Problem Set 9
Due: Wednesday, December 1

1. TRUE and FALSE (6 pts each)
   
   (a) TRUE. In the long run you have neutrality of money.
   
   (b) FALSE. Government spending increases and output is not affected in the long run. Therefore some other component of $Z$ (investment) has to decrease.
   
   (c) FALSE. the second item is false because it will lead to a decrease in the stock market because the expected change was already incorporated in the price.
   
   (d) FALSE. Devaluation can be a toll of expansionary policy to get out of a recession.
   
   (e) FALSE. High inflation causes real overvaluation.
   
   (f) FALSE. The NAIRU is the unemployment rate at which inflation is constant.
   
   (g) FALSE. The aggregate supply leads to the Phillips curve relation.
   
   (h) TRUE. If people are rational, prices come out to be what people were expecting, therefore prices cancel out from the AS equation and unemployment in completely determined.
   
   (i) FALSE. Government can always change labor laws and institutional factor that will affect the ’z’ term.
   
   (j) FALSE. Under these circumstances, prices are being higher than what people were expecting. Therefore workers will be receiving a lower real wage than what they were expecting.
   
   (k) UNCERTAIN (FALSE). It increases nominal interest rates but does not affect real interest rates.

2. QUESTION 2: Phillips curve (34 pts)

   (a) (10pt) Natural rate of unemployment is when expectations are correct. I.e. 
   
   $u = \frac{0.18}{3} = 0.06$. 
(b) (8 pt) For \( \theta = 1 \):

\[
\pi_1 = 0 + 0.18 - 3 \times 0.05 = 0.03 \\
\pi_2 = 0.03 + 0.18 - 3 \times 0.05 = 0.06 \\
\pi_3 = 0.09 \\
\pi_4 = 0.12
\]

For \( \theta = 0 \), agents are rational therefore unemployment is determined by the NAIRU and the government can not affect it.

(c) (6pts) For \( \theta = 1 \) you have the accelerating scenario and for \( \theta = 0 \) we are not able to move unemployment in the first place (but, anyway, if the government tried any expansionary policy it would all be translated into inflation).

(d) (8 pts) You obtain the Phillips relation in every case except \( \theta = 0 \). In this case you have rational agents that can foresee the future inflation no matter what you do. So the labor market will be in its natural equilibrium (without any surprises).