



$$\sqrt{N} (\hat{\theta}_n - \theta) \xrightarrow{d} N(0, ANAT)$$

$$\sqrt{N} (\hat{\theta}_{n, \frac{n}{r}} - \theta) \xrightarrow{d} N(0, ANAT)$$

as $n, r \rightarrow \infty$ $\min(n, r) \rightarrow \infty$

Discuss with Annun

$$\sqrt{N} (\hat{\theta}_n - \theta) + \sqrt{n} (\hat{\theta}_{n, \frac{n}{r}} - \hat{\theta}_n)$$

$r = r(n)$
choose r s.t.
 $\frac{1}{r} \rightarrow 0$
 $n \rightarrow \infty$

$$|\hat{\theta}_{n, \frac{n}{r}} - \hat{\theta}| \leq \frac{1}{r}$$