Q1: 3.5, Q2: 1, Q3: 4, Q4: 1.5 ==> Summa: 10p (G)

1. I will use my exercise points on this question.

Q1: 3.5, Q2: 1,

1p

2. Page 1 of 1 of question 2

   a. –

   b. –

   c. –

   d. The higher the capital control, the higher control the government have over the access of liquidity to the banking system. According to the trilemma, a country cannot enjoy the benefits of both fixed exchange rate, perfect capital mobility and full monetary policy autonomy. Thus, China has now chosen to have higher monetary policy autonomy and a fixed exchange rate, which has costed them the benefits of full capital mobility.

      1p

      An advantage of capital control is that even with a fixed exchange rate, the central bank can keep control. Capital control have disadvantages too, the limitation of capital mobility across borders implies higher costs to households and firms within the country (China) in terms of higher interest rates in comparison with them having access to the world's financial markets.

Q1: 3.5,

4p

3. Page 1 of 3 of question 3

   a. Solving for i and s:

$i = \gamma_1(s+p^*-p)+\gamma_2(\kappa u' - (m-p))$ #1

$i = 0{,}182(s+0-0)+0{,}667(0{,}5\cdot(4/3\cdot 9)-(4{,}5-0))$

$i = 0{,}182s + 0{,}667(0{,}5\cdot 12 - 4{,}5)$

$i = 0{,}182s + 0{,}667\cdot 1{,}5$

$i = 0{,}182s + 1{,}0005$

$i = -\gamma_1^*(s+p^*-p)+\gamma_2^*(\alpha^* k_3' u' - (m^*-p))$ #2

$i = -0{,}25(s+0-0)+0{,}75(0{,}5\cdot 0{,}5\cdot(4/3\cdot 9)-(1-0))$

$i = -0{,}25s + 0{,}75(0{,}25\cdot 12 - 1)$

$i = -0{,}25s + 0{,}75\cdot 2$

$i = -0{,}25s + 1{,}5$

solving for s: $0{,}182s + 1{,}0005 = -0{,}25s + 1{,}5$

$0{,}432s = 0{,}4995$

$s = 1{,}15625$

solving for i: $0{,}182\cdot 1{,}15625 + 1{,}0005 = 1{,}2109375$

So, in 3a), $i \approx 1.2109$ and $s = 1.5625\$/€$

   b. Solving for i and s:

$i = \gamma_1(s+p^*-p)+\gamma_2(\kappa u' - (m-p))$ #1

$i = 0{,}182(s+0-0)+0{,}667(0{,}5\cdot(4/3\cdot 10)-(4{,}5-0))$

$i = 0{,}182s + 0{,}667(0{,}5\cdot 13{,}3 - 4{,}5)$

$i = 0{,}182s + 0{,}667\cdot 2{,}167$

$i = 0{,}182s + 1{,}4452$

$i = -\gamma_1^*(s+p^*-p)+\gamma_2^*(\alpha^* k_3' u' - (m^*-p))$ #2

$i = -0{,}25(s+0-0)+0{,}75(0{,}5\cdot 0{,}5\cdot(4/3\cdot 10)-(1-0))$

$i = -0{,}25s + 0{,}75(0{,}25\cdot 13{,}3 - 1)$

$i = -0{,}25s + 0{,}75\cdot 2{,}333$

$i = -0{,}25s + 1{,}75$

solving for s: $0{,}182s + 1{,}4452 = -0{,}25s + 1{,}75$

$0{,}432s = 0{,}3048$

$s = 0{,}7056$

solving for i: $0{,}182\cdot 0{,}7056 + 1{,}4452 = 1{,}5736$

So, in 3b), $i \approx 1.5736$ and $s \approx 0.7056$.

This means that i has increased from 1.2109 to 1.5736, a change of $+0.3627$, and s has decreased from $1.5625\$/€$ to $0.7056\$/€$, a change of -0.8569.

Page 2 of 3 of question 3

c. $\Delta m = 0.5 \rightarrow m = 4.5 + 0.5 = 5$, solving for i and s:

$$i = \gamma_1(s+p^*-p) + \gamma_2(\alpha u' - (m-p)) \qquad \#1$$
$$i = 0{,}182(s+0-0) + 0{,}667(0{,}5(4/3 \cdot 9) - (5-0))$$
$$i = 0{,}182s + 0{,}667(0{,}5 \cdot 12 - 5)$$
$$i = 0{,}182s + 0{,}667 \cdot 1$$
$$i = 0{,}182s + 0{,}667$$

$$i = -\gamma_1^*(s+p^*-p) + \gamma_2^*(\alpha^* k_3' u' - (m^*-p)) \qquad \#2$$
$$i = -0{,}25s + 1{,}5 \quad \text{(see 3a)}$$

solving for s: $0{,}182s + 0{,}667 = -0{,}25s + 1{,}5$

$0{,}432s = 0{,}833$

$s = 1{,}9282$

solving for i: $0{,}182 \cdot 1{,}9282 + 0{,}667 = 1{,}0179$

So, in 3c), $i \approx 1.0179$ and $s \approx 1.9282$

This means that (compared to 3a) i has decreased from 1.2109 to 1.0179, a change of -0.193, and s has increased from 1.5625\$/€ to 1.9282\$/€, a change of $+0.3657$.

d. $m = 5$ and $\hat{u} = 10$ at the same time, solving for i and s:

$$i = \gamma_1(s+p^*-p) + \gamma_2(\alpha u' - (m-p)) \qquad \#1$$
$$i = 0{,}182(s+0-0) + 0{,}667(0{,}5(4/3 \cdot 10) - (5-0))$$
$$i = 0{,}182s + 0{,}667(0{,}5 \cdot 13{,}3 - 5)$$
$$i = 0{,}182s + 0{,}667 \cdot 1{,}667$$
$$i = 0{,}182s + 1{,}1117$$

$$i = -\gamma_1^*(s+p^*-p) + \gamma_2^*(\alpha^* k_3' u' - (m^*-p)) \qquad \#2$$
$$i = -0{,}25s + 1{,}75 \quad \text{(see 3b)}$$

Solving for s: $0{,}182s + 1{,}1117 = -0{,}25s + 1{,}75$

$0{,}432s = 0{,}6383$

$s = 1{,}4776$

solving for i: $0{,}182 \cdot 1{,}4776 + 1{,}1117 = 1{,}3806$

So, in 3d), $i \approx 1.3806$ and $s \approx 1.4776$.

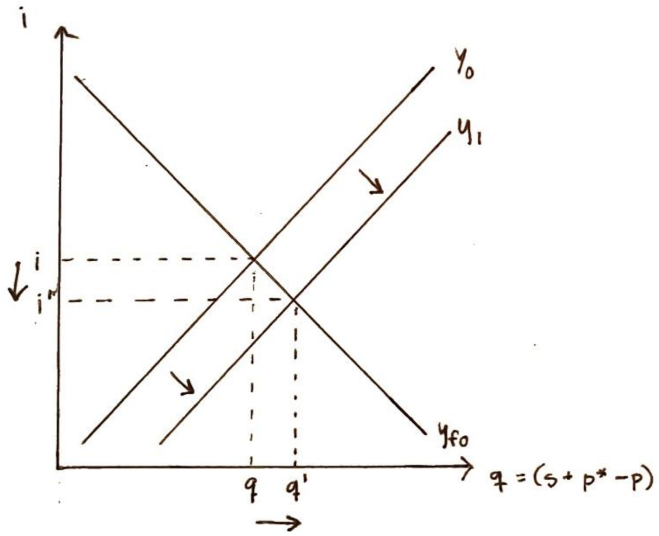
This means that (compared to 3a), using *both* monetary and fiscal policy at the same time, i has increased from 1.2109 to 1.3806, a change of $+0.1697$, and s has decreased from 1.5625\$/€ to 1.4776\$/€, a change of -0.0849.

Page 3 of 3 of question 3

e. Since both the US and EU can be seen as two large countries (EU is not a country, but a large part of the countries of EU has the euro as their currency, which lets us view EU as one large country from an economic and currency point of view), *what* and *how* one of the two does in terms of economy affects the other.

Monetary and fiscal policy in either country has repercussion effects on the other one, and “home” income affects foreign income.

Monetary policy in the US has the following effect:



y is the “home” curve, i.e., the curve of the US. y_f is the foreign curve, i.e., the curve of the EU. Monetary expansion in the US leads to the home curve shifting down, the common interest rate is decreasing, from i to i', and there is an increase in the real exchange rate from q to q'. The foreign (EU) income must then decrease since the lower interest rate increases money demand in the EU which has an unchanged money supply, thus demand must be decreased by a falling income level.

The two policies in the US have the effect on the EU that the monetary expansion lowers its income level, while the fiscal expansion heightens its income level, thus the total effect is unclear. Also, the interest rate is lowered from monetary expansion, while heightened from the fiscal expansion, also here the total effect is unclear.

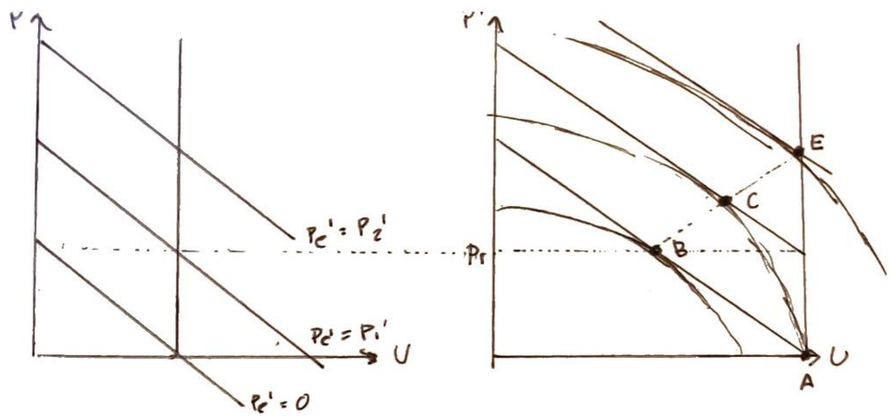
1.5p

4. Page 1 of 3 of question 4

a. Political Business Cycles is a theory which implies that politicians can (and do) stimulate the economy right before the election by increasing money supply which reduces the unemployment *temporarily*, and at the cost of somewhat higher inflation. This is done to please the voters and get re-elected. A problem doing this is that if inflationary expectations catch on, the result is even higher inflation and higher unemployment, which calls for tighter monetary policy between the elections.

In a "two-period game", in period one, expansionary monetary policy lowers the unemployment, and somewhat heightens the inflation, in period two, however, there is even higher inflation and higher unemployment.

The result is that since people learn, everyone eventually knows that the politicians promising to keep low rate of inflation and/or stable price level probably are doing this with the incentive to stimulate the economy before the election only to get re-elected, and their credibility is lowered/lost.

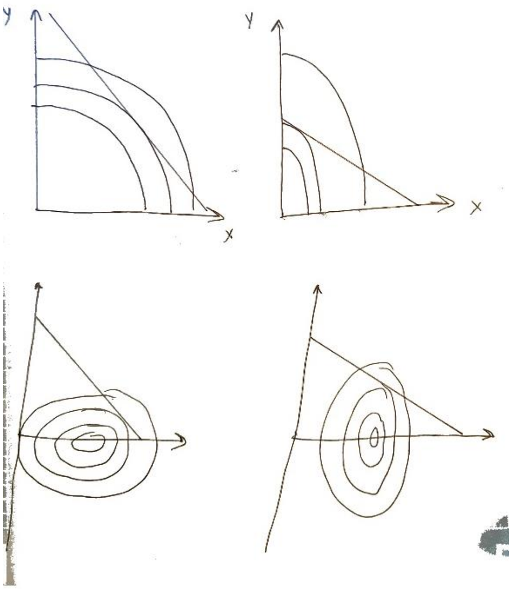


If politicians say they will keep $\pi = 0$, and are believed, they are at point A to start with. If they then don't do what they say and expand money supply, they reach point B on a lower i.e., better iso-loss curve (for the authorities). The next period, the expectations have gone from $\pi^e = 0$ to $\pi^e = \pi_1$, where π_1 is the actual inflation in period one (which was not 0 as promised). Given the new expectations the optimal course of action for the government is to move to point C, which will increase the expectations further. Point E is a long-run equilibrium with high inflation and the authorities are now on a worse iso-loss curve than they were at the beginning, in point A, which means that it would have been better for them to just keep their promise in the first place.

0p

Page 2 of 3 of question 4

b. The curves to the left represent hard-nosed governments, the ones to the right wet governments (the ones at the bottom doesn't show the difference in steepness of the line as well as I had hoped, but I added them anyways to show the difference in shape of the rings better than in the two graphs at the top):



Hard-nosed governments are willing to accept large increase in unemployment for a percentage point of decrease in inflation, their iso-loss curves are relatively flat (see above), wet governments prefer the opposite and have rather steep iso-loss curves (see above).

Politicians can, in the long run, gain credibility if they are far-sighted enough, i.e., have a low enough discount rate. The government and the monetary authority must convince people that they are hard-nosed and not wet. This can be done by passing a law which requires them to follow some rule, for example keeping the inflation at 2%. 0.25p

c. Since the government decides its monetary policy after the labour market parties have concluded their wage bargaining, no matter what the labour market parties promise, the winning tactic is always to break the promise (the first round), since if *No wage increases* $u_{keep} = 20 < u_{break} = 40$, and if *High wage increases* $u_{keep} = 0 < u_{break} = 10$. However, if they choose break, they will never be believed again, they have lost their credibility.

0p

Page 3 of 3 of question 4

d. Gaining credibility can be done by passing a law which requires them to follow some strict rule. Friedman thought authorities should expand money supply at a stable rate no matter what, however, his idea has not been applied in reality. Countries such as Sweden, however, have adopted an inflation target as their "strict rule". 0.75p

   If the government is indeed wet, they can instead join a monetary union which is run by a hard-nosed government, which means that they "borrow" credibility from the union government.

   Another possibility is to adopt the currency of a hard-nosed country.

e. Perhaps he meant that Janet Yellen decreased money supply (increased short-term interest rates) only to gain credibility when it, together with Donald Trump's fiscal policy it made the country worse of, since none of the policies worked in their best way, contradicting one another. 0.50p