

$$f_{a, \sigma^2}(S_1) = \frac{1}{\sigma^2} f_{a, \sigma^2}(\xi_1) = \frac{1}{\sqrt{2\pi\sigma}} \exp\left[-\frac{(\xi_1 - a)^2}{2\sigma^2}\right]$$

$$\int T(x) \cdot \frac{\partial}{\partial \theta} f(x, \theta) dx = M\left(T(\xi) \cdot \frac{\partial}{\partial \theta} \ln L(\xi, \theta)\right)$$

$$T(x) \cdot \left(\frac{\partial}{\partial \theta} \ln L(x, \theta)\right) \cdot f(x, \theta) dx = \int_{R_n} T(x) \cdot \left(\frac{\frac{\partial}{\partial \theta} f(x, \theta)}{f(x, \theta)}\right) \cdot f(x, \theta) dx$$