ECON 222

Macroeconomic Theory I

Fall Term 2009

Answers to Assignment 4

Question A5

A decreases temporarily

N^D shifts down to the left as the demand for labour decreases because MPN declines.
FE shifts tot he left
1. N^D declines
2. for a given amount of N and K, can produce less
FE shifts to the left to FE2, LRAS shifts to the left to LRAS2
Y is above new full-employment, pressure on prices
SRAS shifts up until AD and LRAS2 intersect
LM curve shifts up to left to restore equilibrium as prices increase
r increases

A decreases permanently

In addition to decline in N^D, N^S would increase since future wealth declines
IS shifts down since savings increases
FE and LRAS shift to the left since produce less with a given level of N and K, but not as much as in case when A decreases temporarily since N^S pushes N in opposite direction of the decline in N^D
LM will shift up if still above full-employment
Final impact on r is ambiguous

Question A6

i) Y = 1200-1000r -2e
300 = 1200 - 1000(.05) - 2e
e = 425, NX = -385

ii) 190 = 0.5*(Y) - 120(r + π^e)
190 = .5Y =120*.15
Y = 416

416=1200-50-2e
e=367, e_{nom}=367
NX = -350.2

iii) 190/P =.5*300 -120*(.15)
190/P= 132 → P = 1.439
e=425

425 = e_{nom}1.439/1
e_nom=295.34

Question A7

(Given a typo in the original question, a couple other answers were accepted (not shown)).

Option 1) Cdn Investment $ 100 USD = $ 95 CAD
95 x 1.06 = $100.7 CAD

Option 2) US investment $100 x 1.05 = 105 USD
105 x .90 = $94.5 CAD

Option 3) Japanese investment $95 x 80 x 1.04 = 7904 Yens
7900/70 = $112.91 CAD

Bubbles should buy the Japanese Bond

Question B3

B3a)

i)MPKf decreases, this decrease I and (S-I) shifts down to right, lowering r to r2
IS shifts down to left lowering r
rfor ¿ r2 → possibility for arbitrage
enom declines from enom1 to enom2
NX increase and IS shifts back to IS1

ii) Md/P curve shifts down to left and r will decrease as people try to get rid of money and acquire bonds.
Price of bonds will increase so the return declines.
AD curve shifts up and LM shift down to right
r2 < rfor → Demand for CDN declines, pushing down enom
NX increase, shifting up the NX curve in the goods market graph
The IS curve shifts up to the right and Y increase until r= rfor
AD curve also shift up to right
at Y3, Y > $\overline{Y}$, upward pressure on P
SRAS shifts up AD curve until they intersect at LRAS
As P increase (M/P) decline and e increase, the LM and IS curve move back to IS1 and LM2

iii) Sgvt increases so (S-I) shifts down to the right
IS shifts down to left and AD shifts down to left
r<rfor so Central bank needs to decrease the MS to keep r=rfor and prevent enom from declining

LM shift up to left until r=rfor and AD shifts down to left

In the LR, we are below full-employment so there will be downward pressure on prices and e will decline, increasing NX shfit the IS back and (M/P) will increase so the LM shifts back up
b) False, real money demand does not demand on P. If P doubles, Md doubles so Md/P does not change.

Question B4

Green GDP measures takes into some consideration the impact of growth on the environment
Green GDP = GDP depreciation of fixed capital depletion of natural and environmental resources
Problems
1. Hard to measure: Market value for nature?
2. Only focuses on impact of environment on income, so still miss impact on some non-income related natural resources etc.

B 4i)

Af(k) and sAf(k) both shift up since productivity has declined. The curve for c shifts down since the total amount of consumption declines for a given level of k. At k*1, we are above our new steady state level of capital, k*2. In the SR, Y and K must grow at a rate less than n as we reach our new steady state. Once we are back in our new steady state, Y and K growth at rate n.

B 4 c i)
No curves shift, we move to a point k below our original k*1. Since at k2, sAf(k)¿(n+d)k, Y and K grow at

a rate higher than n. Once we are back in steady state, they grow at rate n once again.

$y = Ak^{.04}n^{-.4}$
$y = Ak^{0.4}$
$sAk^{0.4} = (n+d)k$
$k^{0.6} = 8.8$
k* =38.142
y* 8.58
c* = y - (n+d)k*
= 8.58 - .09*38.142
=5.147

B 4 c ii)
$\frac{dc}{dk} = .4Ak^{-.6} - .09set = 0$
$k^{.6} = 8.888$
kg = 38.142
Yes at golden rule.