

# Interpreting Q-Q plot

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Hi,

I would use Q-Q plot as a GoF (Goodness of Fit) test (not for normality test!), but instead of evaluating the goodness of fit graphically I'd like to use some analytic formula

Actually I've drawn two a line:

1. one passing for the 25th and 75th quantile
2. one obtained through a simple linear regression between the X and Y quantiles.

With line #1 the only information I have is slope and intercept (these isn't very useful since there might be a goodness of fit even if the line is  $y=ax+b$ , with  $a < 1$  and  $b < 0$  because of location or scale deviations)

With line #2 I have a lot of additional information (such as residuals,  $R^2$ , ...)

What kind of line is better (eventually tell me an even better kind of line) for a GoF?

.... and what kind of statistically analysis can I do with that?  
(e.g. with line #2 I thought to use the  $R^2$  statistic to assess the goodness of fit if  $R^2 \sim 1$  or the lack of fit if  $R^2 \sim 0$ )

Any help is very appreciated!

Thank you very much!

Best regards,

-- Marco

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