ECON 3350/7350

Univariate Time Series - II

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Tutorial 3

Pure AR(p), MA(q) and ARMA(p,q)

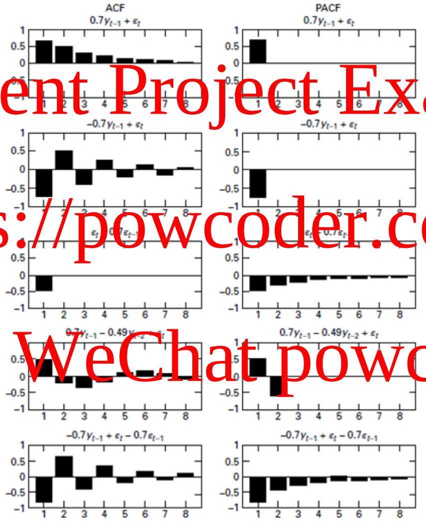

FIGURE 2.2 Theoretical ACF and PACF Patterns

Strategy to Fitting $ARMA(p,q)$

1. Identification
   1. Plot the data and decide an appropriate process to begin with (is there a trend?).
   2. Use the SACF and SPACF to suggest whether AR or MA terms are needed.
2. Estimation and Diagnostics
   1. Estimate a model you think will be (more than) adequate.
   2. Look at the SACF and SPACF for the residuals to suggest whether more or fewer AR or MA terms are needed.
   3. Repeat steps 3 and 4 to find the set of models that have no autocorrelation in the residuals.
   4. Reduce this set by choosing models with "low" IC metrics (AIC, BIC).
3. Inference
   1. Compare results across this set of models; interpret accordingly.