Consider an economy with aggregate production function \( Y = 6.78 + 2N \), with \( MPN = 3 - 0.44N \) and with labor supply given by \( N = 125w - 25 \).

Find the equilibrium real wage and level of employment, and the corresponding level of aggregate output.

It used to be said that California, if it were a stand-alone country in its own right, would have the eighth largest economy in the world. Assume that California is a country not part of the U.S. and for simplicity assume that it has a closed economy.

Suppose that there is a very large volume of rainfall in the northern part of California, where grapes are grown and wine made (too much rainfall is bad for the quality and quantity of grapes harvested). Making use of our Chapter 3 model, carefully analyze the impact of this shock on the California economy. Your answer should include graphical analysis.

In answering this question make use of the labor market model we have been using in class.

(a) Write down, in general form, the equation that determines a firm’s optimal choice of quantity demanded of labor in the short run.

(b) Suppose that the government subsidizes employment. That is, the government pays any given firm \( s \) units of real output for each unit of labor that firm hires. Show how this alters the equation that determines a firm’s optimal quantity demanded of labor in the short run.

(c) What is the impact of the subsidy on labor market equilibrium? Your answer to part (c) should include graphical analysis.

One of the questions on the monthly survey of consumer confidence is the following.

“Do you think that business conditions one year from now in the country as a whole will be [better/same/worse]?”

Making use of our model, what would you expect to observe regarding current aggregate consumption and saving, for the case where a substantial majority answer: “better”, as
opposed to the baseline case where everyone answers: “same”? Remember to make your reasoning explicit.