Blanchard page 147, Question 2b

Experiment: At t=0 (t indexes the time period) T increase. The economy starts at the natural output level.

Effect in the Short Run (t=0):

IS curve shifts left (at each level of the interest rate, the equilibrium level of output is lower) and the AD curve shifts left (at each possible price level, equilibrium output is lower). The economy moves from O to A. Output goes down, actual unemployment increases, prices decrease, the interest rate decreases, real wages increase.

Effect in the Medium Run:

The new medium run equilibrium in point N. The natural rates of unemployment and output are unchanged, prices are lower and the interest rate is lower with respect to the original equilibrium.

Transition from A to N (t=1,2,..):

At point A, $P^e = P_A$, which implies that price expectations are lower than in the previous period. This implies that the AS curve will shift down (prices set at any level of output are now lower) at t=1. The position of the AS curve at t=1 is such that it intersects the Y_N line at $P = P_A$. The new equilibrium occurs in B, with lower prices and higher output with respect to A. On the IS-LM graph, the LM curve will have shifted down (lower equilibrium interest rates at each possible level of output) so that the crossing with the IS curve occurs at $Y = Y_B$. The decrease in the price level decreases nominal money demand which decreases the level of the interest rate at which the money market is in equilibrium. The economy continues moving along the new AD and IS curves through successive shifts (down) of the AS and LM curve. When the economy reaches N there will be no further transition, since at $Y = Y_N$, by definition $P = P^e$. This means that in all following periods (absent new shocks) the expected price level will be P_N , implying that there will be no further shifts in the AS curve.

Blanchard page 147, Question 3a

Experiment: z increases at t=0.

Effect on the Labor Market in the Short and Medium Run:

The labor market graph with the natural unemployment rate on the horizontal axes and the real wage on the vertical axes under the assumption that $P=P_e$ determines the economy's natural rate of unemployment/output. Since $W=P_eF(u_N,z)$, with F decreasing in its first argument and increasing in the second, the WS curve will shift up and for a given mark-up the natural rate of unemployment increases to u_N' while the natural rate of output decreases to Y_N'.

Effect in the Short Run (t=0):

The increase in z causes the AS curve to shift up (prices set at each level of output are higher). The new AS curve crosses the line $Y=Y_N'$ at $P=P^e=P_A$. At the short run equilibrium, B, prices are higher, output is lower, real wages are lower. The higher price level increases nominal money demand, so that the equilibrium on the money market is achieved at a higher level of the interest rate for each possible level of output i.e. the LM curve shifts up and crosses with the IS curve (which has not changed) at $Y=Y_B$.
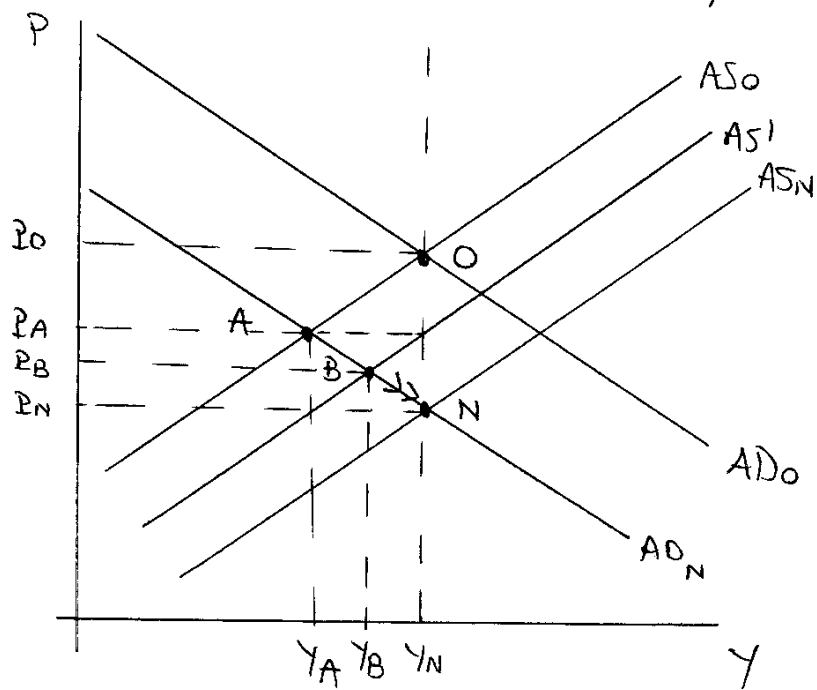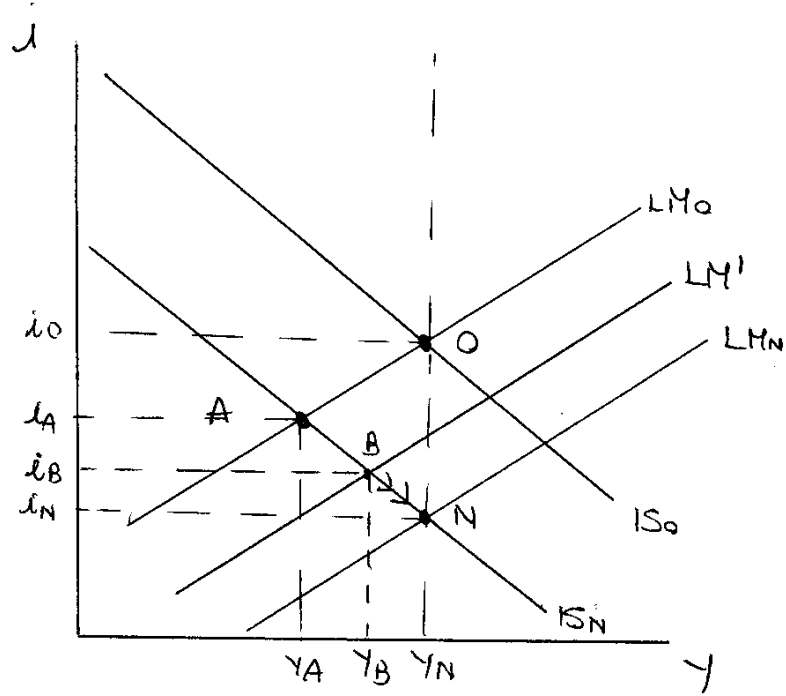
Effect in the Medium Run:

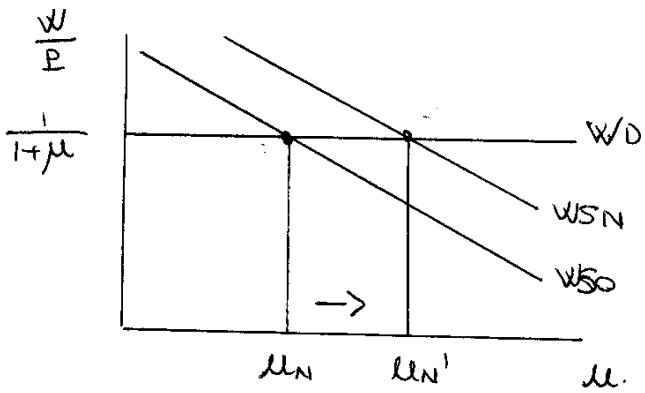The new medium run equilibrium is at Z, with higher prices and lower natural output level and higher interest rate.

Transition from B to Z (t=1,2,…):

At t=1, $P^e=P_B >P_A$, implying that the AS curve shift up so that it crosses the line $Y=Y_N'$ at $P=P^e=P_B$. The new short run equilibrium occurs at C, with lower output, higher prices and higher interest rate. Since prices increase, nominal money demand also increases, which increases the equilibrium level of interest rate at each output level i.e. the LM curve shifts up, so that it crosses the IS curve at $Y=Y_B$. This transition process continues until the economy reaches Z.

EFFECT ON AN INCREASE IN TAXES

LABOR MARKET

$\frac{W}{P}$

$\frac{1}{1+\mu}$

WD

WSN

WSO

μ_N μ_N' μ

OTHER MKTS:

$t=0 \rightarrow B$

$t=1 \rightarrow C$

AND SOON.

P

ASc   ASB

ASO

C   B

P_B
P_A
A

ADo

Y_N' Y_C Y_B Y_N Y

i

LMc   LMB

LMo

C   B

i_B
i_A
A

ISo

Y_N' Y_C Y_B Y_N Y