

4. No autocorrelation b/w the v_i 's:

This postulates that the random error terms are not correlated. i.e., the random term of different observations (v_i & v_j) are independent to each other. But no relation to each other.

$$\text{i.e., } E(v_i) = 0 \quad \& \quad E(v_j) = 0$$

5. Zero co-variance b/w v_i & x_i :

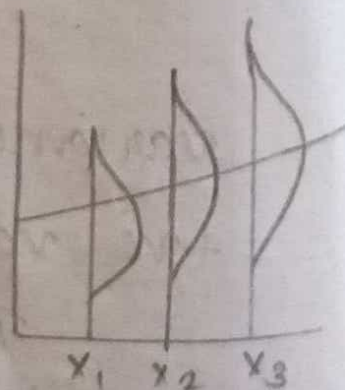
It means that the explanatory variable x_i and error term v_i are not correlated.

$$\text{i.e., } \text{cov}(v_i, x_i) = 0$$

6. The variable v_i has a normal distribution:

The value of v_i for each x_i is bell shaped ~~system~~ symmetrical dbn about zero mean.

i.e., the v_i ranges b/w the bell.



The estimated relationship is,

$$\hat{y}_i = \hat{\beta}_1 + \hat{\beta}_2 x_i + \hat{u}_i$$

The estimated regression line ($\hat{y}_i$) is the estimated value of y_i , with given specified value of x .

$\hat{y}_i$ = Estimated value of y_i

$\hat{\beta}_1$ = Estimate of line intercept β_1

$\hat{\beta}_2$ = Estimate of parameter β_2

$\hat{u}_i$ = Estimate of the random term u_i

The true & estimated regression lines are shown in the figure below.

