Zheng, Zhi

Project

Time Series Analysis For Business

1. Summary statistics, tsline plots, ACs, and PACs for the two variables you will forecast. You need not provide this for other (predictor) variables you consider.





**Variable documentation and renaming all the variables:**

\*Average Price: Electricity per Kilowatt-Hour in Miami-Fort Lauderdale-West Palm Beach, FL (CBSA)

rename apus35b72610 Average\_Price\_Elec

\*Average Price: Gasoline, Unleaded Premium (Cost per Gallon/3.785 Liters) in Miami-Fort Lauderdale-West Palm Beach, FL (CBSA)

rename apus35b74716 Average\_Price\_Gas

\*Civilian Labor Force in Miami-Fort Lauderdale-West Palm Beach, FL (MSA)

rename miam112lfn Labor\_Force

\*Unemployment Rate in Miami-Fort Lauderdale-West Palm Beach, FL (MSA)

rename miam112urn Unem\_Rate

\*All Employees: Total Nonfarm in Miami-Fort Lauderdale-West Palm Beach, FL (MSA)

rename sms12331000000000026 Nonfarm

\*Average Weekly Earnings of All Employees: Total Private in Miami-Fort Lauderdale-West Palm Beach, FL (MSA)

rename smu12331000500000011sa Average\_Weekly\_Earning

**Tsline Plot:**

Based on the tsline plot for lnnonfarm it seems to be nonstationary in the more recent year records with an upward trend in general, and the tsline plot for lnAWE has a nonstationary upward trend.

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**Ac:**

The autocorrelograms for lnnonfarm show a downward trend of lags from 1-5 outside of the confidence band and lnAWE have a downward trend of lags from 1-12 outside the confidence region on their plots.

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**Pac:**

The partial autocorrelograms for the lnnonfarm and lnAWE shows fewer lags than the autocorrelograms for these variables, assisting me to determine using AR (1) model would be appropriate for these variables

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