TS-DDR

$$AD = \nabla_{\hat{\mathbf{x}}} Q(w, \hat{\mathbf{x}}) \odot \nabla_\theta \pi(\{w_j\}_{j=2..T}, \mathbf{x}_0; \theta)$$

$$\min_{\mathbf{x}, \mathbf{y}, \delta} \quad Q(w, \hat{\mathbf{x}}) = \sum_t f(\mathbf{x}_t, \mathbf{y}_t) + C_t^\delta ||\delta_t||$$

$$\text{s.t.} \quad \mathbf{x}_t = \mathcal{T}(\mathbf{x}_{t-1}, w_t, \mathbf{y}_t) \; \forall t$$

$$\mathbf{x}_t + \delta_t = \hat{\mathbf{x}}_t \qquad \forall t : \lambda = \nabla_{\hat{\mathbf{x}}} Q(w, \hat{\mathbf{x}})$$

Duality

$$h(\mathbf{x}_t, \mathbf{y}_t) \geq 0 \qquad \forall t$$

ω

t

$$\pi_t(\{w_j\}_{j=2..t}, \mathbf{x}_0; \theta_t)$$