**Technology and Economics**

**Quiz 2**

1) Assume that the production technology is $Y=K^{a}L^{b}$.

a) What is the labor elasticity of output?

b) What is the capital elasticity of output?

c) What is the labor share assuming firms maxmize profit given prices (i.e. perfect competition)?

d) What is the capital share assuming firms maxmize profit given prices (i.e. perfect competition)?

e) What is a+b if there is constant returns to scale?

f) What is the profit share if there is constant returns to scale (i.e. perfect competition)?

2) Assume that the production technology is $Y=\left(\left(K\right)^{σ}+\left(L\right)^{σ}\right)^{\frac{1}{σ}}$ in Turkey. We know that $AP\_{L}$ always grows in Turkey. Using the the labor share data of Turkey given below,

a) Explain why $σ\ne 0$.

b) Answer whether $σ>0$ or $σ<0$.

3) Consider the figure below which shows that the labor share in France stayed almost perfectly constant from 1988 to 2017. Write down a production function which would represent the technology in France.