

Economics 222
Final Exam Answers
Part A

1. FALSE – An *overvalued* exchange rate is not sustainable because of a loss in currency reserves. An *undervalued* exchange rate could be sustainable, because the country is then accumulating foreign currency (if there is no limit to this accumulation.)
2. TRUE – It will be 0.70.
3. UNCERTAIN – It is true if the Ricardian equivalence doesn't hold. If it holds, the current account will be unchanged.
4. FALSE – It should decrease both money demand.
5. FALSE – Short-run: Is goes up, output goes up, r goes up. In the long-run prices increase, output at full employment. In theory the effect on Investment is ambiguous (higher MPK and higher interest rate), but we should expect investment to be higher, as the shock was positive in the first place. In any case investment will be lower in the new long-run equilibrium than in the short-run.
6. FALSE/UNCERTAIN – In order to have a negative relationship between unemployment and actual inflation, it must be that the natural rate of unemployment is constant in addition to the requirement that expected inflation is constant.
7. TRUE – A fall in G causes the savings curve to shift to the right, causing the real interest rate to fall. At a lower real interest rate, investment will be higher.
8. UNCERTAIN – A rise in the savings rate causes output per worker to rise. If this rise in output per worker is large relative to the increase in the savings rate, consumption per capita could rise. On the other hand, if the rise in output per worker is small relative to the rise in the savings rate, consumption per capita will fall (if savings increase and income doesn't change much, then consumption must fall.)

9. TRUE – A monetary contraction causes the interest rate to rise, which in turn will cause the IRP line to pivot down. At the new intersection of the IEB and IRP lines, e is higher and e^f is lower.

10. FALSE – Hysteresis occurs when the natural rate of unemployment *rises* when the actual rate of unemployment is above the natural rate.

Part B

1. (a) The time path will be: $u_t = 10\%$, $u_{t+1} = 8\%$ and $u_{t+2} = 8\%$.

(b) The time path will be $u_t = 8\%$, $u_{t+1} = 9\%$ and $u_{t+2} = 8\%$.

(c) Relevant diagrams.

2. (a) $e^f = 0.686$. Lower by about 2%.

(b) $\frac{8}{7}$.

(c) $r_{US}^e = 4\%$

(d) The real rate should stay constant and the nominal rate should depreciate by 5%.

3.

(a) $G = 400$, $C_1 = 838$ and after tax savings $S = -38$.

(b) In order for G to remain at 400, t_2 must rise to 0.4. Then we have that $C_1 = 838$, and $S = 162$.

(c) In this case individuals expect that t_2 will remain at 0.2. Then $C_1 = 943$ and $S = 57$. However C_2 will be much lower as $t_2 = 0.4$ (which was unforeseen by individuals). The individuals will be worst off overall.

(d) No, individuals will not gain from this policy. With an interest rate $r = 0.2$, $C_1 = 836.4 < 838$. This is because in the first period, individuals borrow in order to smooth consumption across periods. So a higher interest rate makes them worse off.

(e) Yes, individuals will gain from a combination of the two policies. With $t_1 = 0$, $t_2 = 0.4$ and $r = 0.2$, $C_1 = 845 > 838$. This is because in the first period, individuals now save in order to smooth consumption, so a higher interest rate makes them better off.

4.

(a) $\bar{Y} = 170$, $\bar{r} = 14$, $e = 18$ and $NX = -13$.

(b) $NX = 0$ requires $e = 5$ which requires $r = 1$. Therefore, $T = 98.75$.

(c) In order to get $r = 1$, the money supply M^s must rise to 1458.

(d) In a diagram, the LM curve shifts down and to the right, causing a decrease in r and an increase in Y in the short run. In the long run, prices rise, so that the LM curve shifts back to its original position, and r and Y return to their original values.

(e) Yes, $e = 5$ can be sustained because the fundamental value for e is 18. So, the exchange rate will be undervalued, which will lead to an accumulation of foreign currency. If international investors anticipated this policy, there would be a speculative run on Russian currency, causing e to fall dramatically ahead of the actual devaluation by the government.