Plotting Time Series

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References:

Christoph Hanck, Martin Arnold, Alexander Gerber, and Martin Schmelzer, *Introduction to Econometrics with R*, University of Duisburg-Essen, Essen, Germany.
https://www.econometrics-with-r.org/

Winston Chang, *Cookbook for R*, O'Reilly Media,
http://www.cookbook-r.com/

Hadley Wickham and Garrett Grolemund, *R for Data Science: Import, Tidy, Transform, Visualize, and Model Data*, O'Reilly Media,
https://r4ds.had.co.nz/

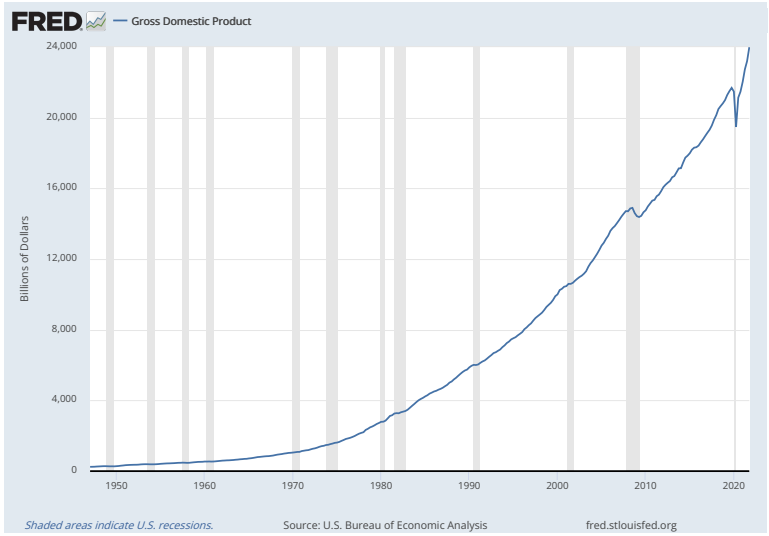
Hadley Wickham, *Advanced R*, CRC Press,
https://adv-r.hadley.nz/

Time Series Plots

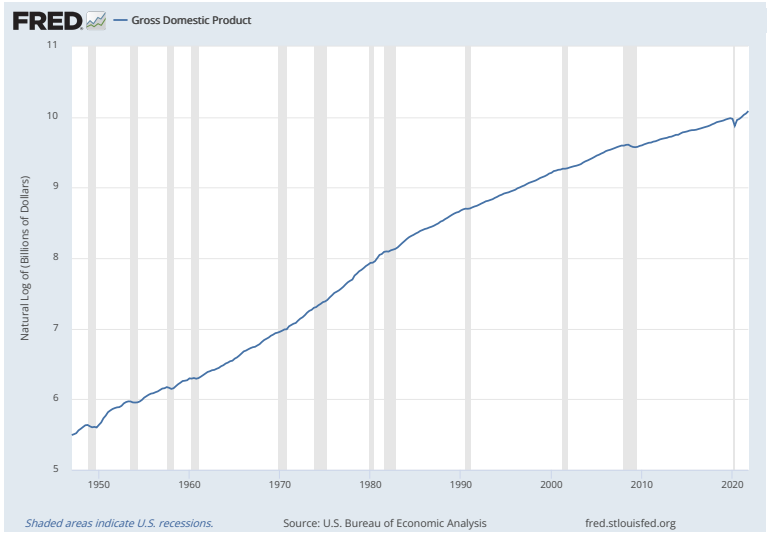
Get quarterly data on the GDP for the United States, going back to 1960 and up to the latest available observation.

- Make a time series plot of both nominal and real GDP for the years 1970-1979, with both series normalized to start at the same value in 1970. Use a logarithmic scale.
- Compute the growth rate for each quarter. Compute the annualized growth rate for each quarter. Plot the two series on the same axes.

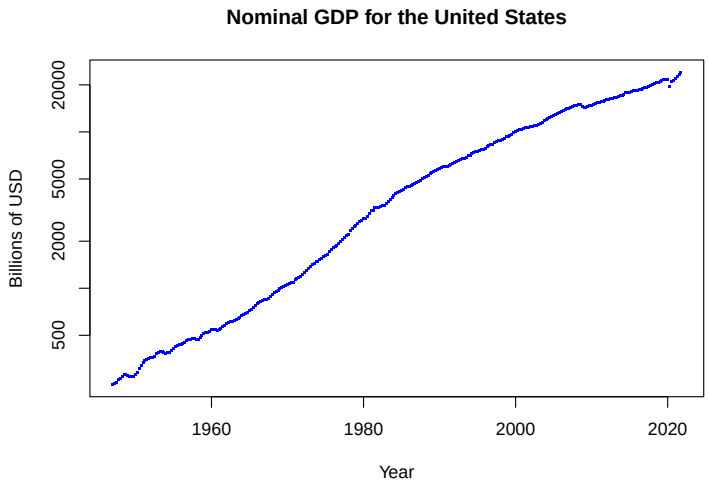
Plot by FRED: Linear



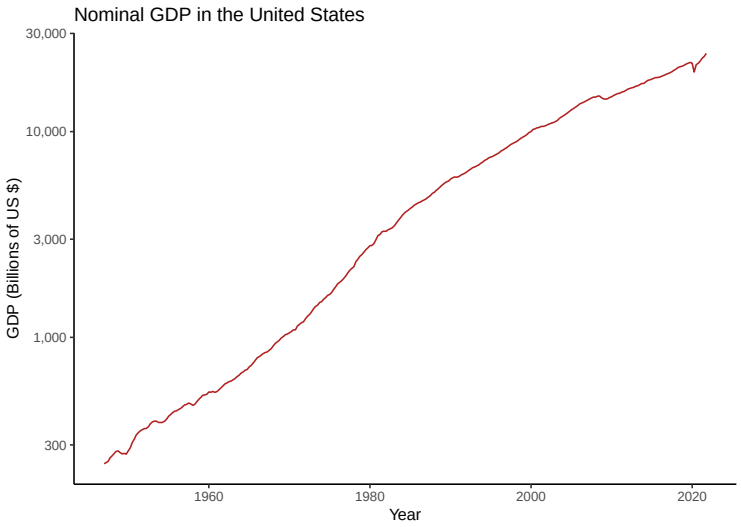
Plot by FRED: Logscale



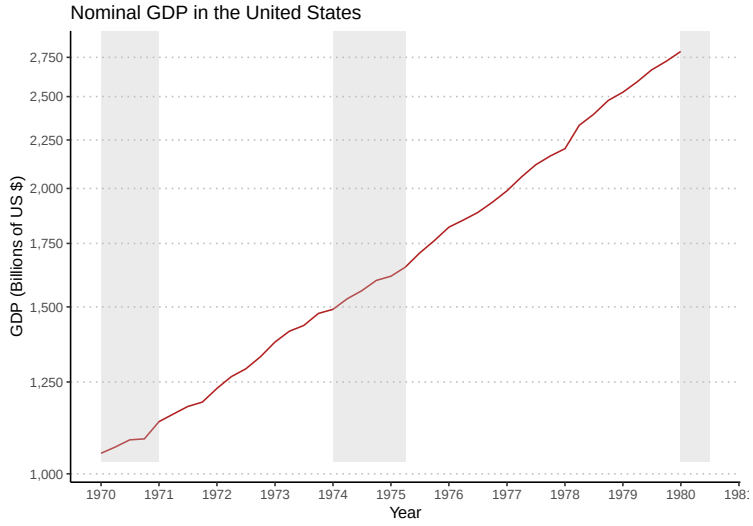
Plot with Base-R: Logscale



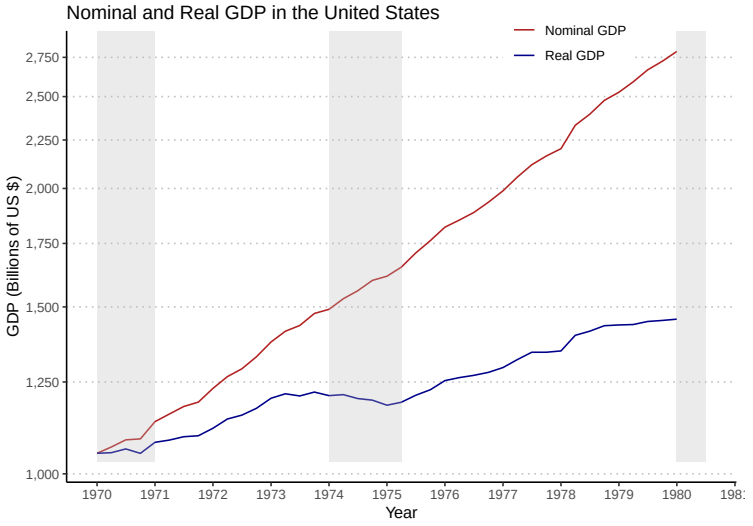
Plot with ggplot2: Logscale



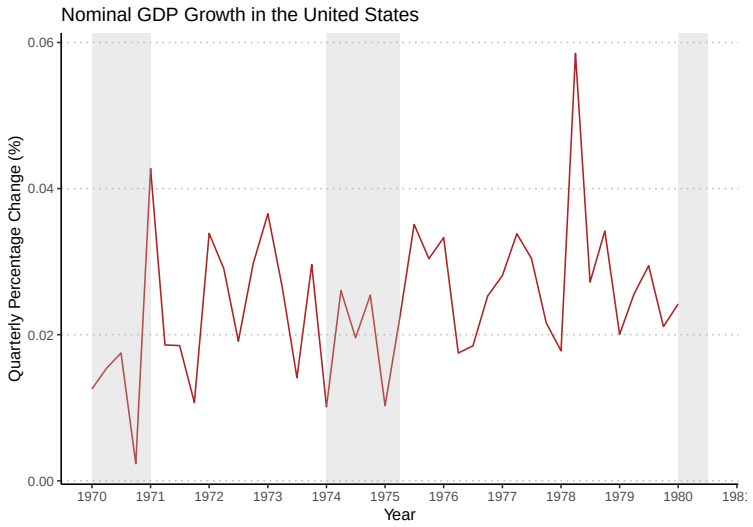
Plot with ggplot2: Logscale & Recessions



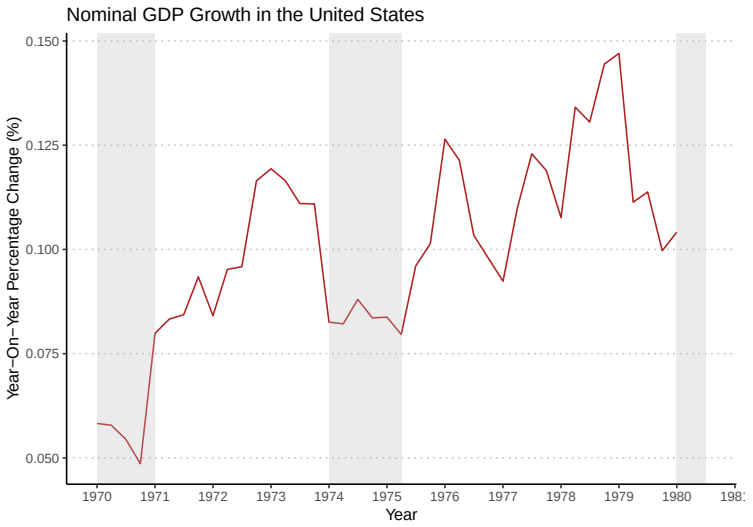
Real Vs Nominal GDP



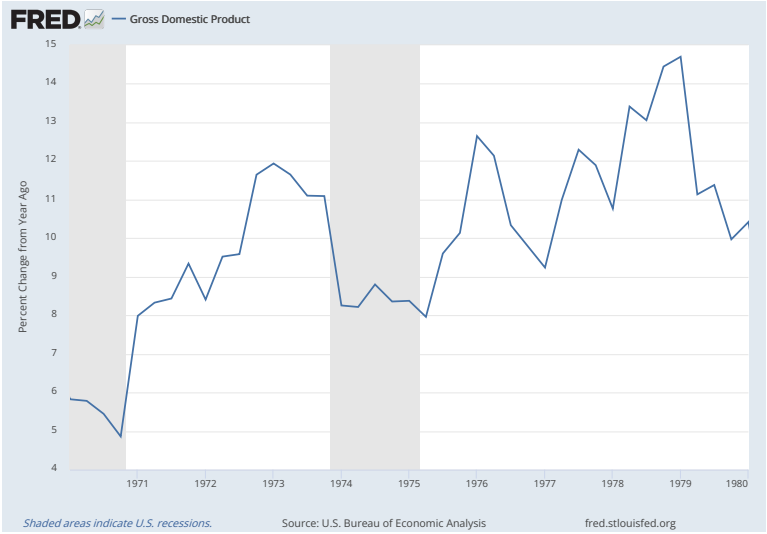
Quarterly Growth



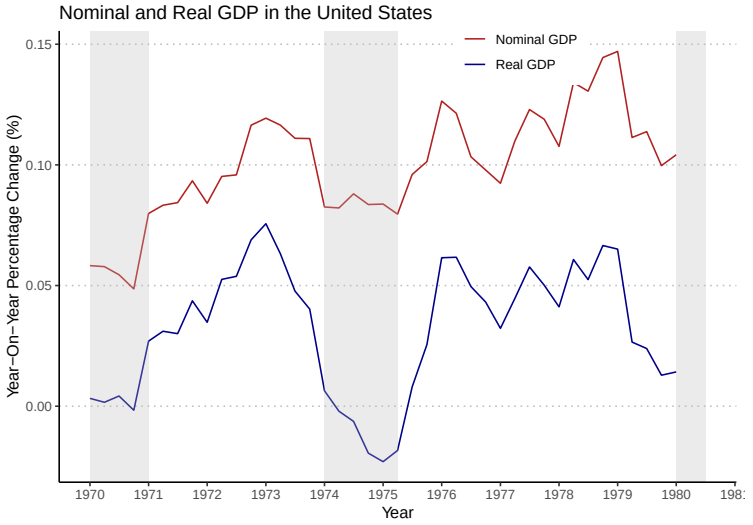
Year-On-Year Growth



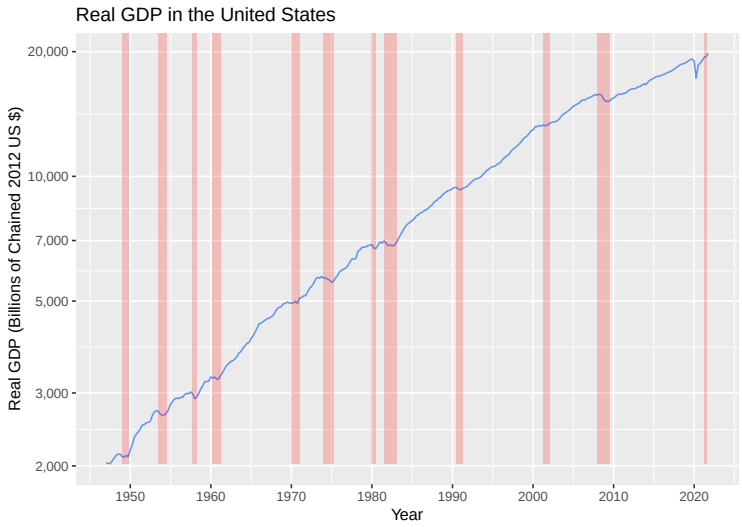
Year-On-Year Growth: Plot by FRED



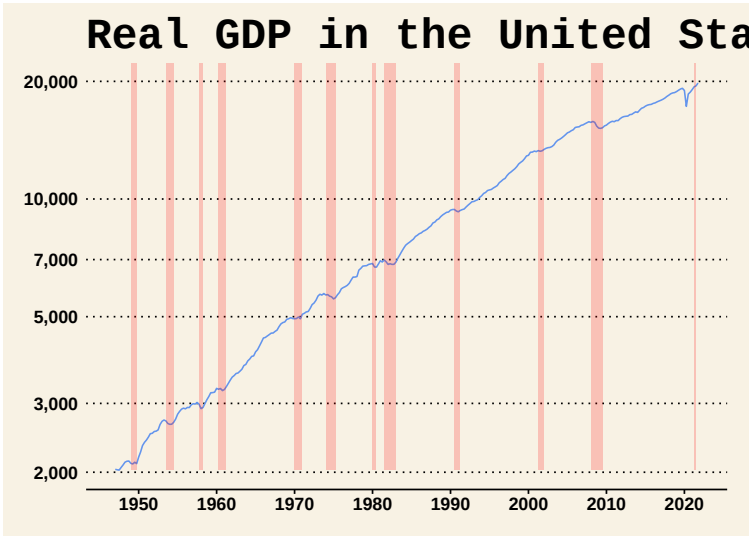
Year-On-Year Growth: Real Vs Nominal



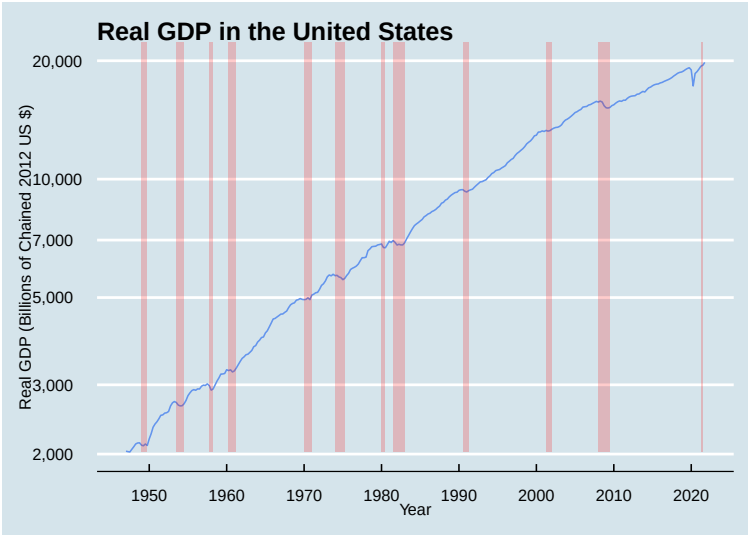
Gray Look



WSJ Look



Economist Look



FiveThirtyEight Look