
Financial Econometrics

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EC5609: Problem Set 1

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1. Provide a definition of an MA(1) process and derive its mean variance and autocorrelation. (see the end of Lecture 5 for help).
2. Consider the AR(1) process $Y_t = \alpha + \phi_1 Y_{t-1} + \epsilon_t$ where $E[\epsilon_t | Y_{t-1}] = 0$. Assuming the coefficient are known derive the predictor at time $t + 1, t + 2$. What happens to the forecast for $t + j$ where $j \rightarrow \infty$ when $|\rho| < 1$ and explain intuitively this result.
3. Below is the ARMA regression output for the Apple Weekly stock return data for an AR(1), MA(1) and ARMA(1,1) models.