Review Problems: Labor Market

Econ520. Fall 2022. Prof. Lutz Hendricks. September 13, 2022

---

# 1 Walrasian Model

1. For the production function $Y = K^{\alpha} + L^{1-\alpha}$, derive the labor demand curve. What is the effect of higher $K$ on labor demand? Why does it differ from the Cobb-Douglas case $Y = K^{\alpha}L^{1-\alpha}$?

   Answer: Zilch. $MPL = (1-\alpha)L^{-\alpha}$. The reason is the additive form of the production function.

2. Analyze the effects of a minimum wage. Explain why it is inefficient. Note the general point: it is a bad idea to redistribute income by distorting prices.

   Answer: see slides. (Not covered in all years)

# 2 Wage Setting

Recall that, in our model, firms fix the real wage at $W/P = 1/(1+m)$ and labor supply is determined by $Y = N = F\left(\frac{W}{P^e}\frac{1}{1+m}, z\right)$. Explain how the following affect nominal wages and real wages (holding everything else fixed):

1. Higher price expectations.
2. Higher employment.
3. Higher markup $m$.

## 2.1 Answer

1. No change in the real wage (it is determined by $m$). For given employment, $P$ has to rise. Intuition: Otherwise the higher $P^e$ would erode $W/P^e$ (which is what the workers consider in their labor supply decision). So $W$ rises.

2. Again, no change in the real wage. To work more, workers need to see a higher wage $W/P^e$. That requires a higher $W$ and therefore a higher $P$.

3. The real wage falls. For given employment, we need a constant $W/P^e$ and thus a constant $W$. Since $W/P$ falls, this means that $P$ must rise (the labor supply curve shifts up).

## 3 Unemployment

1. Why is it hard to measure unemployment? Why might unemployment be overstated or understated in the data?

   Answer sketch: Measured unemployment asks non-workers whether they are looking for work. If not, they are called "out of the labor force."

   Unemployment benefits cause some non-employed to "pretend" that they are looking for work. Conversely, some may think that looking for work is hopeless; those are not counted.

2. Explain main reasons why there may be involuntary unemployment: efficiency wages, contracts, search/matching, centralized wage bargaining.

   Answer sketch: See the slides (not covered in all years).