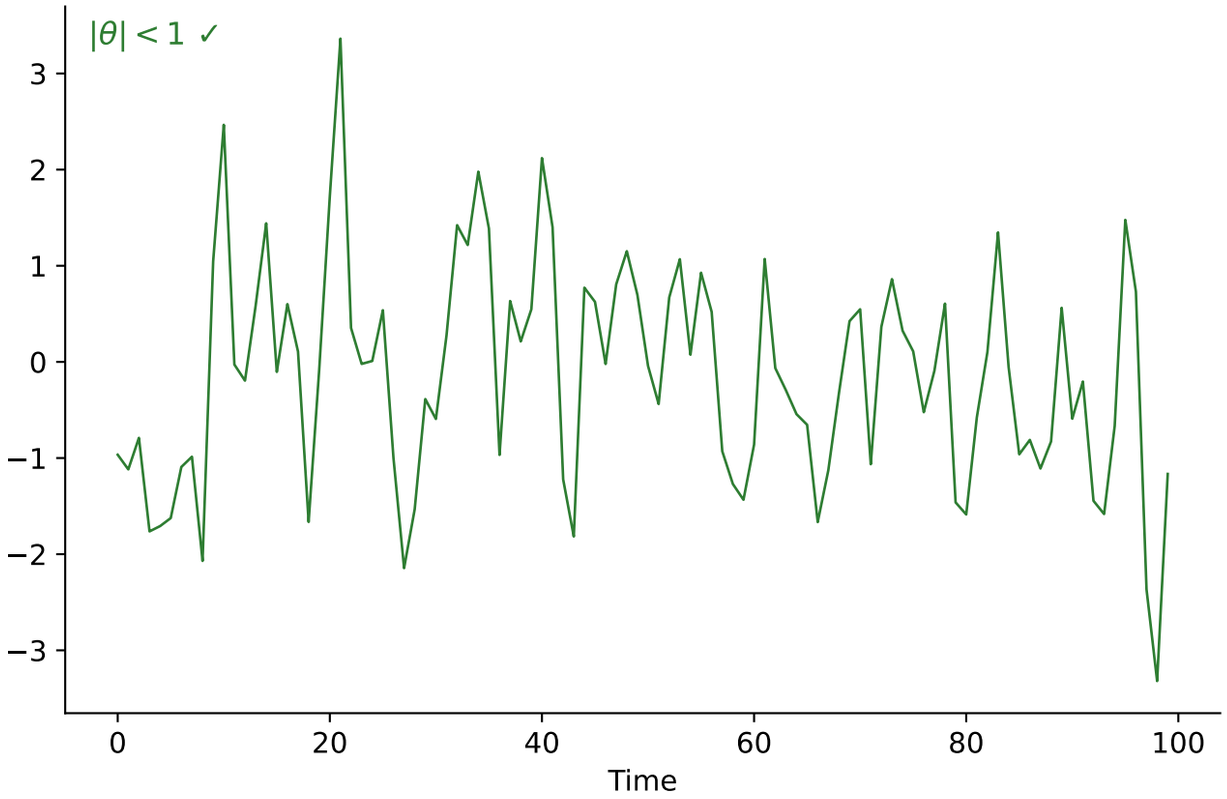
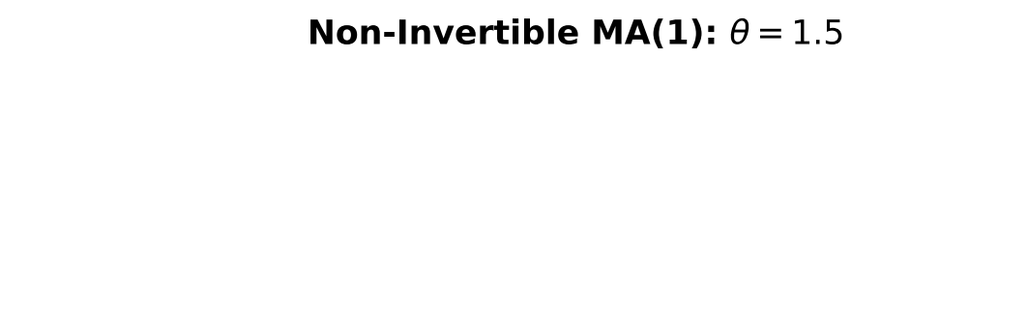
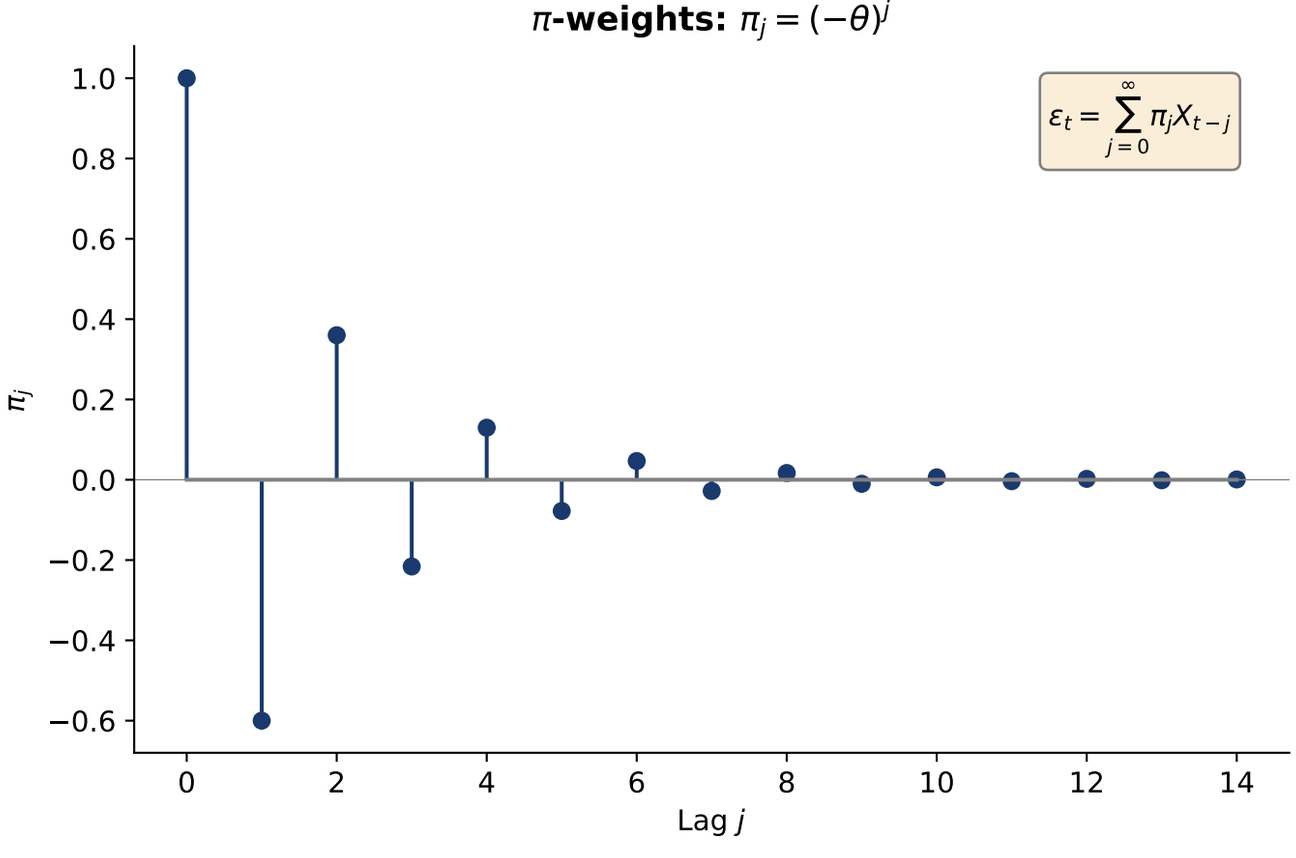
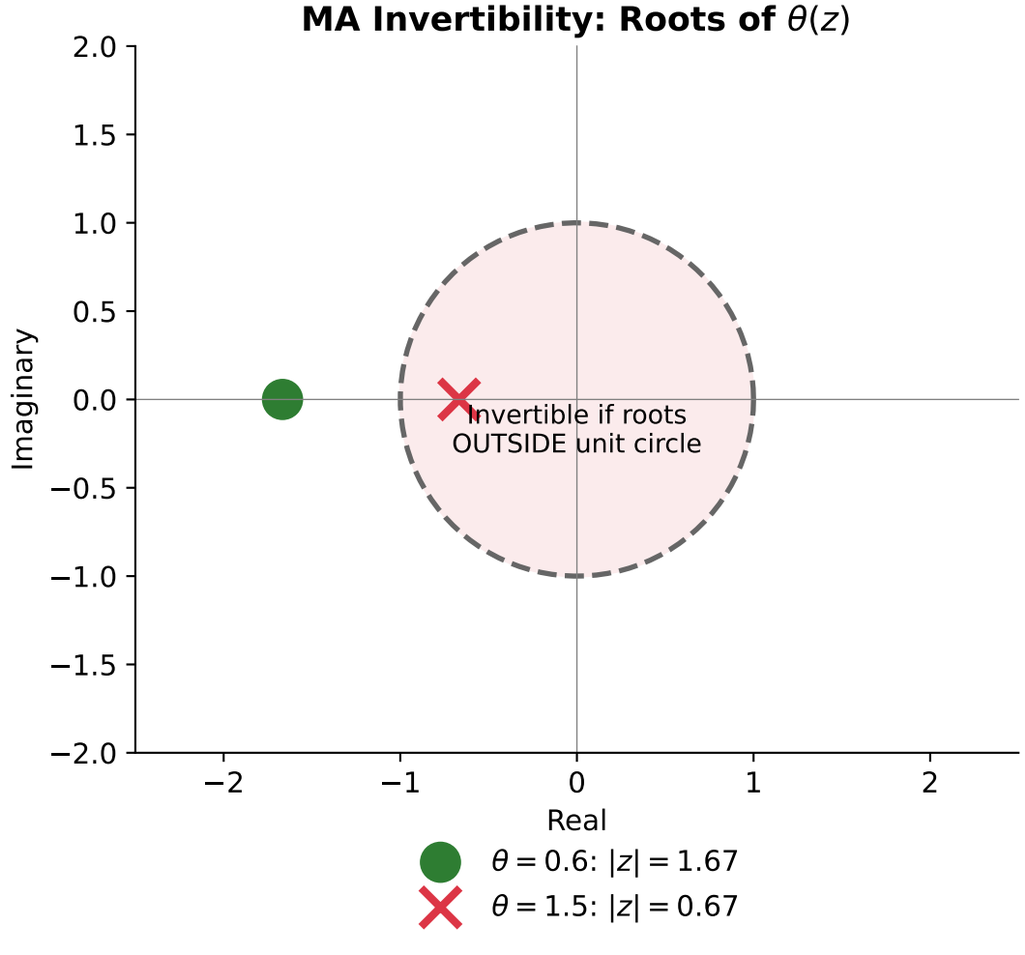

Invertible MA(1): $\theta = 0.6$
$|\theta| < 1$ ✓
Time


Non-Invertible MA(1): $\theta = 1.5$
MA(1) with $\theta = 1.5$
NOT INVERTIBLE
$|\theta| > 1$


π-weights: $\pi_j = (-\theta)^j$
$\varepsilon_t = \sum_{j=0}^{\infty} \pi_j X_{t-j}$
π_j
Lag j


MA Invertibility: Roots of $\theta(z)$
Invertible if roots
OUTSIDE unit circle
Imaginary
Real
$\theta = 0.6$: $|z| = 1.67$
$\theta = 1.5$: $|z| = 0.67$