Linear Probability Path.

$$X_t = (1-t) X_0 + t z.$$

$$u_t(X_t) = \frac{d}{dt} X_t = -X_0 + z = u_t((1-t)X_0 + tz)$$

$$u_t^{ref}(x) = -X_0 + z = \frac{tz - x}{1-t} + z = \frac{z-x}{1-t} \quad \checkmark.$$

$$X_0 = \frac{x - tz}{1-t}$$

- Conditional Score, $\nabla \log P_t(X_t | z)$, no closed form.

- P_{simple} : no Gaussian assumption.