X = random variable

$\mathcal{E}(X)$ = nonzeroness of X

$\mathcal{L}(X)$ = constant nearest to X

$\mathcal{D}(X)$ = nonconstancy of X

$\mathcal{R}(X)$ = the risk in X

$\mathcal{V}(X)$ = regret in X

.

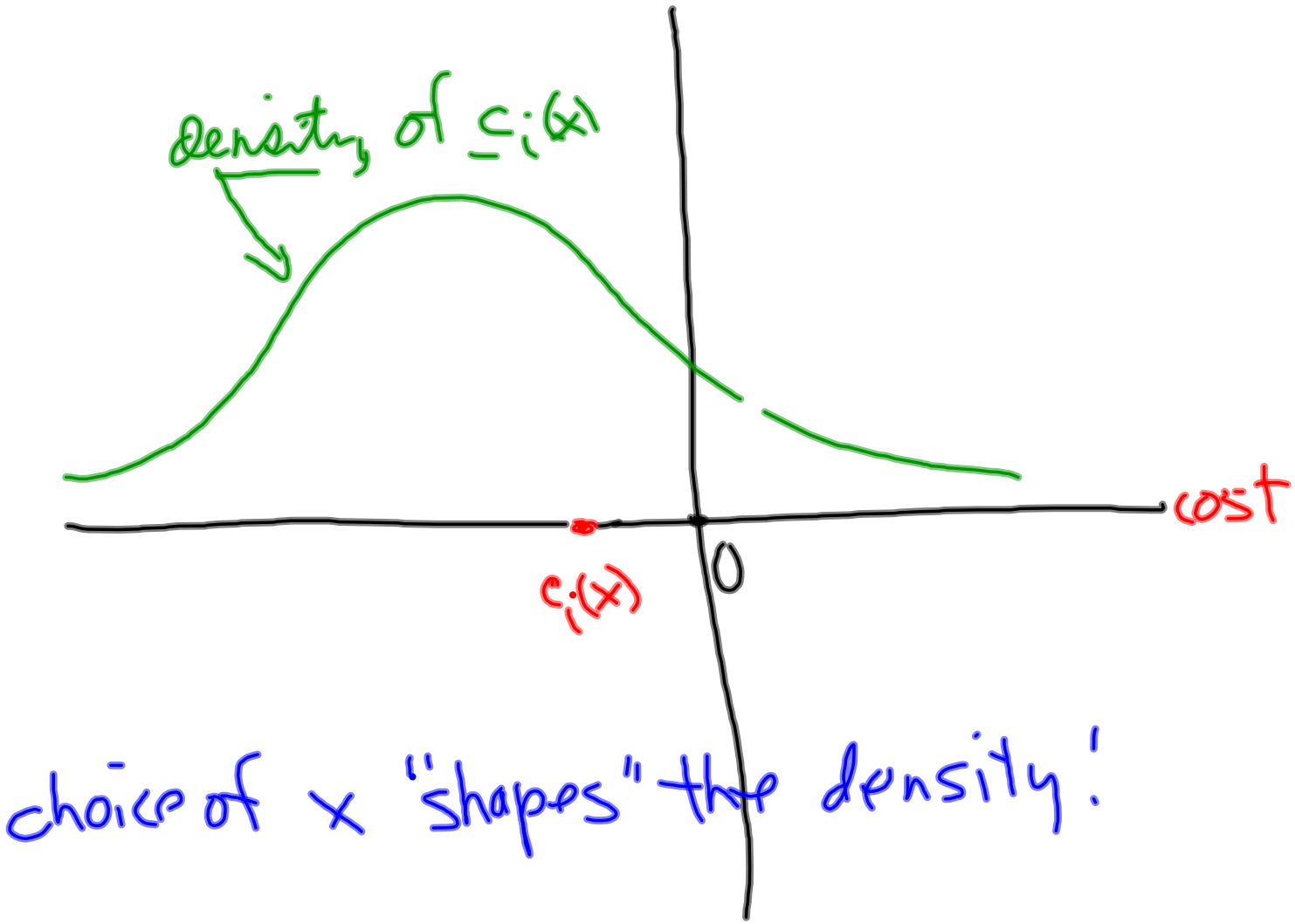
risk is unavoidable!

Compromises are essential

preferences?

decision: now
observation: later

⟶ "costs"

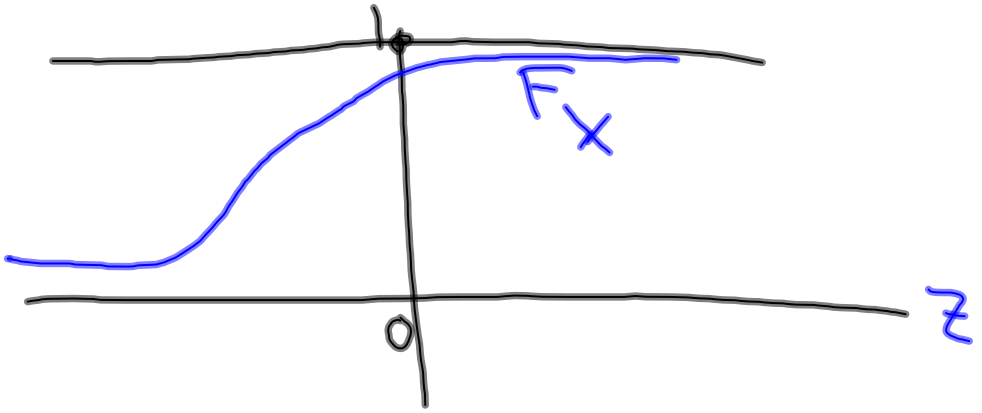


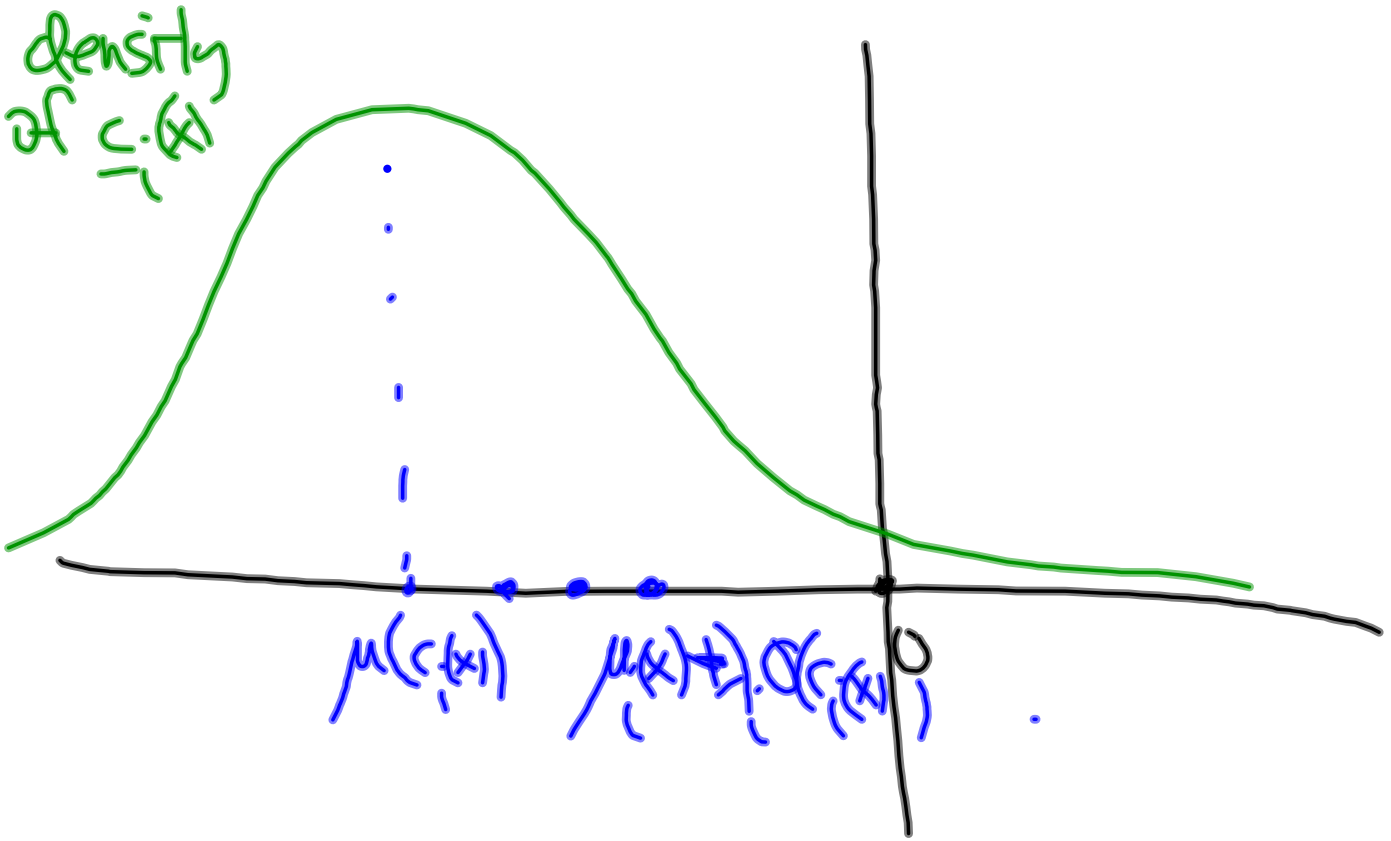
choice of x "shapes" the density!

or $\omega = (\omega_1, \ldots, \omega_r)$ r.v.'s

$X : \Omega \to \mathbb{R}$, $X(\omega)$ = outcome in future state ω

$X \in$ function space, $X \in \mathcal{L}^2$(prob space)




density
of $c_i(x)$
$\mu(c_i(x))$
$\mu(x)+\lambda\cdot\alpha(c_i(x))$
0