

0.1 rocplot: Receiver Operator Characteristic Plots

Description

The `rocplot` command generates a receiver operator characteristic plot to compare the in-sample (default) or out-of-sample fit for two logit or probit regressions.

Usage

```
rocplot(y1, y2, fitted1, fitted2, cutoff = seq(from=0, to=1, length=100),  
        lty1 = "solid", lty2 = "dashed", lwd1 = par("lwd"), lwd2 = par("lwd"),  
        col1 = par("col"), col2 = par("col"), main, xlab, ylab,  
        plot = TRUE, ...)
```

Arguments

<code>y1</code>	Response variable for the first model.
<code>y2</code>	Response variable for the second model.
<code>fitted1</code>	Fitted values for the first model. These values may represent either the in-sample or out-of-sample fitted values.
<code>fitted2</code>	Fitted values for the second model.
<code>cutoff</code>	A vector of cut-off values between 0 and 1, at which to evaluate the proportion of 0s and 1s correctly predicted by the first and second model. By default, this is 100 increments between 0 and 1, inclusive.
<code>lty1, lty2</code>	The line type for the first model (<code>lty1</code>) and the second model (<code>lty2</code>), defaulting to solid and dashed, respectively.
<code>lwd1, lwd2</code>	The width of the line for the first model (<code>lwd1</code>) and the second model (<code>lwd2</code>), defaulting to 1 for both.
<code>col1, col2</code>	The colors of the line for the first model (<code>col1</code>) and the second model (<code>col2</code>), defaulting to black for both.
<code>main</code>	a title for the plot. Defaults to <code>ROC Curve</code> .
<code>xlab</code>	a label for the x-axis. Defaults to <code>Proportion of 1's Correctly Predicted</code> .
<code>ylab</code>	a label for the y-axis. Defaults to <code>Proportion of 0's Correctly Predicted</code> .
<code>plot</code>	defaults to <code>TRUE</code> , which generates a plot to the selected device. If <code>FALSE</code> , returns a list of items (see below).
<code>...</code>	Additional parameters passed to <code>plot</code> , including <code>xlab</code> , <code>ylab</code> , and <code>main</code> .

Value

If `plot = TRUE`, `rocplot` generates an ROC plot for two logit or probit models. If `plot = FALSE`, `rocplot` returns a list with the following elements:

<code>roc1</code>	a matrix containing a vector of x-coordinates and y-coordinates corresponding to the number of ones and zeros correctly predicted for the first model.
<code>roc2</code>	a matrix containing a vector of x-coordinates and y-coordinates corresponding to the number of ones and zeros correctly predicted for the second model.
<code>area1</code>	the area under the first ROC curve, calculated using Reimann sums.
<code>area2</code>	the area under the second ROC curve, calculated using Reimann sums.

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See Also

The full Zelig manual (available at <http://gking.harvard.edu/zelig>), `plot`, `lines`.

Examples

```
data(turnout)
z.out1 <- zelig(vote ~ race + educate + age, model = "logit",
  data = turnout)
z.out2 <- zelig(vote ~ race + educate, model = "logit",
  data = turnout)
rocplot(z.out1$y, z.out2$y, fitted(z.out1), fitted(z.out2))
```