

COPY OF LETTER TO PHILIP LYLE, ESQ. DATED 5th January 1943

Dear Mr Lyle,

I can at once O. K. your methods for Fiducial Limits of the Regression coefficient and its intercepts for zero production, i.e. fixed overhead. The only question or warning which arises from this mode of approach is that in practical application you should not let the reasoning proceed as if the actual sampling errors in these two estimates were independent. Actually of course they are mutually dependent, in such a way that your expected cost within the range of your working experience, is much more accurate than might be supposed from the accuracy of the ^{two} estimates you use

A consideration which may perhaps ease your mind about r and b , is that though the distribution of r is very skew when the true correlation is near to unity, this fact is obviously associated with the fact that the error of estimation cannot have been ^{algebraically} less than ~~xxx~~ $-(1-r)$, for the true correlation cannot exceed unity; but ~~xxx~~ there is no corresponding limit on the errors of estimation of b , which will indeed necessarily have a symmetrical distribution in successive samples which have constant, not necessarily the number of observations, but the value of $S(x-\bar{x})^2$. ^{is} This/the kind of random sampling held in view for the sampling errors for the Regression coefficient.

Yours sincerely,