Multiplier — Taylor principle

ADI : change greater than the rate of inflation

short run / Long run

deflation interferes with interest rates

Federal Reserve — 1 question on the exam for the Federal Reserve module

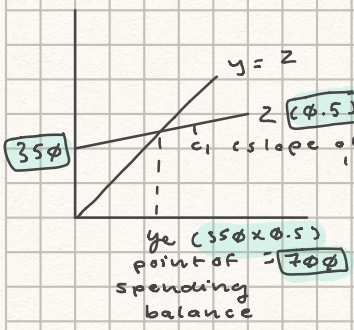
Negative Yield Article

FINAL EXAM

$$y = \frac{1}{1 - mpc\ (c_1)} \times \text{Autonomous Expenditure}$$

$$\Delta y = \frac{1}{1 - c_1} \qquad (c_0 - c_1 T + I + G + X)$$

$$\Delta \text{Aut Ex} = \Delta c_0 - c_1 \Delta T + \Delta I + \Delta G + \Delta X$$



EXAMPLE

$c_0 = 10ø$, $c_1 = .5$, $T = 20ø$, $G = 25ø$

$I = 15ø$ $X = -5ø$

$$\text{multiplier} = \frac{1}{1 - c_1} = \frac{1}{1 - .5} = 2$$

$$\text{aut Ex} = 10ø - .5(20ø) + 15ø + 25ø - 5ø$$

$$= 35ø$$

$$\Delta Y = \left(\frac{1}{1 - c_1}\right) \Delta \text{aut Ex}$$

$$= \left(\frac{1}{1 - c_1}\right) [\Delta c_0 - c_1 \Delta T + \Delta I + \Delta G + \Delta X]$$

assume government purchases increased by 10ø

$\Delta G = 10ø$

assume ΔT is 10ø

$$\Delta Y = \left(\frac{1}{1 - c_1}\right) \Delta G = 2(10ø) = 20ø$$

$$\Delta Y = \left(\frac{1}{1 - c_1}\right)(-c \Delta T) = 2(-5ø) = -10ø$$

$-.5(10ø) = -5ø$

$\Delta T = 10ø$ $\Delta G = 10ø$

$$\Delta Y = \left(\frac{1}{1 - c_1}\right)[\Delta c_0 - c_1 \Delta T + \Delta I + \Delta G + \Delta X]$$

$$= \left(\frac{1}{1 - c_1}\right)(-c_1 \Delta T + \Delta G)$$

$$2(-5ø + 10ø) = 2(5ø) = 10ø$$

taxes & income change by same

change in government purchases has a greater impact than taxes

income & government purchases change by the same amount

$$\Delta \text{Consumption} = \Delta c_0 + c_1 (\Delta Y - \Delta T)$$

10ø 10ø

$S_g = \Delta T - \Delta G$

$= 10ø - 10ø = ø$ did not change

$\Delta I = 10ø$

consumption + Invest

$$\Delta Y = \left(\frac{1}{1 - c_1}\right)(10ø) = 2(10ø) = 20ø$$

$S_p + S_g = I + X$

$S_g = T - G$

$= \Delta T - \Delta G$

$\Delta S_p + \cancel{S_g} = \Delta I + \cancel{\Delta X}$ ∅
(S_g: ∅; ΔI: ∧100)

$\Delta C = \Delta \cancel{C_0} + c_1 \{ \Delta Y - \cancel{\Delta T} \}$

$= 0.5\ (200)$

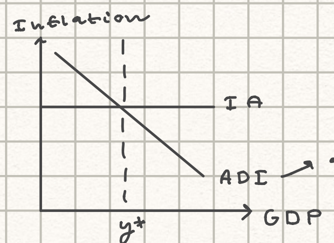
$= \boxed{100}$

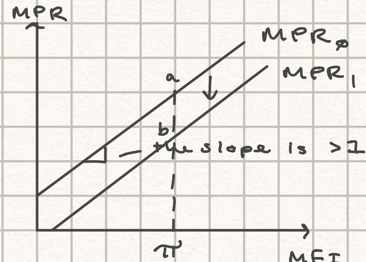
∵ consumption (100) & investment (100) caused the Y line to change by 200 because consumption → investment → (mpc)

ADI CURVE

8a (the GDP gap)

(how does the economy adjust with a change in consumption, inflation versus output)





WHY?
↳ Real rate of interest = 1 − inflation
if nominal rate fell & inflation stays the same then the rri falls which increases spending

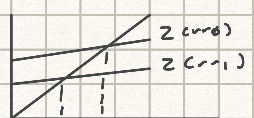
Monetary Policy Rule → targets the interest rate
↑ inflation ↑ interest rates
↓ inflation ↓ interest rates

nominal interest rate | inflation

i	π	rri
1	∅	1
2.5	1	1.5
4	2	2
5.5	3	2.5
7	4	3

INTEREST RATE & SPENDING

real rate ↑ C ↓
I ↓
X ↓

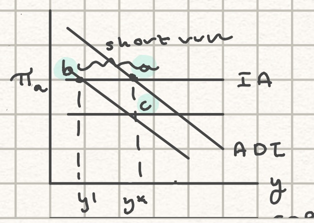


if the real rate increases the Z line goes down
↳ spending falls
↳ income falls

Z line ↑ (not inflation) ADI curve to shift to the right
Z line ↓ (not inflation) ADI curve to shift to the left

If mpc line steeper the government is being more aggressive so the ADI curve would become flatter

INFLATION ADJUSTMENT LINE

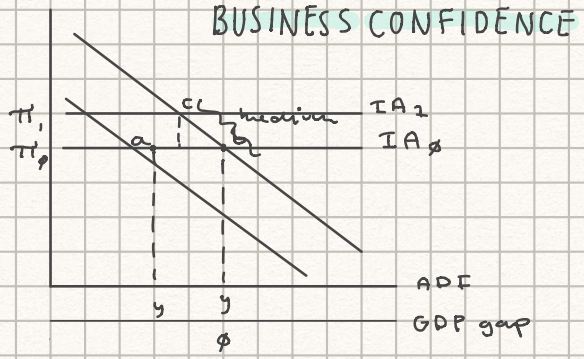


It shifted left because net exports fell due to a recession in the united states
- A short run:
- B medium run: inflation & interest rates
- C long run

↓ Ø GDP gap

-ve GDP gap causes the rate of inflation to ↓ & real rate of interest ↓ to will help spending go back up ↑

real rate only change in the short run only when the monetary policy changes



DEFLATION - interferes with the ability for interest rates to adjust

secular stagnation

liquidity trap: if interest rate goes to Ø what can be done with monetary policy

Deflation = price

i	Π	rri = (i−Π)
Ø	2	-2
Ø	1	-1
Ø	Ø	Ø
Ø	-1	1
Ø	-2	2

- deflation causes the real rate of interest to increase which cause spending to slow down

FEDERAL RESERVE - moved to the CHANNEL SYSTEM

monetary policy — quasi private - quasi public system FOMC

2 floors - interest rates

- reverse repo rate

monetary policy - zero lower bound

Fiscal Policy = multiplier read the textbook for dwas (Second Review)