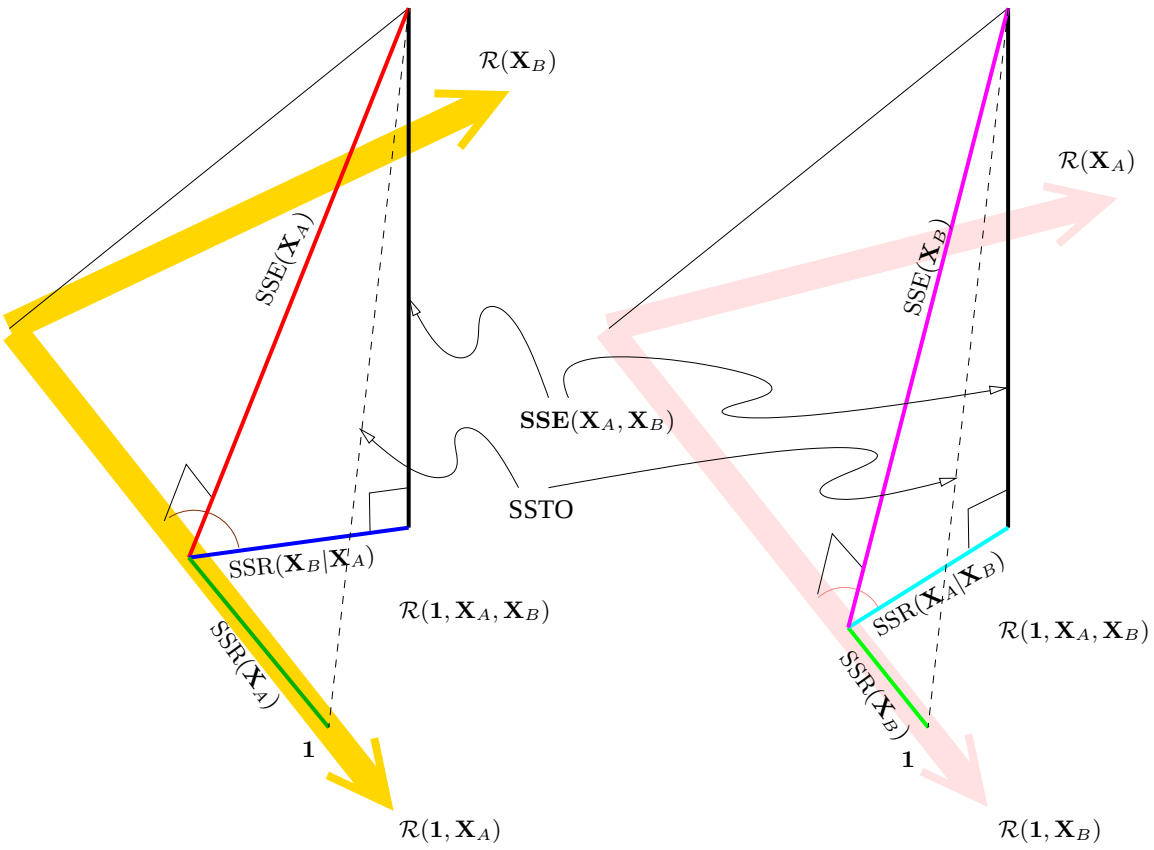
$$F = \frac{\frac{\Delta\text{SSR}}{\Delta\text{df}}}{\frac{\text{SSE (full)}}{\text{df (full)}}} = \frac{\frac{\Delta\text{SSE}}{\Delta\text{df}}}{\frac{\text{SSE (full)}}{\text{df (full)}}} = \frac{\frac{\text{SSE (reduced)} - \text{SSE (full)}}{\text{df (reduced)} - \text{df (full)}}}{\frac{\text{SSE (full)}}{\text{df (full)}}}$$

ANOVA decomposition

$\mathbf{X}_A$ first				$\mathbf{X}_B$ first			
Source		SS	df				
A1.	$\mathbf{X}_A$	$\text{SSR}(\mathbf{X}_A)$	k_1	B1.	$\mathbf{X}_B$	$\text{SSR}(\mathbf{X}_B)$	k_2
A2.	$\mathbf{X}_B \vert \mathbf{X}_A$	$\text{SSR}(\mathbf{X}_B \vert \mathbf{X}_A)$	k_2	B2.	$\mathbf{X}_A \vert \mathbf{X}_B$	$\text{SSR}(\mathbf{X}_A \vert \mathbf{X}_B)$	k_1
A3.	Error	$\text{SSE}(\mathbf{X}_A, \mathbf{X}_B)$	$n-p$	B3.	Error	$\text{SSE}(\mathbf{X}_A, \mathbf{X}_B)$	$n-p$
	Total	SSTo	$n-1$		Total	SSTo	$n-1$

ANOVA decomposition



SSTO	$\text{SSR}(\mathbf{X}_A)$	$\text{SSR}(\mathbf{X}_B \vert \mathbf{X}_A)$	$\mathbf{SSE}(\mathbf{X}_A, \mathbf{X}_B)$
SSTO	$\text{SSR}(\mathbf{X}_B)$	$\text{SSR}(\mathbf{X}_A \vert \mathbf{X}_B)$	$\mathbf{SSE}(\mathbf{X}_B, \mathbf{X}_A)$