Time Series Analysis

Howdy! This read me file is pretty much like the ones that have come before in the other course modules. This file describes the resources available for the time series course module. Should we find an error or omission, I will post a revision to this file. In total, there are 10 videos for this module. Let me point out that I ran into significant issues with regard to audio quality in the videos nearer the end of this module. I recognize that the audio has not been great to begin with, but the problem was exacerbated. So, I borrowed some cool audio kit – professional grade - for the last part of this module. Unfortunately, I found that the audio would just stop at random points in time during the recordings. So, you will see some examples where I have had to rewind the conversation or pause it in order to recover the audio. For this reason, I also decided to keep the recordings shorter since the problem appears to be more prevalent in longer recordings. At least the audio quality is much better.

In addition to the videos, I have also provided you with a PowerPoint deck that serves as basis for the presentation of course concepts. In addition, I am also providing other files that we will access during the module that will serve as a basis for learning. All of the files have been uploaded to Canvas, along with this document. Note too that I have provided some reading material that will serve as background for the material covered in class. There is a PDF file that provides an introduction to time-series forecasting that covers two book chapters. Read these second and prior to watching the videos. For those of you who are interested in learning more about linear regression, I have provided another PDF file on that subject.

The video are listed below. Note that the time (minutes:seconds) are provided for each video. In total there are about 1 hour and 38 minutes of video for the series of videos that comprise this course module.

1. Time Series Analysis: Part 1 – Background (13:51)
2. Time Series Analysis: Part 2 – Linear Regression (5:46)
3. Time Series Analysis: Part 3 – Creating Regression Models in *R* (14:59)
4. Time Series Analysis: Part 4 – Rolling Regressions (17:47)
5. Time Series Analysis: Part 5 – Auto-Regressive Functions (5:29)
6. Time Series Analysis: Part 6 – Auto-Regressive Functions in *R* (6:58)
7. Time Series Analysis: Part 7 – Moving Averages (07:06)
8. Time Series Analysis: Part 8 – More Moving Averages (09:12)
9. Time Series Analysis: Part 9 – Simple Exponential Smoothing (5:22)
10. Time Series Analysis: Part 10 – Trend and Seasonal Exponential Smoothing (11:23)

Finally, I know that I cannot possibly cover all the material, make it perfect, and deliver it in a fashion that is readily comprehensible to everyone. Undoubtedly, I will miss a few things or you may find an error (for example a broken link). I ask you to please reach out to me and let me know so that I can take corrective action. As always, my goal is to make this as easy and as painless as possible for you.