~ hp + wt | cyl, mtcars)
```

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get_fm1_parts	<i>Split formula into terms</i>
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**Description**

Split formula into terms

**Usage**

```
get_fm1_parts(formula, parts_as_formula = FALSE)
```

**Arguments**

formula	Full formula following fixest syntax: $y \sim W \mid W_{FE} \mid T \sim Z \mid Z_{FE}$ .
parts_as_formula	Logical. If TRUE, then each part will be a right-hand side formula. Default is FALSE

**Value**

List of expressions/formula for each part of the formula. It will be of type symbol/language unless `parts_as_formula = TRUE`. Can be used with `fixest::xpd` and the dot bracket syntax to create formula. Any missing elements will be given a value of NULL. The list contains the following:

y_fm1	The LHS
W_lin	The linear part of the exogenous variables
W_FE	The fixed effects part of the exogenous variables
T_fm1	The endogenous variable
Z_lin	The linear part of the instruments
Z_FE	The fixed effects part of the instruments

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