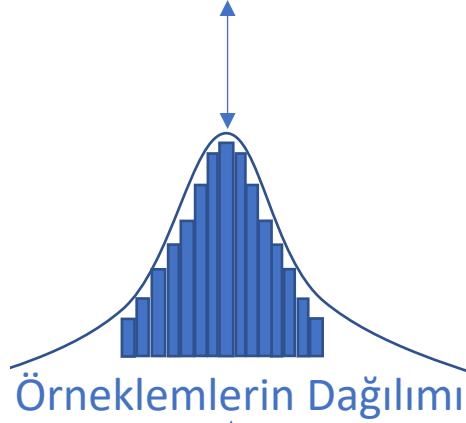


Örneklemlerin Dağılımı

Standart Hata

Merkezi Limit Teoremi

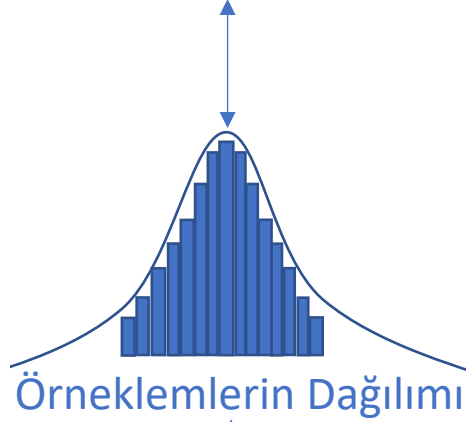
Evren



Örneklem

Evren

Gözlemsel,
bilinmiyor

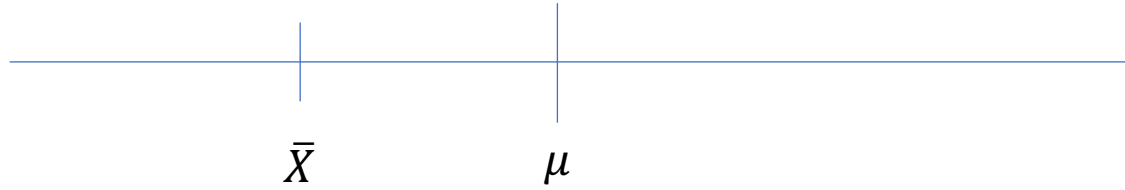


Gözlemsel
değil (teorik),
biliniyor

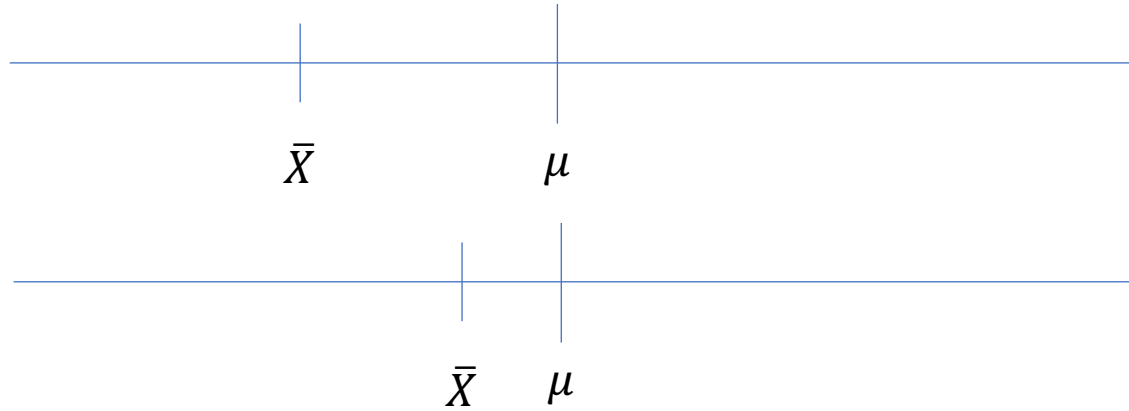
Örneklem

Gözlemsel,
biliniyor

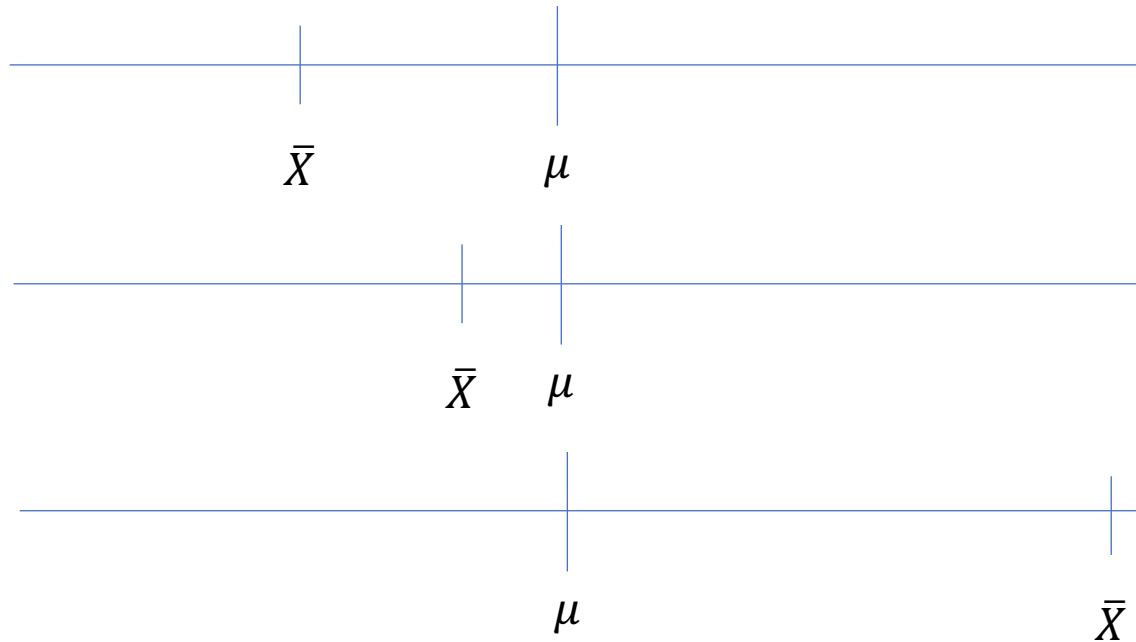
Örneklem “Hata”sı



Örneklem "Hata"sı

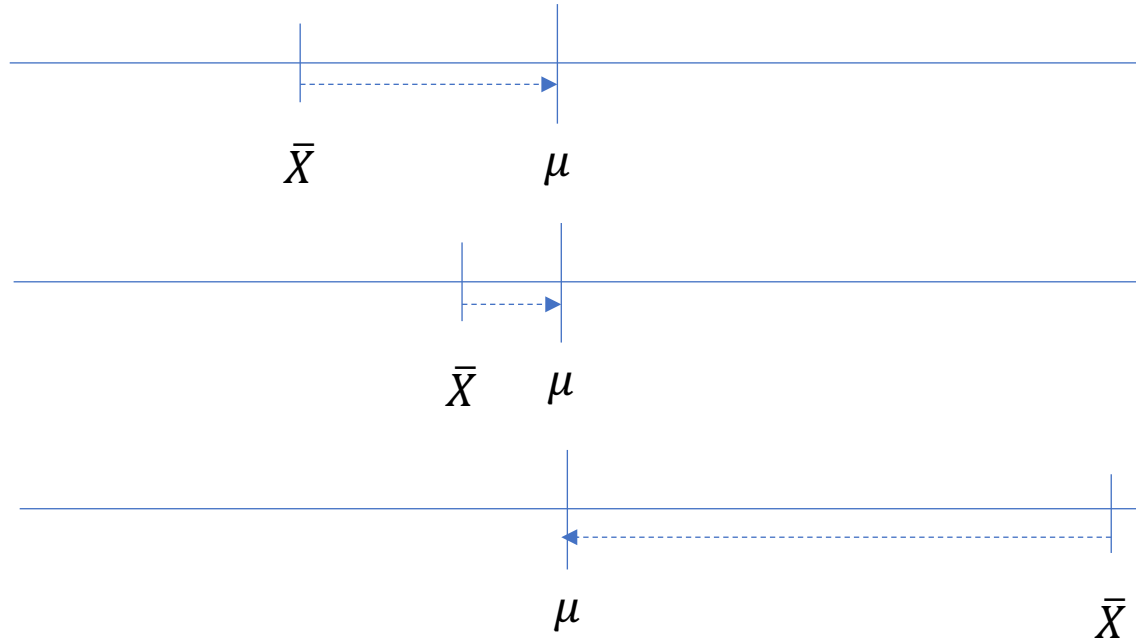


Örneklem “Hata”sı

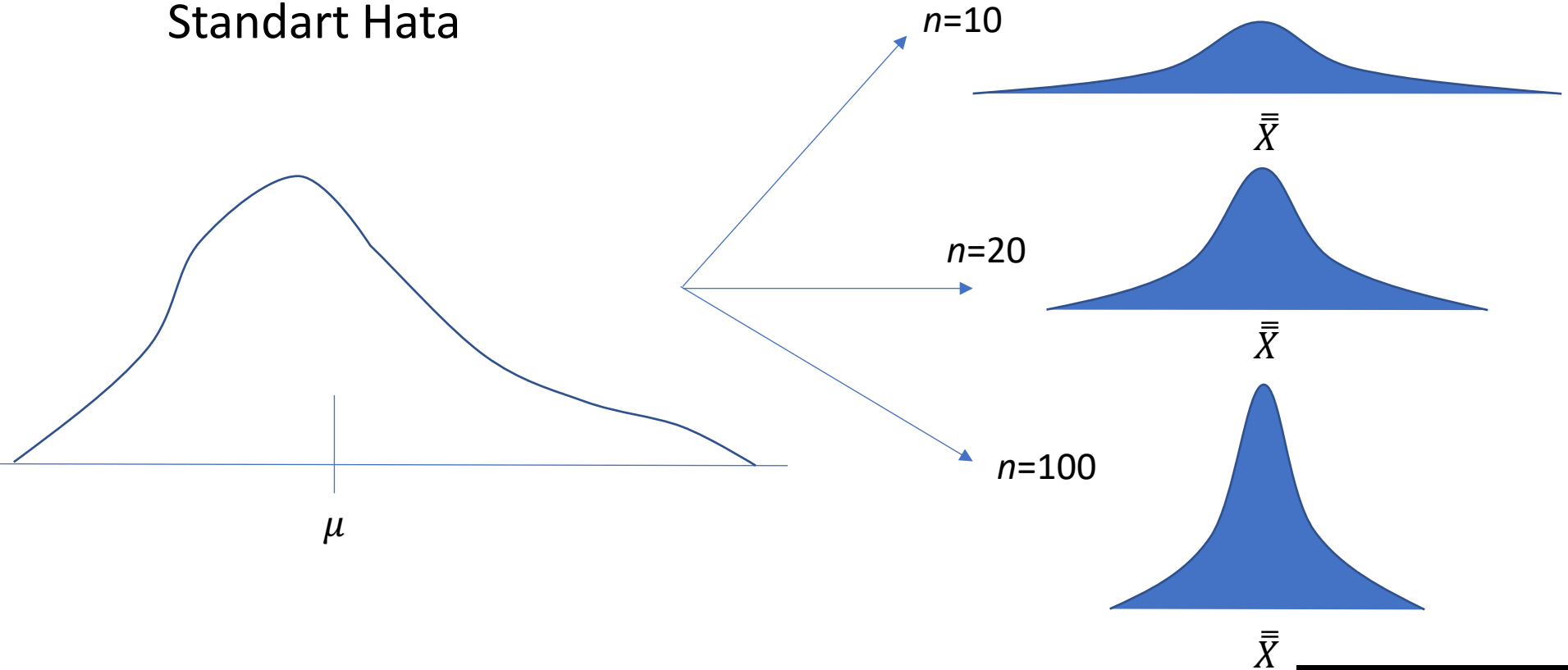


Örneklem "Hata"sı \rightarrow Standart Hata

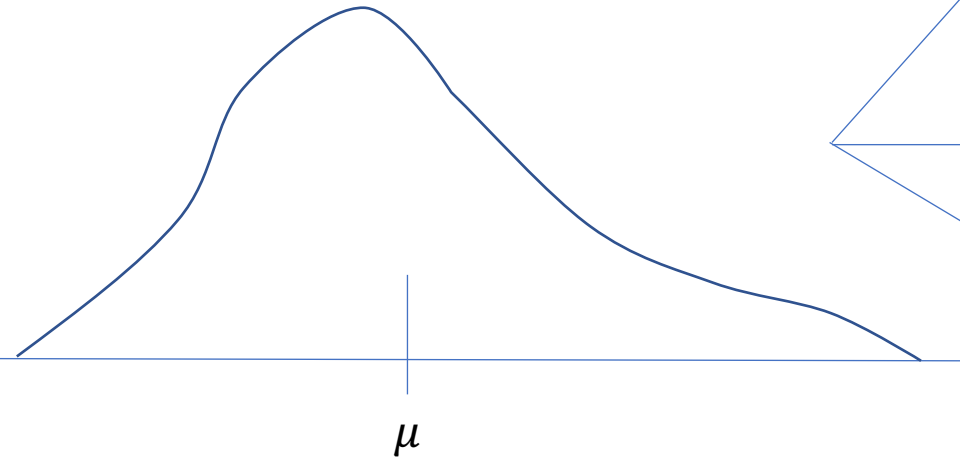
$$\bar{X} - \mu$$



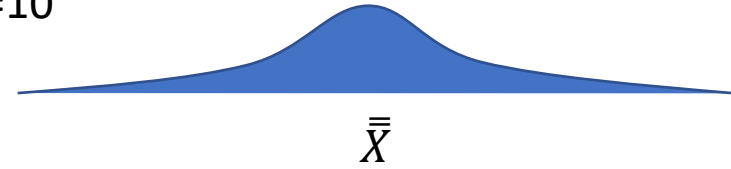
Standart Hata



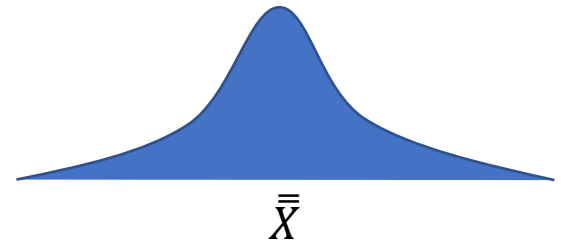
Standart Hata



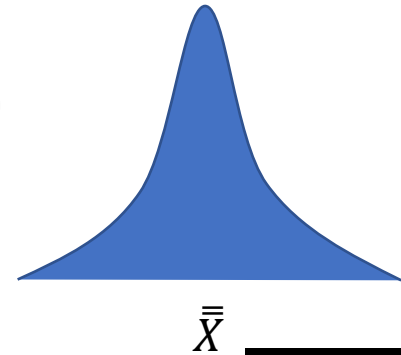
$n=10$



$n=20$

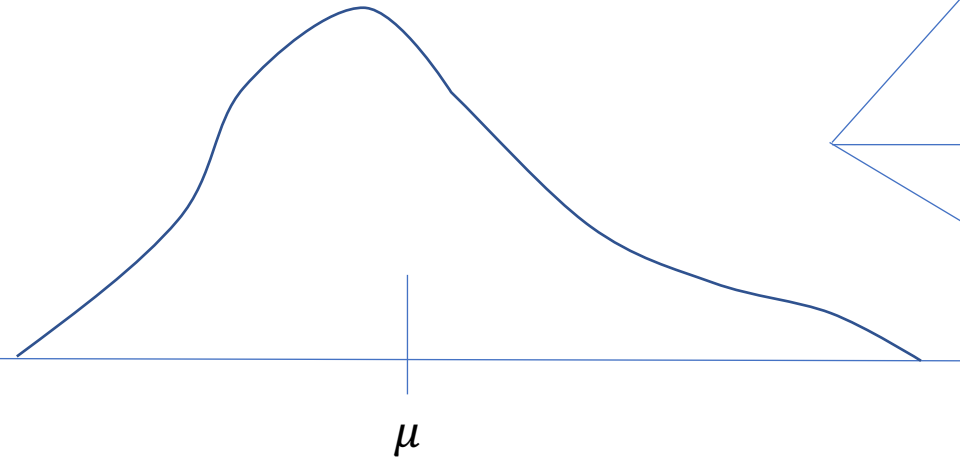


$n=100$

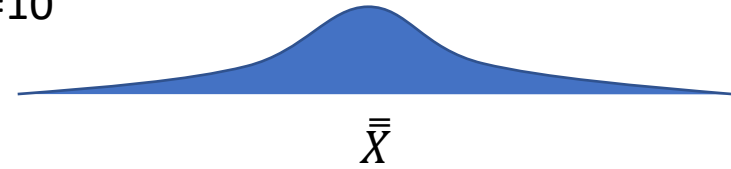


$$E(\bar{X}) = \bar{\bar{X}} = \mu$$

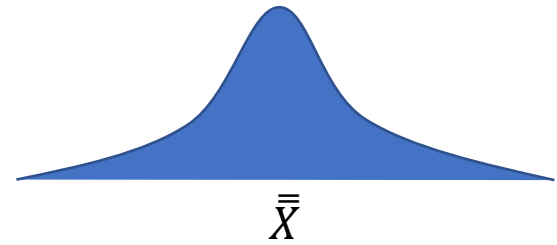
Standart Hata



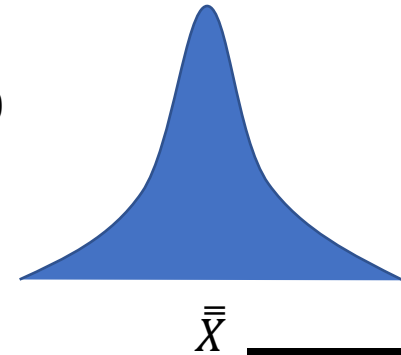
$n=10$



$n=20$



$n=100$



$$E[(\bar{X} - \mu)^2] = \sigma_{\bar{x}}^2 = \frac{\sigma^2}{n} ; \sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}}$$

Standart Hata

$$\sigma_{\bar{X}} = \frac{\sigma}{\sqrt{n}}$$

Merkezi Limit Teoremi

$$\sigma_{\bar{x}}^2 = \frac{\sigma^2}{n}$$

- Örneklem sayısı n arttığında örnekleme dağılımının varyansı azalacağından dağılım sivrileşir
- Dağılım daha fazla normal dağılıma yaklaşır.