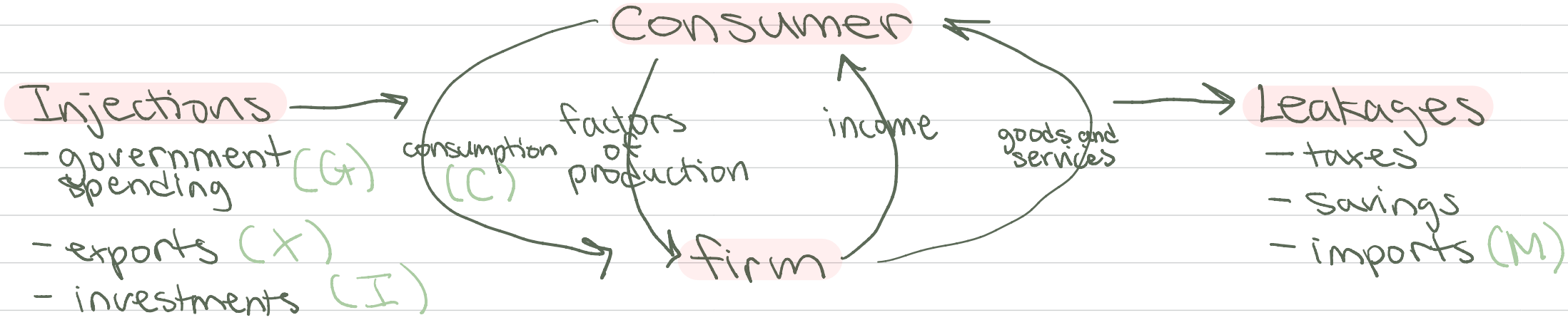
Macroeconomics (Diagrams)

Circular Flow of Income Model



Nominal Gross Domestic Product

* the expenditure method

$$GDP = C + I + G + (X - M)$$

Nominal Gross National Income

$$GNI = GDP + \text{net income from abroad}$$

"real" means adjusted for inflation

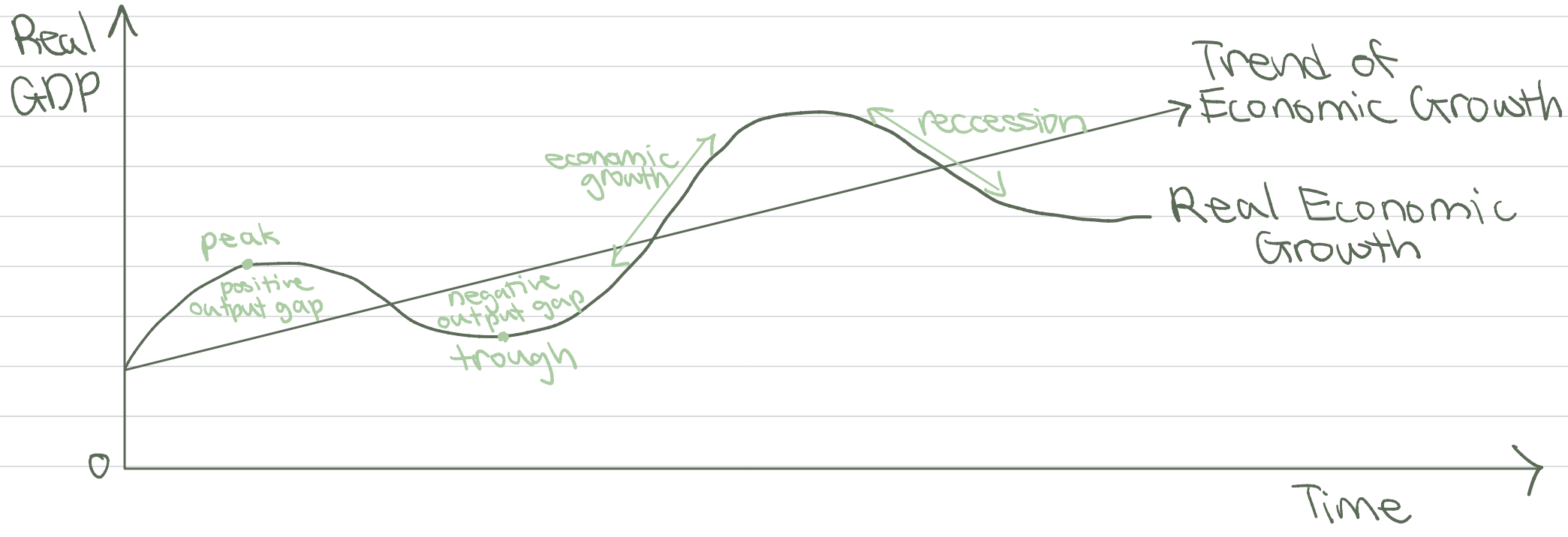
$$\text{Real GDP} = \frac{\text{GDP}}{\text{price deflator}} \qquad \text{Real GNI} = \frac{\text{GNI}}{\text{price deflator}}$$

"per capita" = divided by the population

$$\text{Real GDP per capita} = \frac{\text{Real GDP}}{\text{population}} \qquad \text{Real GNI Per capita} = \frac{\text{Real GNI}}{\text{population}}$$

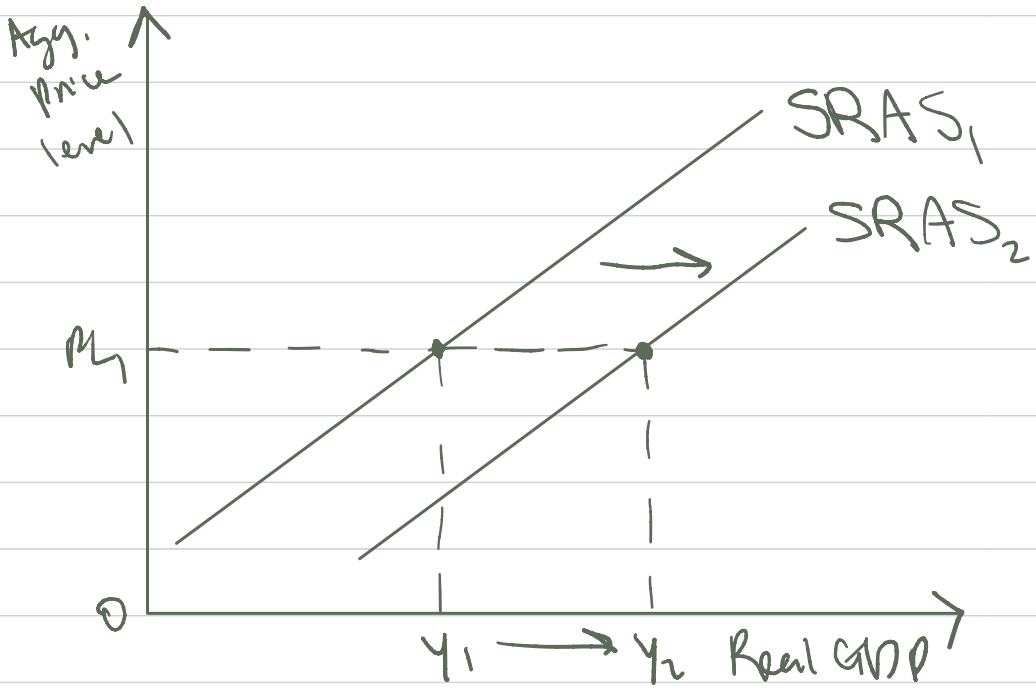
The Business Cycle

short term fluctuations, long term growth trend

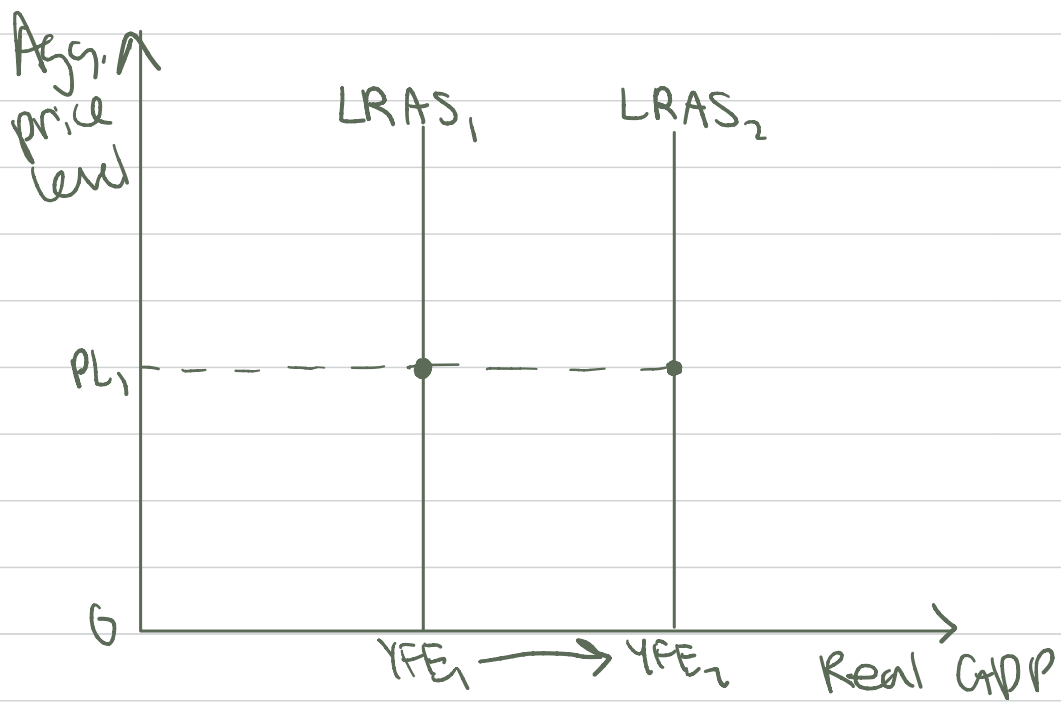


Neoclassical

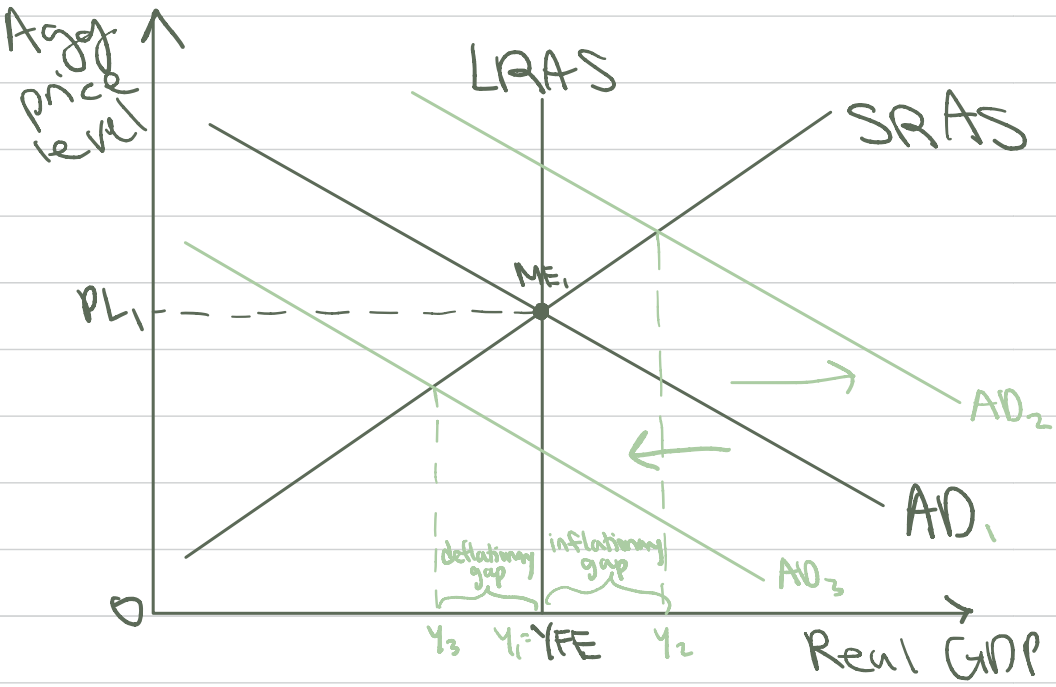
Shift of SRAS curve



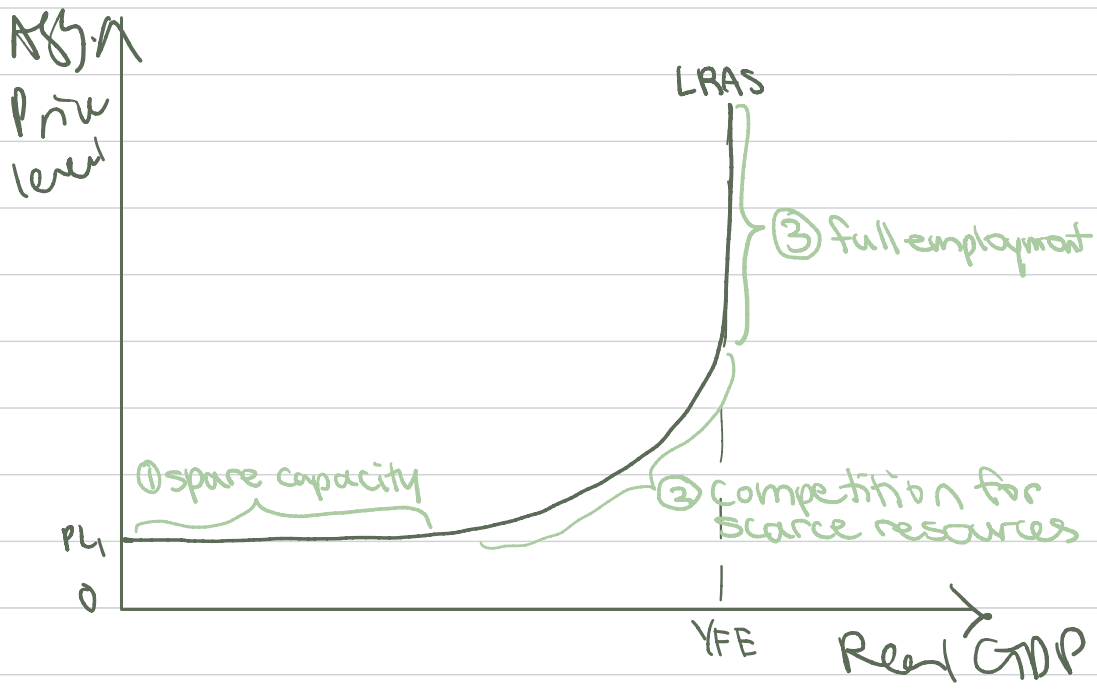
Shift of LRAS curve



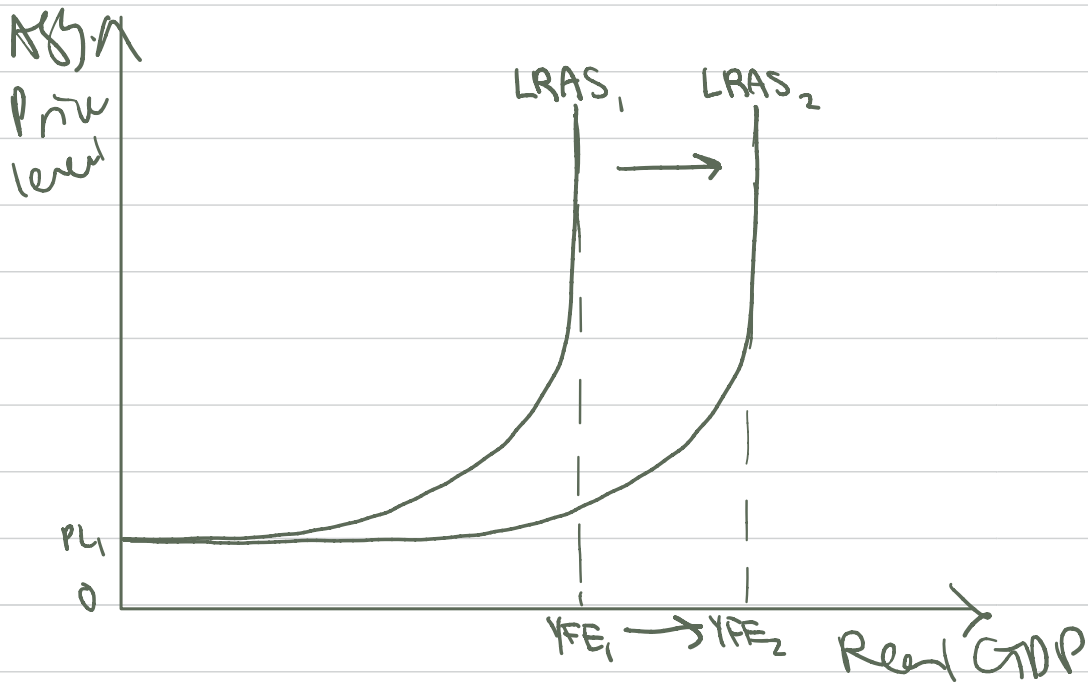
Macroeconomic Equilibrium



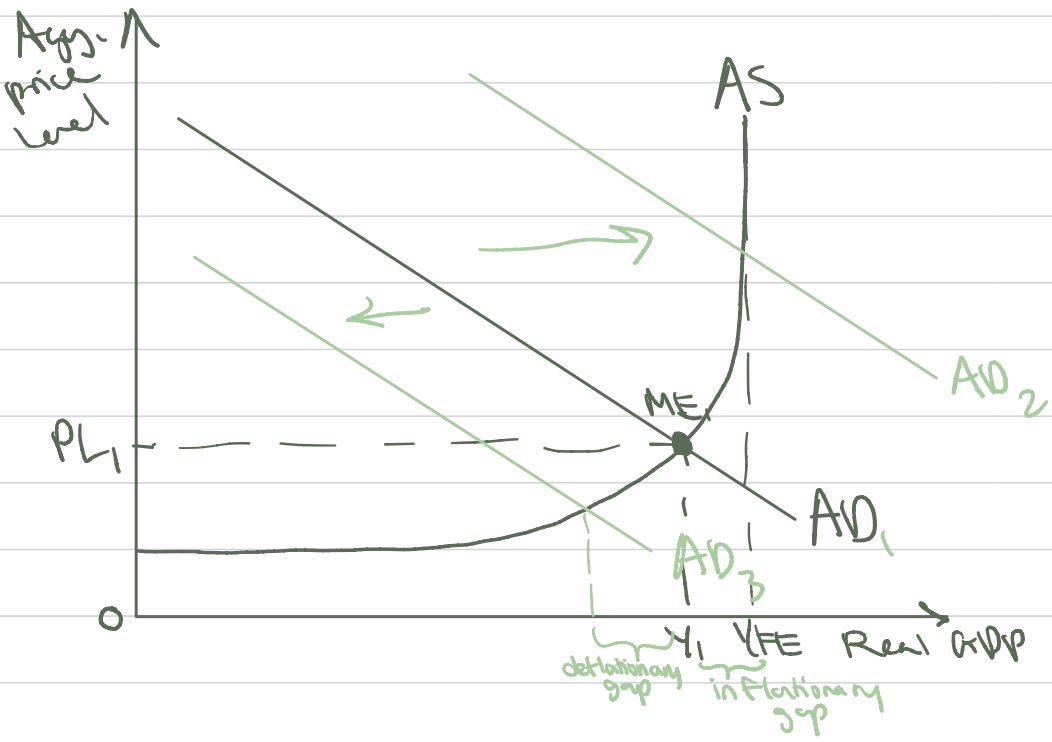
Keynesian



Shift of AS curve



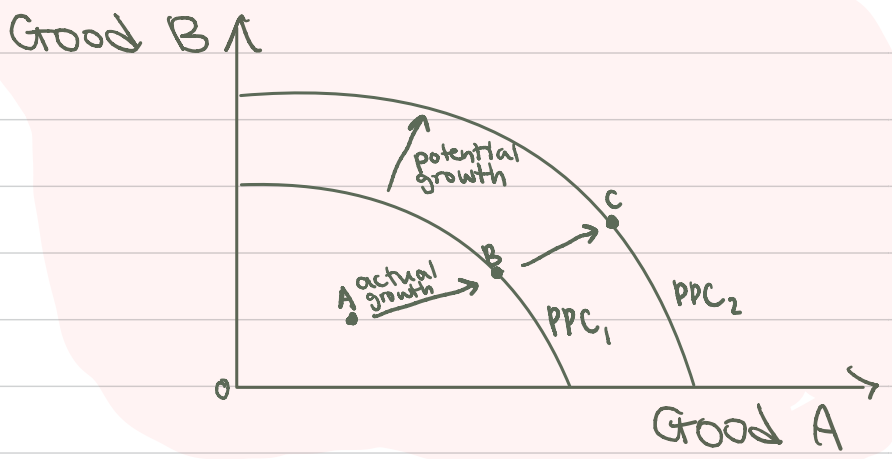
Macroeconomic Equilibrium



Macroeconomic Objectives

PPC model

- actual growth:
  previously unemployed factors of production are brought into use



- potential growth:
  maximum possible output - all resources fully employed, operating efficiently.

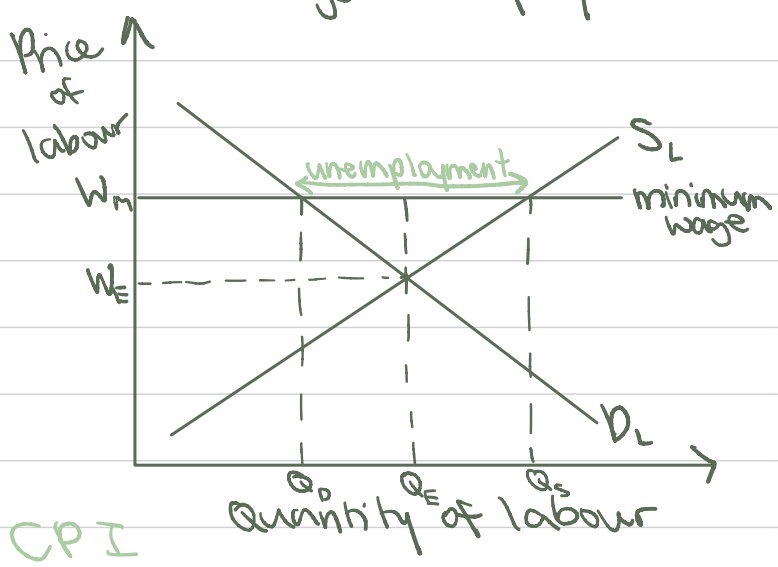
rate of economic growth

$$\text{Growth} = \frac{(\text{real GDP}_{new} - \text{real GDP}_{old})}{(\text{real GDP}_{old})}$$

rate of unemployment

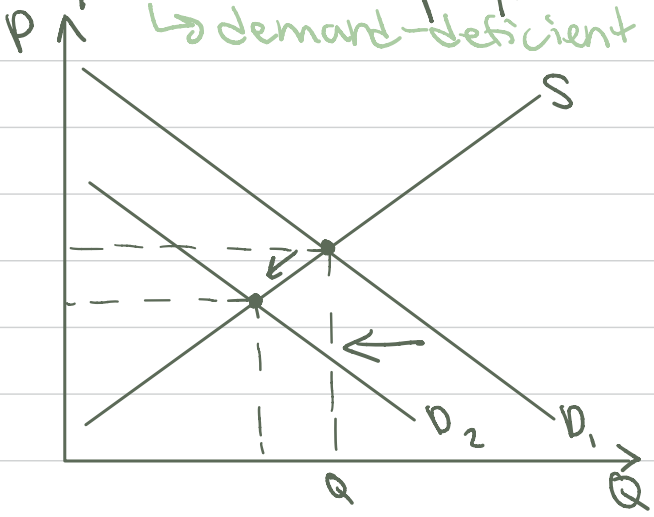
$$\text{rate} = \frac{\#\text{ unemployed}}{\text{labour force}}$$

Real-Wage Unemployment



Cyclical Unemployment

↳ demand-deficient

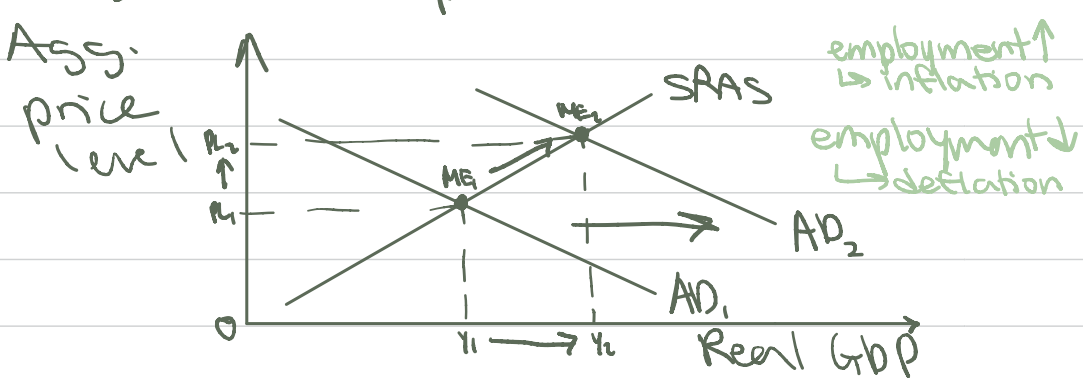


ex. CPI

$$\text{Weighed price index} = w_1p_1 + w_2p_2 + w_3p_3 \dots$$

Inflation

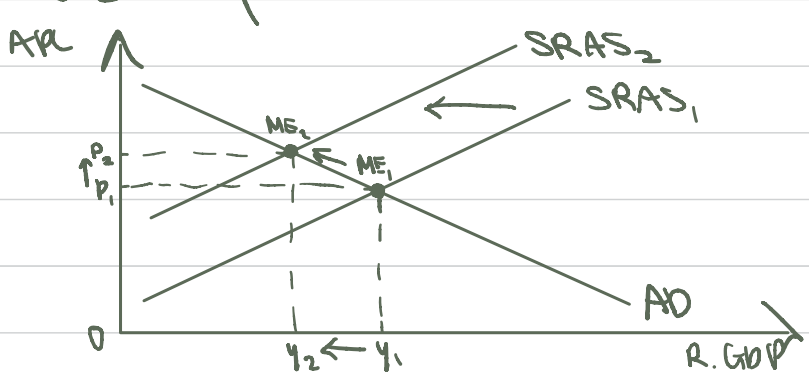
Demand-pull inflation



employment↑ ↳ inflation

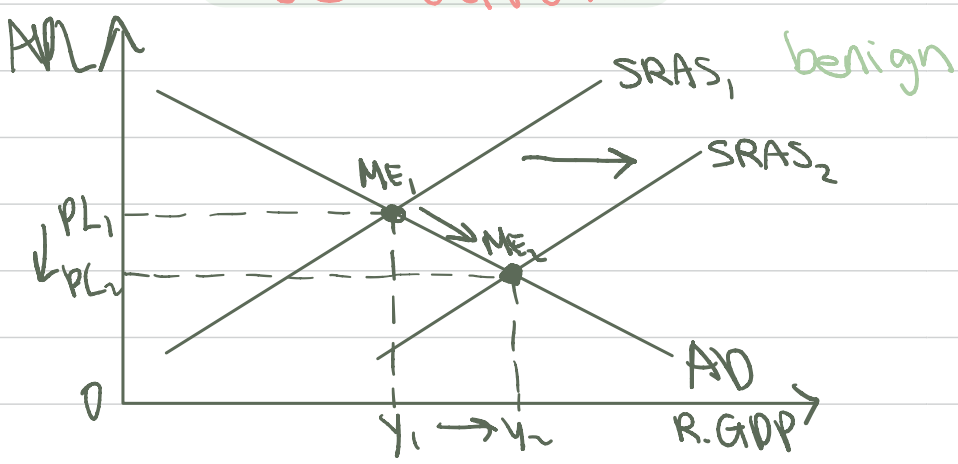
employment↓ ↳ deflation

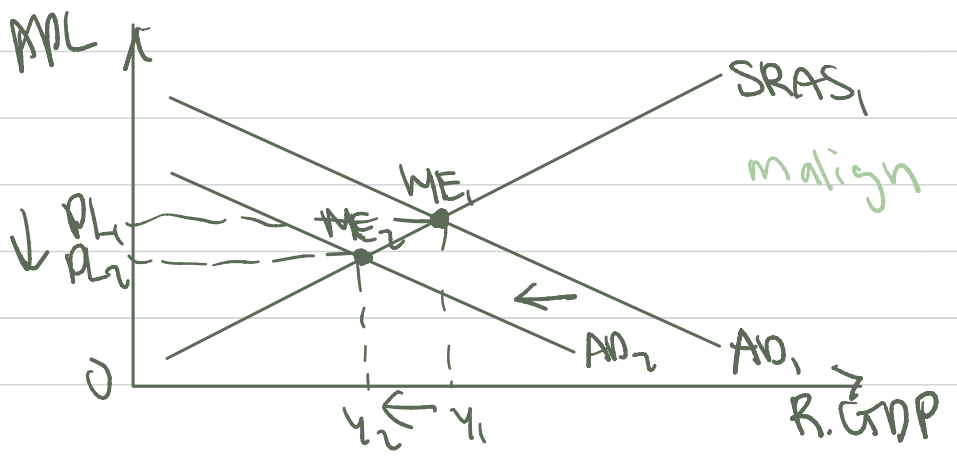
Cost-push inflation



★ disinflation = falling inflation rates, not deflation. That rarely happens.

Deflation

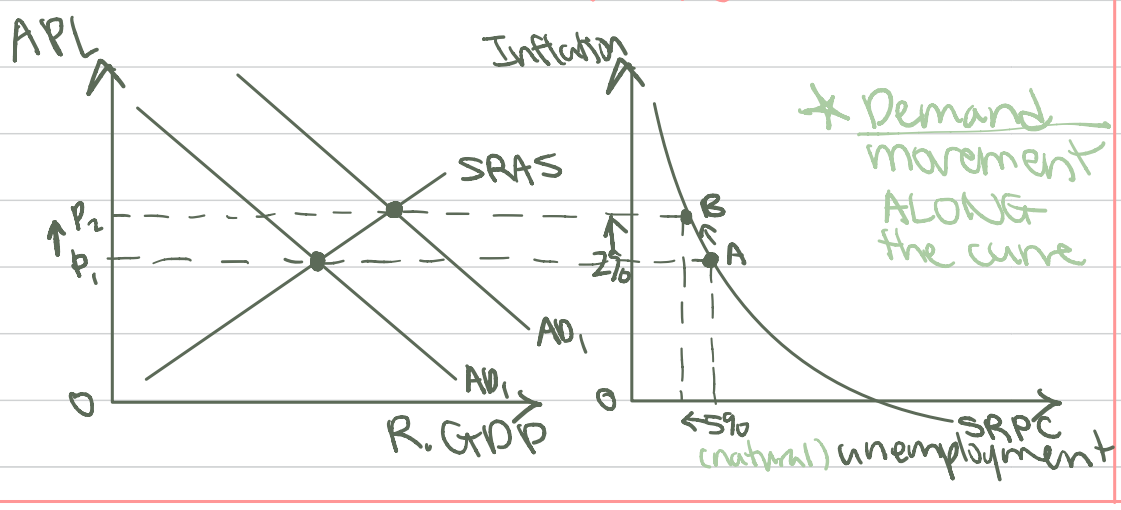




Inequality and Poverty

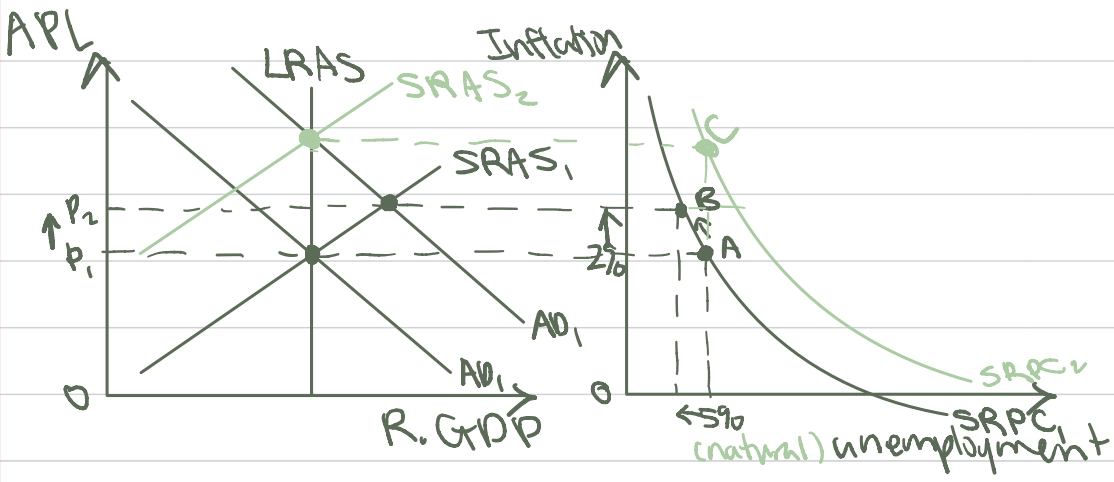
Phillips Curve

Shift of AD

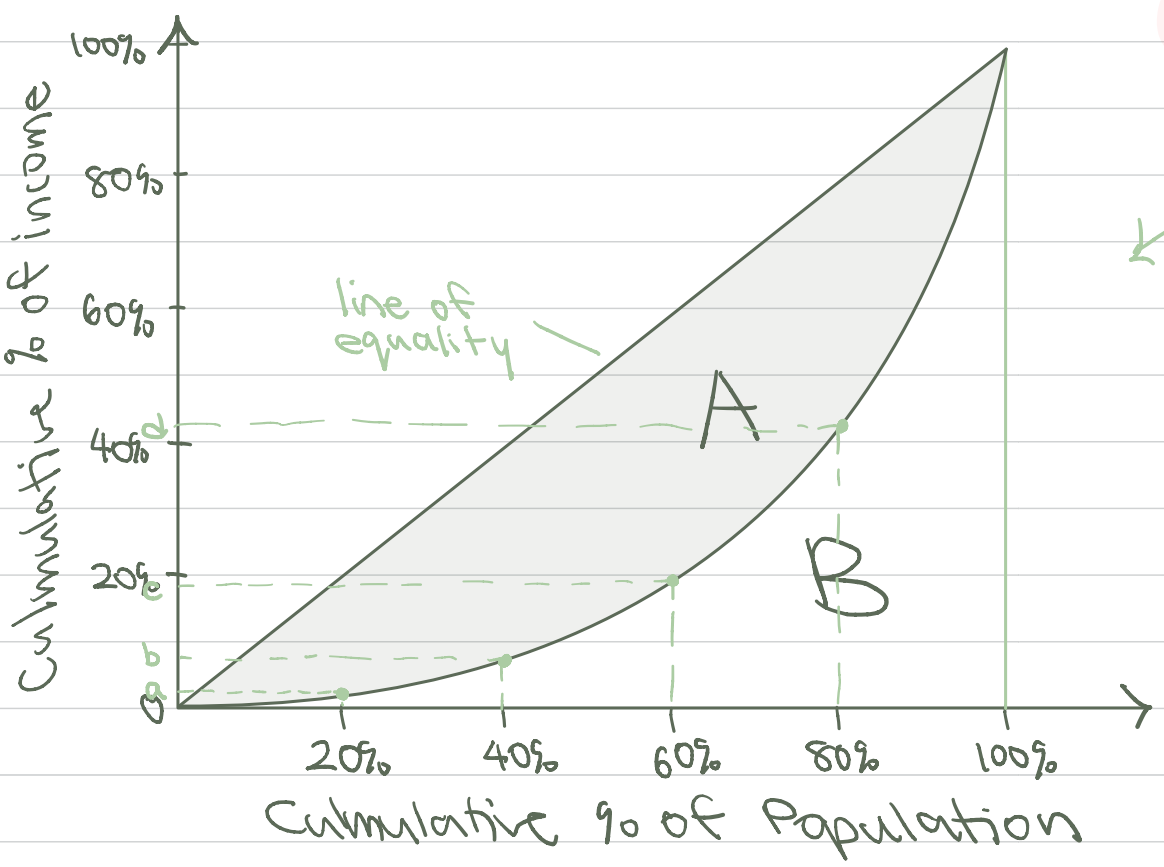


* Demand movement ALONG the curve

Shift of AS



Lorenz Curve



Gini Coefficient $= \frac{A}{A+B}$

income quintile data table

Quintile	Cumulative share of income
20%	a
40%	b
60%	c
80%	d
100%	100%

Total tax and average tax rates from a set of data

Income ($)	Marginal tax rate
0 – 10,000	8%
10,001 – 20,000	20%
20,001 – 40,000	30%
40,001 – 90,000	45%
90,001 +	55%

Total Tax:

(10,000 − 0) × 0.08 +
(20,000 − 10,000) × 0.2 +
(40,000 − 20,000) × 0.3 +
(70,000 − 40,000) × 0.45
= $22,300

Average Tax Rate:

$\frac{22300}{70,000}$

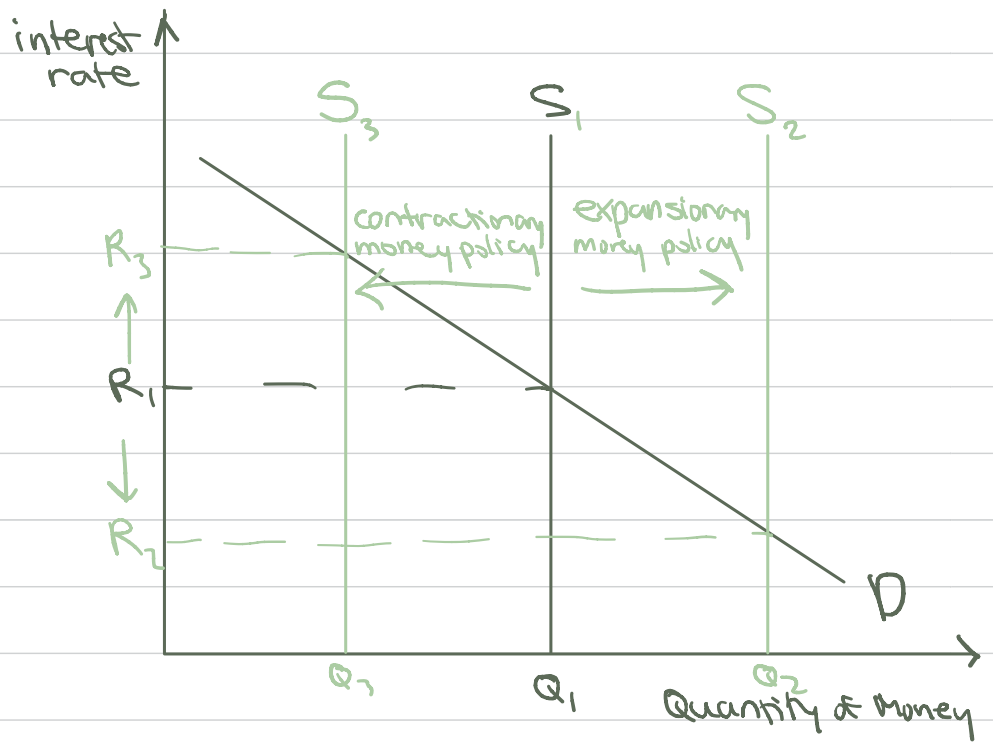
= 31.86%

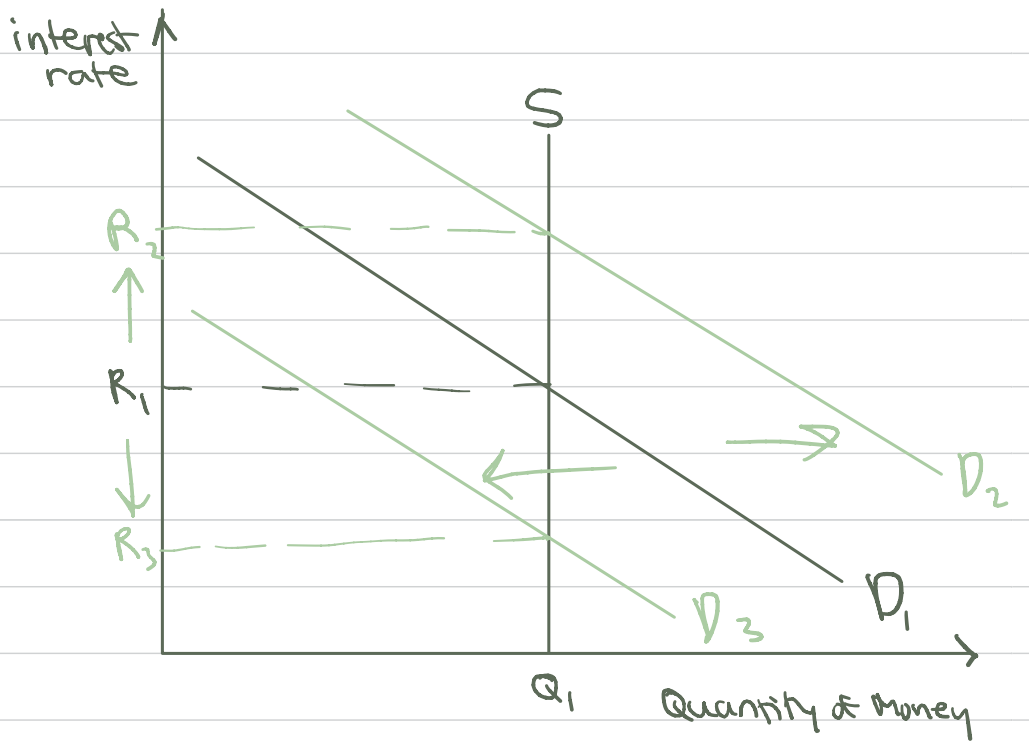
Progressive Taxes: percentages ↑, income ↑ (income tax)
Proportional Taxes: percentages −, income ↑ (flat tax system)
Regressive Taxes: percentages ↓, income ↑ (GST)

Monetary Policy

total value of monetary assets available in an economy at a specific time

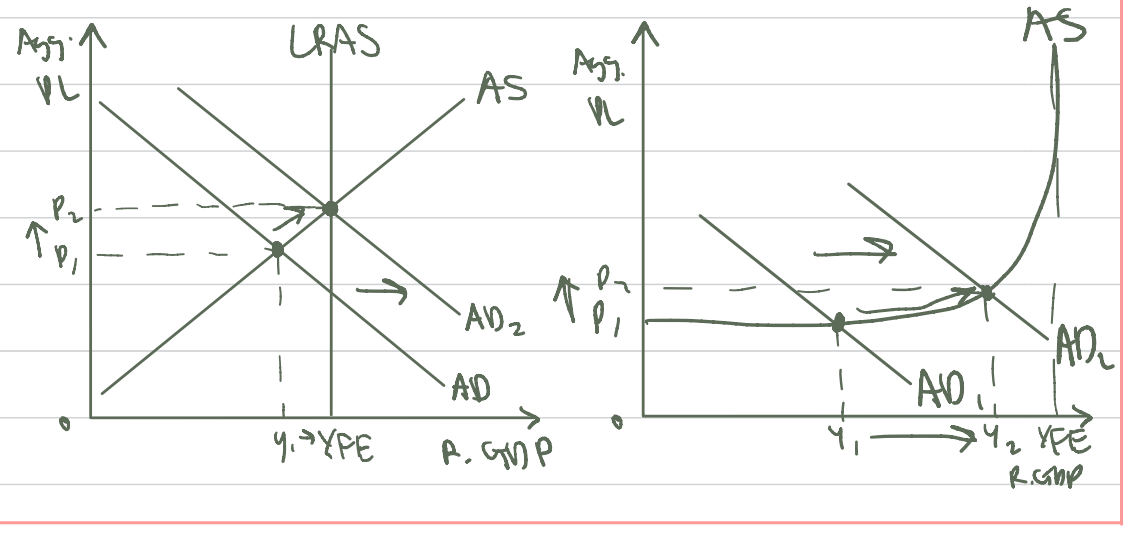
A demand-side policy using changes in the money supply or interest rates to achieve economic objectives relating to inflation & unemployment





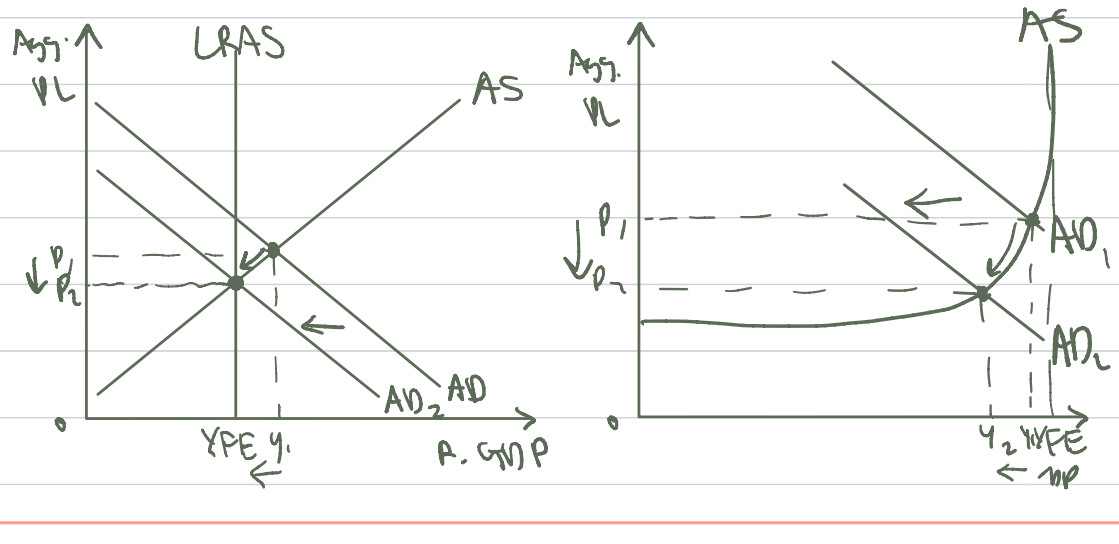
Expansionary

1. ↓ minimum reserve ratio
2. ↓ central bank interest rate
3. Buy government bonds



Contractionary

1. ↑ minimum reserve ratio
2. ↑ central bank interest rate
3. Sell government bonds



Fiscal Policy

A demand-side policy using changes in government spending and/or direct taxation

Expansionary

* do not use Neoclassical → crowding out

1. ↓ taxes
2. ↑ government spending

Contractionary

1. ↑ taxes
2. ↓ government spending

$$\text{Keynesian Multiplier} = \frac{1}{1-MPC} = \frac{1}{MPS+MPT+MPM}$$

Supply-side Policies

Designed to shift the LRAS curve to the right, ↑ potential output

Market-based

1. Policies to encourage competition
   - deregulation
   - privatization
   - trade liberalization
   - anti-monopoly regulation
2. Labour Market Policies
   - reduce power of unions
   - reduce unemployment benefits
   - abolish minimum wages
3. Incentive Related Policies
   - personal income tax cuts
   - business/capital gains tax cuts

Interventionist

1. Investment in Human Capital
   - education and training
   - health care spending
2. Investment in Infrastructure
3. Industrial Policies
   - research and development
   - support for key industries