Cumulative distributions AdamOptimizer **QNGOptimizer** β_1 =0.9, β_2 =0.99, ε =10⁻⁸ approx='block-diag', λ =0.5 1.0 n = 0.01n = 0.01 $\eta = 2.25$ $\eta = 0.05$ $\eta = 1$ $\eta = 2.5$ Probability of occurrence $\eta = 0.1$ n = 0.2 $\eta = 2.75$ 0.8 $\eta = 1.1$ $\eta = 0.2$ $\eta = 1.2$ $\eta = 0.3$ $\eta = 3$ $\eta = 1.3$ $\eta = 0.3$ $\eta = 0.4$ $\eta = 3.25$ $\eta = 0.4$ $\eta = 1.4$ $\eta = 0.5$ $\eta = 3.5$ 0.6 $\eta = 0.5$ $\eta = 1.5$ $\eta = 0.75$ $\eta = 3.75$ $\eta = 0.6$ $\eta = 4$ $\eta = 1.6$ n = 0.7 $\eta = 1.7$ $\eta = 1.25$ $\eta = 4.25$ 0.4 $\eta = 4.5$ n = 0.8 $\eta = 1.5$ $\eta = 1.75$ $\eta = 4.75$ n=2 $\eta = 5$ 0.2 (a) (b) 0.0 MomentumOptimizer MomentumQNGOptimizer ρ =0.9, approx='block-diag', λ =0.5 $\rho = 0.9$ 1.0 $\eta = 0.6$ $\eta = 0.01$ $\eta = 0.75$ $\eta = 0.05$ n = 0.1 $\eta = 0.7$ $\eta = 1$ Probability of occurrence $\eta = 0.1$ $\eta = 0.8$ $\eta = 0.2$ $\eta = 1.25$ 0.8 n = 0.2 $\eta = 0.9$ n = 0.3 $\eta = 1.5$ n = 0.4 $\eta = 1.75$ $\gamma = 0.3$ $\eta = 1$ $\eta = 0.4$ $\eta = 0.5$ $\eta = 1.1$ 0.6 $\eta = 0.5$ $\eta = 1.2$ 0.4 0.2 (c) (d)0.0 50 100 150 200 0 100 150 200 50 steps steps