F
F^{-1}
X
$F(t) :=$
$P(Xt)$
F^{-1}
U
$(0,1)$
$F^{-1}(U)$
$F^{-1}(Ut) = F(t).$

$P(F^{-1}(U)t) =$
$P(F(F^{-1}(U))F(t)) =$
$P(UF(t)) =$
$F(t)$
some
$X_1, ..., X_n$
n
$\{f_\theta :$
$\theta \in$
$\Theta\}$
f_θ
Θ
$R\times$
$[0, \infty)$
θ
(μ, σ^2)

$$\{f_{\mu,\sigma^2}(x) : (\mu, \sigma^2) \in R^2, \mu \in R, \sigma^2 > 0\}.$$

Y
θ
Y
point
es-
ti-
ma-
tor
es-
ti-
ma-
tor
$X_1, ..., X_{20}$
20
$\{f_\theta :$
$\theta \in$
$\Theta\}$

$$\left\{\frac{1}{2\pi\sigma}\exp\left(-\frac{(x-\mu)^2}{2\sigma^2}\right) : \mu \in R, \sigma^2 > 0\right\}.$$

μ
$\overline{X} :=$
$(X_1+$
$...+$
$X_{20})/20$
X_1+
X_2
σ^2

$$\frac{1}{19}\sum_{i=1}^{20}(X_i - \overline{X})^2.$$

$X_1, ..., X_n$
n
$\{f_\theta :$
$\theta \in$
$\Theta\}$
$Y =$
$t(X_1, ..., X_n)$
$g(\theta)$
μ
μ^2
μ
$t :$
$R^n \to$
R^k
$g :$
$\theta \to$
R^k
Y
un-
bi-
ased
$E_\theta(Y) = g(\theta) forall \theta \in \Theta.$

In