

1. Types of Monetary Policy

1) Rule Based MP

- { ① Rigid
- ② prevents time-inconsistency problem

When long-term plans are ignored when time comes

E.g. of time inconsistency problem:

Policy maker's plan is to keep inflation low

But before election = ↓ unemployment rate

making high inflation

2) Constrained MP

① flexible

② No Time-inconsistency problem

By setting up a nominal Anchor =

Target certain inflation level

③ Have Nominal Anchor = increase credibility of the govt

3) Discretionary MP

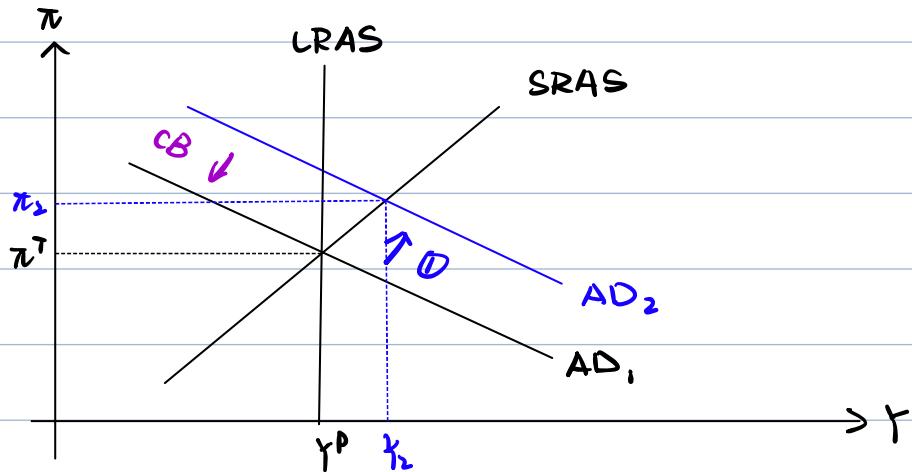
① Flexible

② Time-inconsistency problem

Credibility

Positive AD Shock

(i) Credible CB

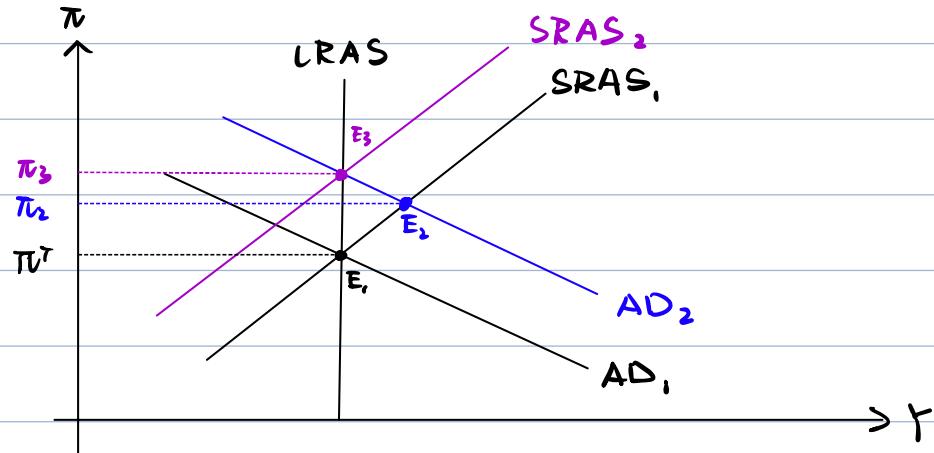


positive AD Shock = Shift AD right

$r_2 > r^P$ = positive output gap

\Rightarrow gov "contractionary MP" (MP tightening) $\Rightarrow \uparrow \bar{r}$

\Rightarrow AD will shift left



positive AD Shock = Shift AD right

$r_2 > r^P$ = positive output gap

Since CB is not credible

\Rightarrow the public will adjust inflation itself (SRAS shifts up)

Negative Short-Run Supply Shock

$$SRAS: \pi_t = \underline{\pi_0^e} + \gamma(y - y_p) + \underline{P_0}$$

Initial inflation expectation

Initial price (supply) shock

Negative supply shock = $\uparrow P$ from $P_0 \Rightarrow P_1$

(1) Credible CB

$$SRAS: \pi_t = \underline{\pi_0^e} + \gamma(y - y_p) + \underline{P_1}$$

not change

change due to the supply shock

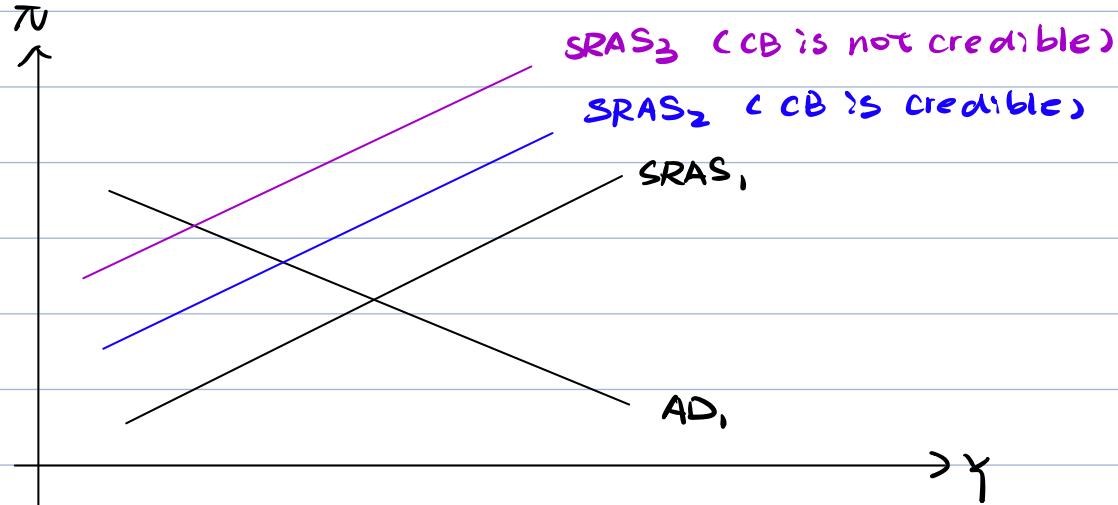
(2) Not credible CB

$$SRAS: \pi_t = \underline{\pi_1^e} + \gamma(y - y_p) + \underline{P_1}$$

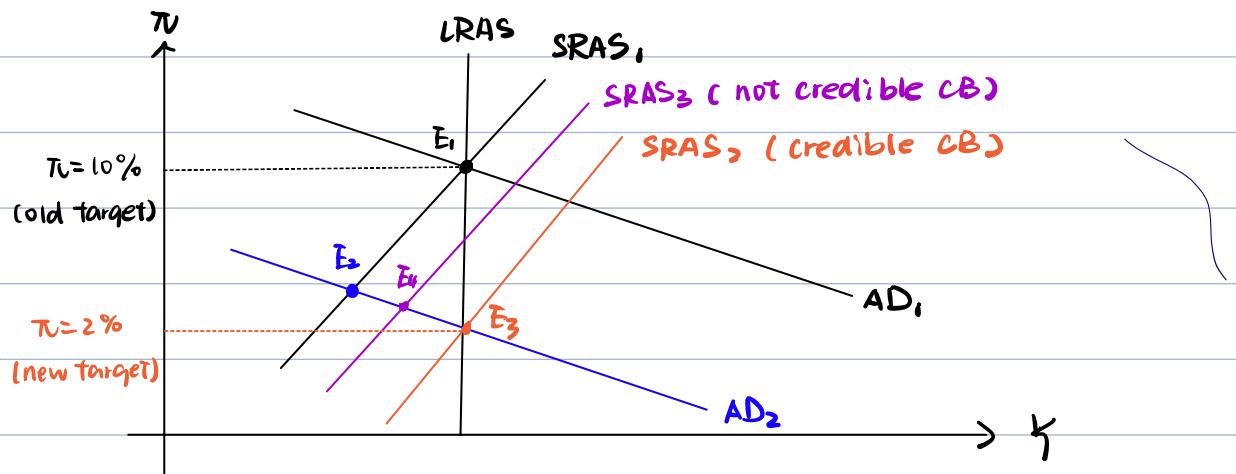
change as

change due to the supply shock

CB is not credible



Anti-inflationary policy



Gov want to reduce inflation from 10% to 2%

⇒ gov will take "tightening mp" ⇒ shifts AD left

{ If CB is credible ⇒ moves to E_3
If CB is not credible ⇒ moves to E_4

Transmission of Monetary Policy

In order for the Monetary policy to be successful

- ① the CB should be credible
- ② the transmission channel should work

(1) Traditional interest Rate channel

↓ real long-term interest rate ($i_{\text{long-term}}$)

⇒ ↓ cost of borrowing ⇒ ↑ Investment (I)

⇒ ↑ aggregate demand (y^{ad})

Since CB cannot affect long-term real interest rate

CB can affect short-term nominal interest rate (policy rate)

$$\text{Fisher Equation: } r_{\text{short-run}} = i_{\text{short-term}} - \pi$$

↓ ↓

Short-term nominal interest rate ($i_{\text{short-term}}$) can decrease ↓ ($r_{\text{short-run}}$)

if $i_{\text{short-term}} > \pi$

↓

This will be the case, as prices are sticky,
changes in π will be slow.

$$r_{\text{long-term}} = r_{\text{short-term}} + \text{term premium}$$

↓ ↓

$$\downarrow i_{\text{short-term}} \Rightarrow \downarrow r_{\text{short-term}} \Rightarrow r_{\text{long-term}} \Rightarrow \uparrow I \Rightarrow \uparrow AD$$

"Traditional Interest rate channel"

(2) Other Assets Channel

① Foreign Exchange rate

$$\downarrow i_{\text{short-term}} \Rightarrow \downarrow r_{\text{short-term}} \Rightarrow r_{\text{long-term}}$$

↓

↓ Demand for domestic Assets

↓

↓ Demand for domestic Currency

↓

↓ Exchange rate (E)

↓

↑ export (X), ↓ import (M) \Rightarrow ↑ Net export (NX)

↓

Aggregate demand (y^{ad}) ↑

② Price of Equities

$$\downarrow i_{\text{short-term}} \Rightarrow \downarrow r_{\text{short-term}} \Rightarrow r_{\text{long-term}}$$

⇒ Switch from bond market to stock market

⇒ Stock price increases (P_s) ↑

⇒ Firm's market value increases \Rightarrow generate more capital $\Rightarrow Q \uparrow$

Tobin's Q Theory (Firm's side):

$$Q = \frac{\text{Market value of Firm}}{\text{Cost of capital}}$$

Since cost of capital unchanged, ↑ Firm's market value will make new capitals relatively cheap to issue

⇒ More Stocks \Rightarrow ↑ Investment (I)

$$\begin{aligned} \downarrow i_{SR} &\Rightarrow \downarrow r_{SP} \Rightarrow \downarrow r_{UR} \Rightarrow \downarrow P_s \Rightarrow \downarrow \text{market value of firm} \\ &\Rightarrow \uparrow Q \Rightarrow \uparrow I \Rightarrow \uparrow y^{\text{ad}} \end{aligned}$$

③ Wealth Effect (Consumer's Side)

Consumers will smooth consumption over-time

- { ① Borrow when you have low income / wealth
- ② Save when you have income / wealth

Consumption decisions depend on lifetime resources

① wage income ② financial wealth ③ parents ④ kids

$$\downarrow \bar{r}_{SR} \Rightarrow r_{SP} \downarrow \Rightarrow r_{LR} \downarrow \Rightarrow \uparrow P_{stock} \Rightarrow \uparrow \text{value of financial wealth}$$

\Rightarrow value of life-time resources $\Rightarrow \uparrow$ consumption

\Rightarrow Aggregate demand (y^{ad}) \uparrow

(3) credit view channel

① Bank-lending channel

Expansionary MP (OMP: gov buys bonds from bank)

(\downarrow short-term nominal interest rate (\bar{r})), 购买债券增加流动性

$\Rightarrow \downarrow$ short-term real interest rate (\bar{r})

\Downarrow

OMP = \uparrow Bank reserves

\Downarrow

Bank loans \uparrow

\Downarrow

\uparrow Investment (I) $\Rightarrow \uparrow$ Aggregate demand (y^{ad})

② Balance Sheet Channel

Firm's Balance Sheet:

\downarrow real interest rate (r) $\Rightarrow \uparrow$ price of stock (P_s)

$\Rightarrow \uparrow$ Firm's net wealth

⇒ ↓ 'Adverse Selection' and 'Moral Hazard'
↓
low probability of taking risky actions
low probability of not paying back debt

逆向选择 (Adverse Selection)

逆向选择通常发生在贷款前，是因为贷款者无法完全了解借款者的财务状况和风险程度。当企业的净资产增加时，其财务健康状况表面上看起来更为稳健，这降低了银行和其他贷款机构的担忧，因为较高的净资产通常意味着企业有较好的偿债能力。结果，银行可能会更愿意向这些看似较低风险的企业提供贷款，因为高净资产减少了选错借款人（即信用较差的借款人）的风险。

道德风险 (Moral Hazard)

道德风险则是在贷款后出现的问题，指的是借款人可能会采取高风险的行为，因为他们知道风险的一部分由贷款者承担。如果一个企业的净资产较高，它便拥有更多的自有资金在其项目中，这减少了企业依赖借贷资金的程度。因此，企业管理层可能更加注重风险管理与价值增长，而不是采取极端风险的策略来追求短期利益，从而降低了道德风险。同时，较高的净资产也可能意味着企业有能力从长远来看维护和增加其资产价值，减少因短视行为带来的损失风险。

⇒ ↑ lending ⇒ ↑ Investment (I) ⇒ ↑ aggregate demand (y^{ad})
企业负债表改善，更容易获得贷款

③ Cash Flow = 利息支付减少，使得企业现金流↑

↓ real interest rate (r) ⇒ ↑ Firm's cash flow

⇒ ↑ liquidity of firms ⇒ ↑ pay bills

⇒ ↓ 'Adverse Selection' and 'Moral Hazard'

⇒ ↑ lending ⇒ ↑ Investment (I) ⇒ ↑ aggregate demand (y^{ad})

④ Household's liquidity ⇒ 家庭流动性↑ 提升了 Household 对耐用品 消费和住房需求。

↓ real interest rate (r) ⇒ ↑ price of stock (P_s)

⇒ ↑ value of financial Assets

⇒ ↓ Financial Problems

⇒ Consume durables and housing

⇒ ↑ Aggregate demand (y^{ad})

⑤ Anticipated price level channel

Expansionary MP

↓

↓ Short Term nominal Interest rate (i)

↓

↓ Short Term real interest rate (r)

↓

Market participants will expect that the low interest rate will inject more liquidity into the market.

① Money supply ($M \propto S/T$), the purchasing power per unit of currency ↓

② $\downarrow r$, will ↑ Investment $\Rightarrow \uparrow y_{ad} \Rightarrow$ "Demand pull inflation"

↓

"Anticipated price level" ↑

