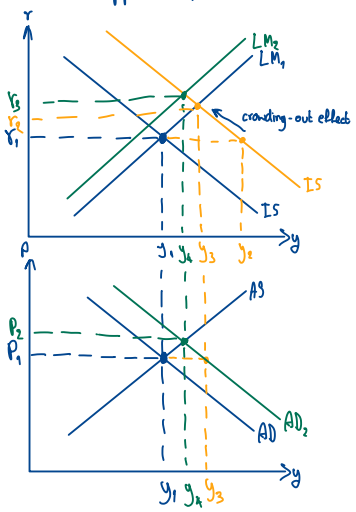
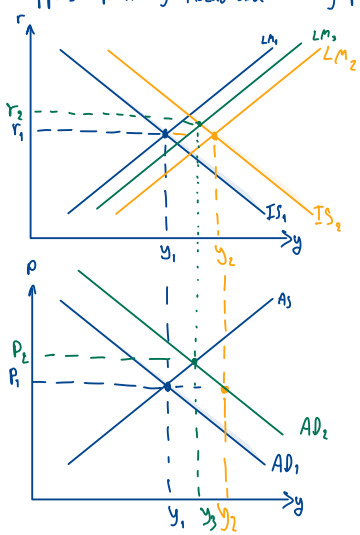
1.2 The effect of fiscal policy is the strongest when monetary authority chooses to accommodate the government policy by fixing the interest rate.

Gov. applies expantionary fiscal policy



applies expansionary fiscal and monetary policy simultaneously.

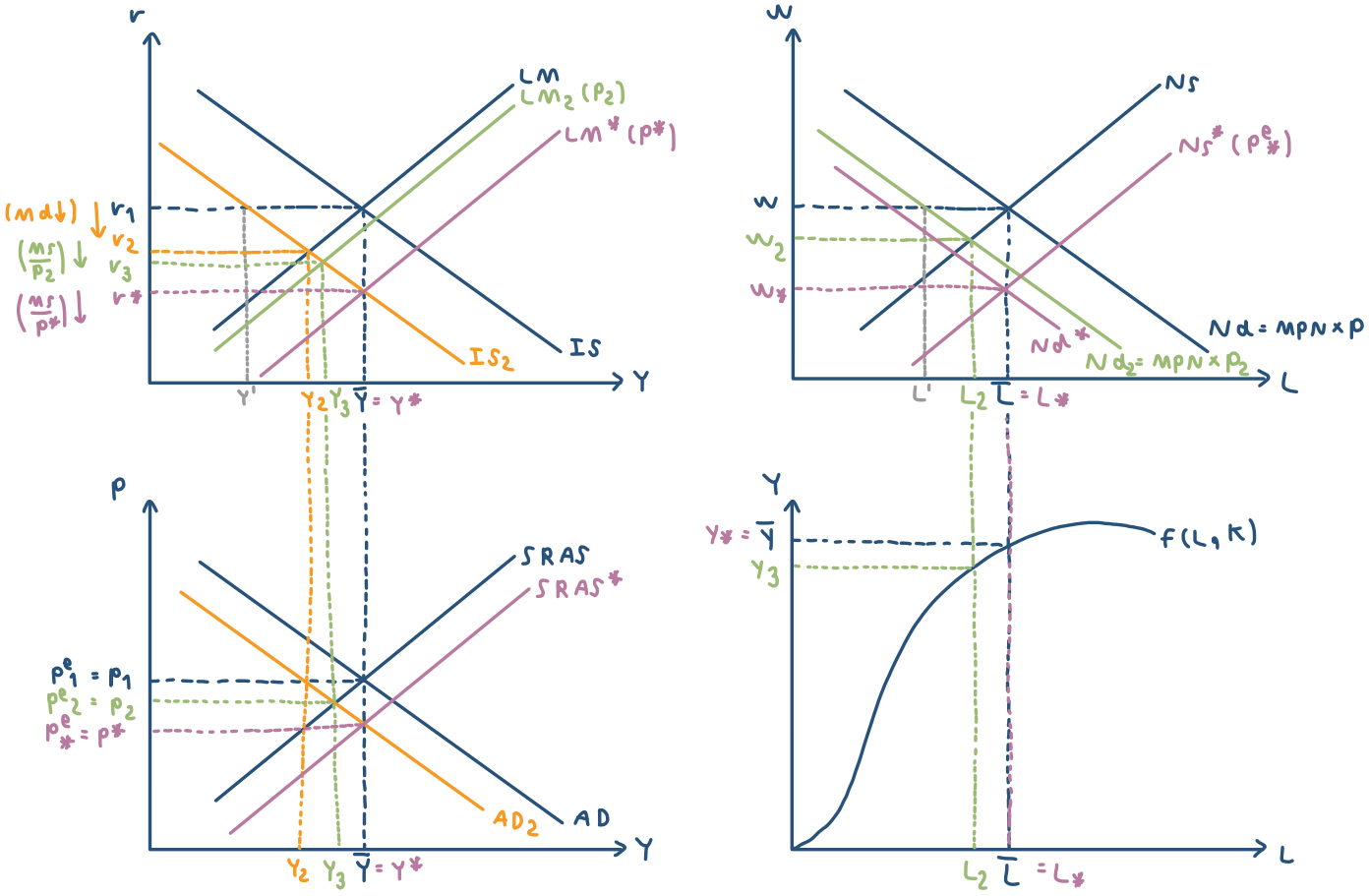


Eventhough 2 of the situations yield almost the same result (y↑, r↑), the different of applies expansionary fiscal policy merely compare to applies fiscal along with monetary policy is the first one causes crowding out effect, leading to increases in interest rate more than applies both policy simultaneously (r↑ from $r_1 \to r_3$, $r_1 \to r_2$). Therefore, the statement above, saying the fiscal policy yields the strongest effect when applies along with monetary policy, is true.

1.4 Based on the Keynesian theory, interest rate is a countered-cyclical variable under supply shocks.

Assuming that there is a negative shock on the Production function. Then AS shifts to the left and price will increase. Since price increases, it will drive LM shift to the left due to decreasing in real money supply then interest will increase. To conclusion, negative supply shock yield increase in interest rate and vise versa. there exists the negative relationship between supply shock and interest rate. Therefore, the statement is true.

6.



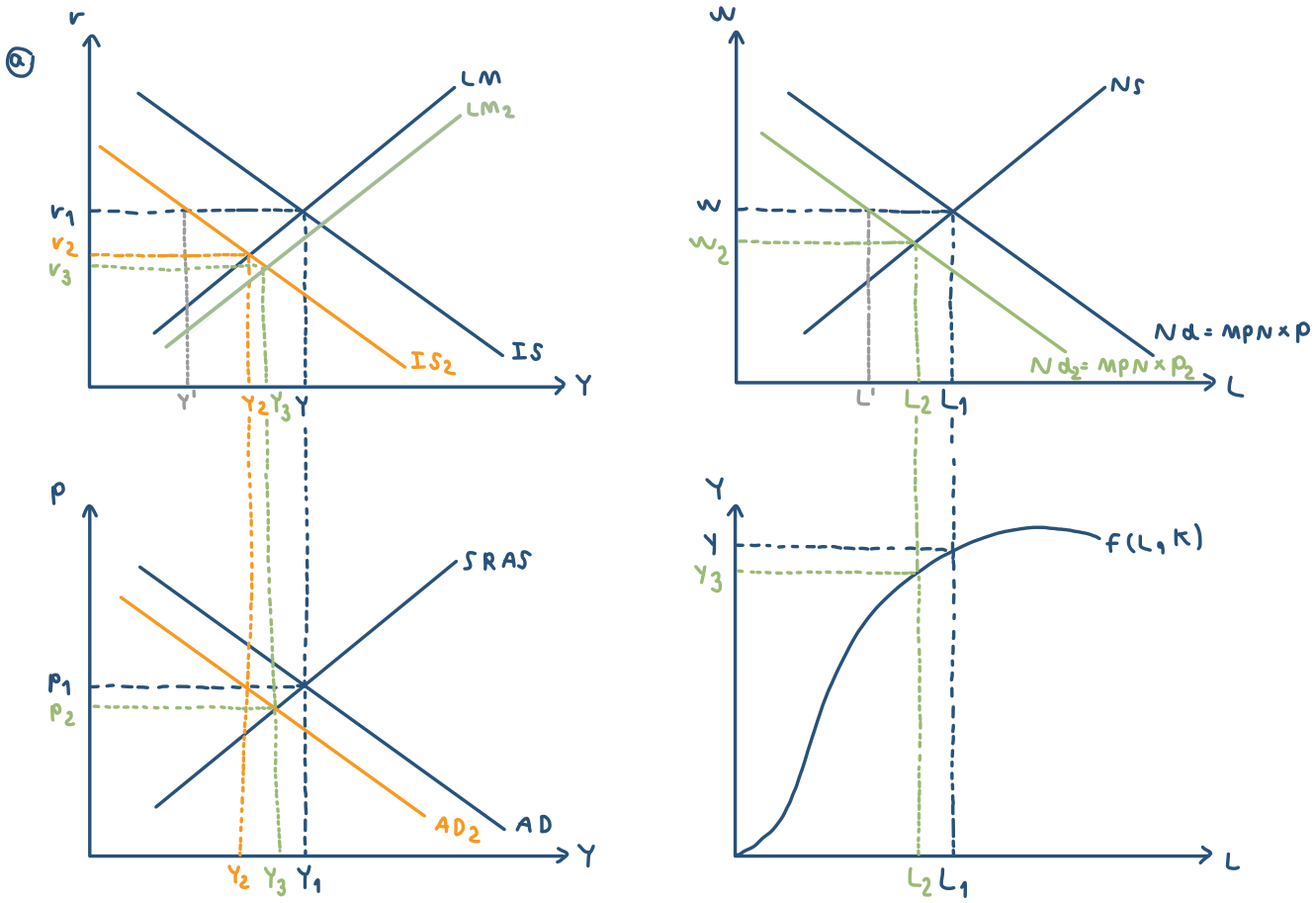
1.) As the permanent decrease in government transfer, AD shifts to the left due to the decreasing in consumption level (C) and reach the equilibrium at Y3, P2 which P2 < Pe2 1

2.) Over time, the seller will adjust their expected price from Pe1 to Pe2 = P2 and cause the SRAS shift to the right .

3.) Over time, seller will repeatedly adjust their expected price until P* = Pe* and SRAS shift to the right until SRAS* = AD = LRAS.

4.) To conclude, out put will continue to increase from Y2 > Y3 > ... > Y*, price will decrease continuously from P1 > P2 >…> P*, interest rate will decrease from r1 > r2 >…> r*, wage will decrease from w1 > w2 >…>w*, and employment level will continuously adjust due to the level of price and expected price until Ns* = Nd* and got the equilibrium at L*, w*.

2.2)



In the short-run , as a permanent decrease in government transfer. Government payment is a redistribution of income and wealth by means of government making a payment, without goods or services being received in return, it mean that there is a decreasing in consumption level (C). To begin with the decreasing in consumption level (C decrease) leading to the decreasing in output level (Y, → Y'). After that IS shift to the left and get the equilibrium at (Y2, r2). The decreasing in Y leads to the shift in AD curve which shift to the left at (Y2, P1) cause the excess supply which make the price decrease from P1 to P2 and reach the equilibrium at (Y3, P2). Next, the decreasing in the price level triggers the LM curve to shift right and get the equilibrium at (Y3, P2) Moreover, as price level decrease can also make the labor demanded to decrease by shifting to the left which cause wage and number of labor to decrease. The decrease in the number of labor causes the decreasing in the level of output (Y decrease). To conclude, the number of output decrease from Y1 to Y3, interest rate decrease from r1 to r3, the price level decrease from P1 to P2, the employment level decrease from L1 to L2, and wage decrease from w1 to w2 respectively.

ⓒ

Variables	Short-run (relative to initial level)	Medium-run	
		Relative to after-shock level (short-run)	Relative to initial level before shock
Output (real GDP)	decrease	increase	constant
Consumption	decrease	increase	constant
Investment	decrease	increase	constant
Labor employment	decrease	increase	constant
Nominal wage	decrease	increase	decrease
Price	decrease	increase	decrease
Real wage	increase	decrease	constant
Interest rate	decrease	increase	decrease

ⓓ If the permanent cut in government transfers is **anticipated**, what would be the short-run impact on macroeconomic variables? Would one observe a deviation of actual output from the trend level?

If the permanent cut in government transfer is anticipated there will be no impact on macroeconomic variables. there also no deviation of actual output from the trend level.

$\pi_t = \pi_t^e - 0.7(u_t - u_t^n) + v_t$; where $\beta = 0.7$

$\pi_t^e = (1-\theta)\bar{\pi} + \theta\pi_{t-1}$

Given: $\theta = 0$, $U^n = 0.05$, $\bar{\pi} = 0.02$, $v_t = 0$

3.1, 3.2) $u_t = 0.03$

3.1) At period t ; $\pi_t^e = 1\bar{\pi} + 0\pi_{t-1}$, $\pi_t^e = \bar{\pi} = 0.02$

$\pi_t = 0.02 - 0.7(0.03 - 0.05)$

$= 0.034 = 3.4\%$

At period $t+1$; $\pi_{t+1}^e = \bar{\pi} = 0.02$

$\pi_{t+1} = 0.02 - 0.7(0.03 - 0.05)$

$= 0.034 = 3.4\%$

Then, $\pi_t = \pi_{t+1} = \pi_{t+2} = \pi_{t+3} = \pi_{t+4} = \pi_{t+5} = 0.034 = 3.4\%$. Therefore, π in each period is higher than $\bar{\pi}$ by $0.034 - 0.02 = 0.014 = 1.4\%$.

3.2) From my perspective, I do not believe that $\pi_{t, t+1, t+2, \ldots, t+5} = 3.4\%$. Since, in realistic, people determine the expected inflation rate from last period (π_{t-1}), $0 \le \theta \le 1$.

3.3, 3.4, 3.5) $\theta = 1$, $U_t = 0.03$

3.3) θ increases this way because people believe that the expected inflation rate will equal to the inflation rate from last period; mathematically, $\pi_t^e = (1-1)\bar{\pi} + 1\pi_{t-1}$; where $\theta = 1$

$\pi_t^e = \pi_{t-1}$

3.4) At period $t+6$, $\pi_{t+6}^e = 0.034$

$\pi_{t+6} = 0.034 - 0.7(0.03 - 0.05)$

$= 0.034 + 0.014 = 0.048 = 4.8\%$

At period $t+7$, $\pi_{t+7}^e = 0.034 + 0.014$

$\pi_{t+7} = 0.034 + 0.014 + 0.014$

$= 0.034 + 2(0.014) = 0.062 = 6.2\%$

At period $t+8$, $\pi_{t+8} = 0.034 + 3(0.014) = 0.076 = 7.6\%$

At period $t+9$, $\pi_{t+9} = 0.034 + 4(0.014) = 0.09 = 9\%$

3.5) When $\theta = 1$ and kept $u_t = 3\%$; the result is shown that the inflation rate increases every period by 1.4%.

3.6, 3.7, 3.8) $u_t = 0.05$, $\theta = 1$

3.6) At period $t+10$, $\pi_{t+10}^e = \pi_{t+9} = 0.09$

$\pi_{t+10} = 0.09 - 0.7(0.05 - 0.05)$

$= 0.09 = 9\%$ Therefore, center bank failed to acheive the target inflation ($\bar{\pi} = 2\%$)

3.7) At period $t+11$; $\pi_{t+11}^e = \pi_{t+10} = 0.09$

$\pi_{t+11} = 0.09 - 0.7(u_{t+11} - u_{t+11}^n)$

fixed $\pi_{t+11} = \bar{\pi} = 2\%$; $0.02 = 0.09 - 0.7(u_{t+11} - 0.05)$

$u_{t+11} = 0.15 = 15\%$

In order to lower the inflation rate government need to trade-off with the higher unemployment rate that the unemployment rate is now above the national unemployment rate by 10%, which is $u_{t+11} = 15\%$

3.8) At period $t+12$; $\pi_{t+12}^e = \pi_{t+11} = 0.02$

$\pi_{t+12} = 0.02 - 0.7(0.05 - 0.05) = 2\%$

At period $t+13$; $\pi_{t+13}^e = \pi_{t+12} = 0.02$

$\pi_{t+13} = 0.02 - 0.7(0.05 - 0.05) = 2\%$

Therefore, $\pi_{t+12} = \pi_{t+13} = \pi_{t+14} = \pi_{t+15} = 2\%$, which is equal to the target inflation ($\bar{\pi}$)

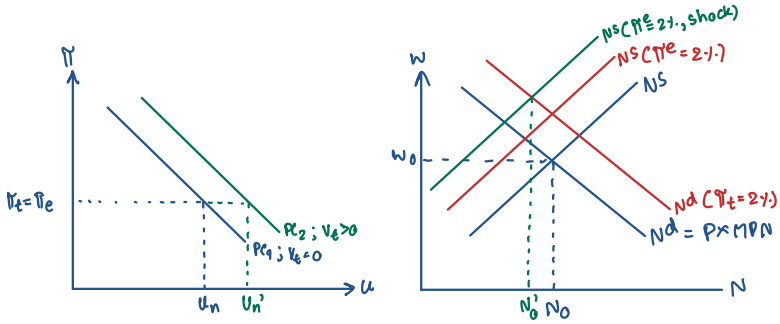
3.9) $\theta = 0$

3.9) θ reduces this way because people think that the expected inflation rate has no relative with the last year inflation rate due to $\pi_{t+12, t+13, t+14, t+15} = \bar{\pi} = 2\%$

3.10, 3.11, 3.12, 3.14) $v_{t+17} = 0.01$, $v_{t+18}, \dots = 0$, $\theta = 0$

3.10) At period $t+17$; $\pi^e_{t+17} = \bar{\pi} = 0.02$

$$\pi_{t+17} = 0.02 - 0.7(0.05 - 0.05) + 0.01 = 0.03 = 3\%$$



3.11) At period $t+18$; $\pi^e_{t+18} = \bar{\pi} = 0.02$

$$\pi_{t+18} = 0.02 - 0.7(0.05 - 0.05) + 0 = 2\%$$

At period $t+19$; $\pi^e_{t+19} = 0.02$

$$\pi_{t+19} = 0.02 - 0.7(0.05 - 0.05) = 2\%$$

3.12) $\theta = 1$; At period $t+18$; $\pi^e_{t+18} = \pi_{t+17} = 0.03$

$$\pi_{t+18} = 0.03 - 0.7(0.05 - 0.05) + 0 = 3\%$$

At period $t+19$; $\pi^e_{t+19} = 0.03$

$$\pi_{t+19} = 0.03 - 0.7(0.05 - 0.05) = 3\%$$

The inflation rate of period $t+18, t+19$ are 3 % which is higher than the target inflation rate by 1 % . Since $\theta = 1$, it implies that the supply shock from period $t+17$ affect the inflation rate in period $t+17$ and $t+18$.

3.13) At period $t+19$; $\pi^e_{t+19} = \pi_{t+18} = 0.03$

$$\pi_{t+19} = 0.03 - 0.7(u_{t+19} - u^n_{t+19})$$

Fixed $\pi_{t+19} = \bar{\pi} = 2\%$; $0.02 = 0.03 - 0.7(u_{t+19} - 0.05)$

$$u_{t+19} = 0.064 = 6.4\%$$

Therefore if government want to keep the inflation rate equal to $\bar{\pi}$, government has to trade-off with the higher unemployment rate that is 6.4 % , higher than national unemployment rate by 1.4 %.

3.14) If there is no volatility $\pi_t = \pi^t_e$, $u_t = u^n_t$

when $v_t > 0$; $\pi_t = \pi^t_e + v_t > \pi^t_e$; therefore there is the volatility in inflation rate due to supply shock

In order to keep $\pi_t = \bar{\pi}$, government has to trade-off with the higher unemployment rate that is higher than u^n_t

$\theta = 0$; $\pi^e_t = \bar{\pi}$; $\pi_t = \bar{\pi} - \beta(u_t - u^n_t) + v_t$. To keep $\pi_t = \bar{\pi}$; $\beta(u_t - u^n_t) = v_t$. If $v_t > 0$ then $u_t > u^n_t$.

Therefore , there is the volatility in unemployment rate due to supply shock.

The target inflation rate play the important role in the macroeconomic stable. Since, if the inflation rate deviates not much from $\bar{\pi}$ the macroeconomy is more stable. However, if the inflation rate deviates very much from $\bar{\pi}$ the macroeconomy is less stable. Next , if the inflation rate is equal to $\bar{\pi}$ (not deviate) it means that the macroeconomy is perfectly stable.