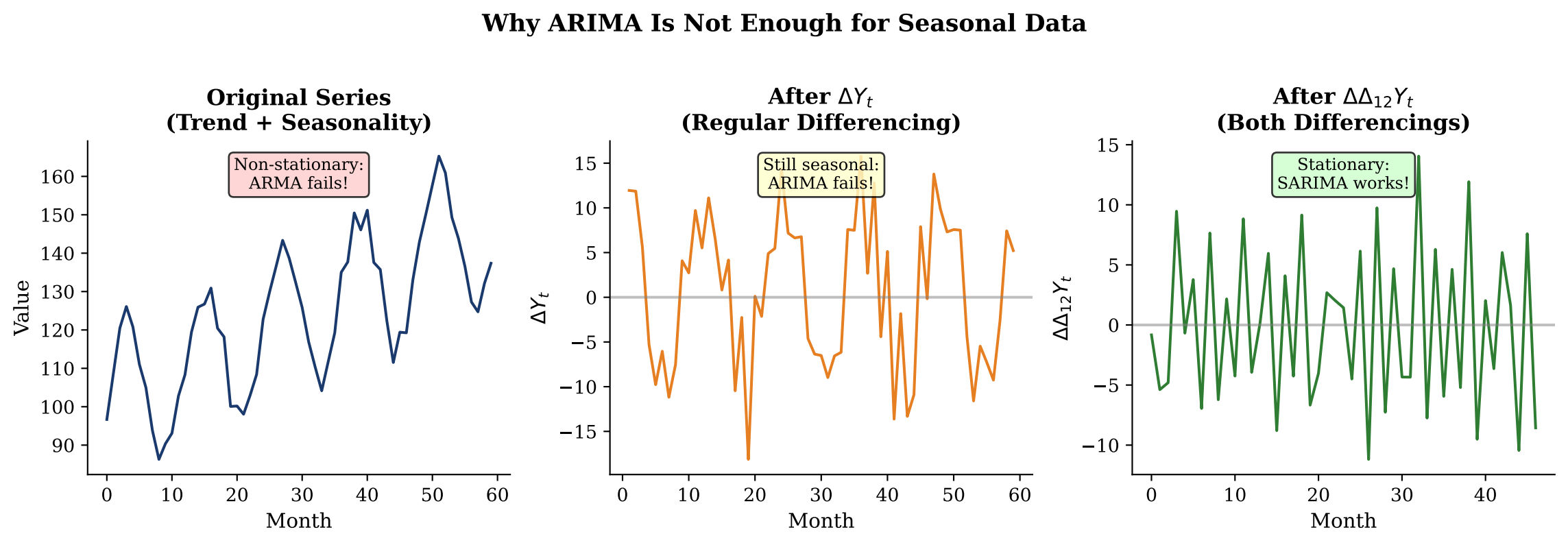
Why ARIMA Is Not Enough for Seasonal Data
Original Series
(Trend + Seasonality)
Non-stationary:
ARMA fails!
Value
Month
After ΔY_t
(Regular Differencing)
Still seasonal:
ARIMA fails!
ΔY_t
Month
After $\Delta\Delta_{12}Y_t$
(Both Differencings)
Stationary:
SARIMA works!
$\Delta\Delta_{12}Y_t$
Month