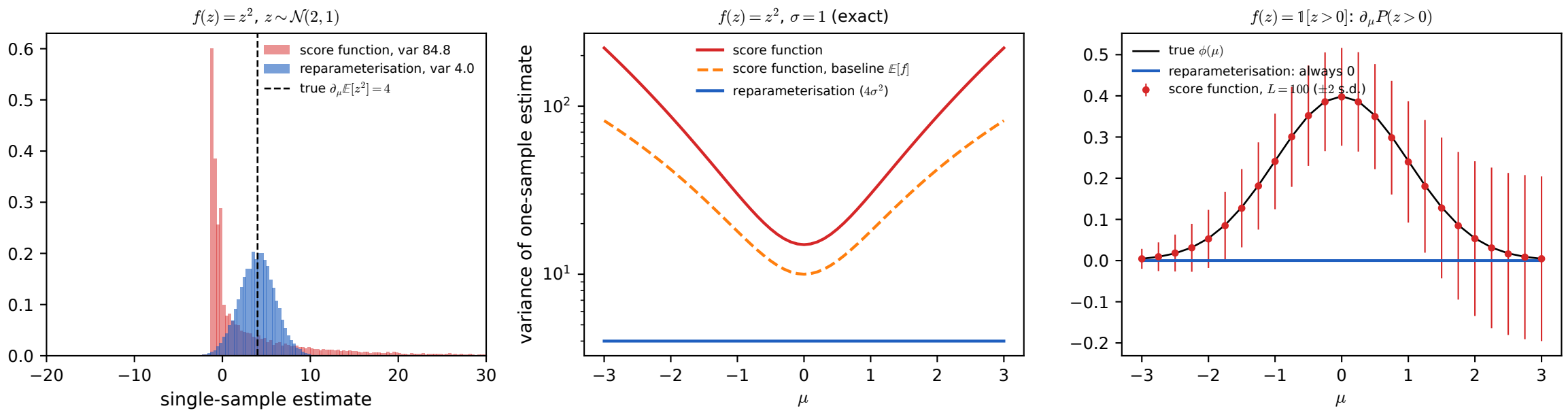

$f(z) = z^2$, $z \sim \mathcal{N}(2, 1)$
score function, var 84.8
reparameterisation, var 4.0
true $\partial_\mu \mathbb{E}[z^2] = 4$
single-sample estimate
$f(z) = z^2$, $\sigma = 1$ (exact)
score function
score function, baseline $\mathbb{E}[f]$
reparameterisation ($4\sigma^2$)
variance of one-sample estimate
μ
$f(z) = \mathbb{1}[z > 0]$: $\partial_\mu P(z > 0)$
true $\phi(\mu)$
reparameterisation: always 0
score function, $L = 100$ (± 2 s.d.)
μ