Complementary cumulative distributions AdamOptimizer **QNGOptimizer** β_1 =0.9, β_2 =0.99, ε =10⁻⁸ approx='block-diag', λ =0.5 1.0 -n=0.01 $\eta = 0.01$ n = 0.45 $\eta = 0.2$ $\eta = 0.025$ $\eta = 0.025$ $\eta = 0.225$ $\eta = 0.5$ Probability of occurrence $\eta = 0.05$ 0.8 $\eta = 0.05$ $\eta = 0.25$ $\eta = 0.55$ $\eta = 0.075$ $\eta = 0.275$ $\eta = 0.1$ $\eta = 0.6$ $\eta = 0.1$ $\eta = 0.15$ $\eta = 0.65$ $\eta = 0.3$ $\eta = 0.2$ $\eta = 0.125$ $\eta = 0.4$ $\eta = 0.7$ 0.6 $\eta = 0.15$ $\eta = 0.25$ $\eta = 0.5$ $\eta = 0.75$ $\eta = 0.3$ $\eta = 0.175$ --- $\eta = 0.6$ $\eta = 0.8$ $\eta = 0.35$ $\eta = 0.85$ 0.4 $\eta = 0.4$ $\eta = 0.9$ 0.2 (b) (a) 0.0 MomentumQNGOptimizer MomentumOptimizer ρ =0.9, approx='block-diag', λ =0.5 $\rho = 0.9$ 1.0 $\eta = 0.01$ $\eta = 0.25$ $\eta = 0.001$ $\eta = 0.012$ n = 0.025 $\eta = 0.275$ n = 0.002-- n=0.013Probability of occurrence $\eta = 0.05$ $\eta = 0.3$ $\eta = 0.003$ 0.8 -n=0.014 $\eta = 0.075$ $\eta = 0.325$ $\eta = 0.004$ $\eta = 0.015$ n = 0.1n = 0.005 $\eta = 0.35$ $\eta = 0.016$ $\eta = 0.125$ $\eta = 0.006$ $\eta = 0.375$ $\eta = 0.017$ 0.6 $\eta = 0.15$ $\eta = 0.4$ $\eta = 0.007$ $\eta = 0.018$ $\eta = 0.175$ $\eta = 0.425$ $\eta = 0.008$ $\eta = 0.019$ $\eta = 0.2$ $\eta = 0.45$ $\eta = 0.009$ $\eta = 0.02$ 0.4 $\eta = 0.01$ $\eta = 0.225$ $\eta = 0.021$ $\eta = 0.011$ 0.2 (d) (c) 0.0 50 150 200 0 50 100 100 150 200 steps steps