AD-AS Model Part 1

The IS-LM Model…

- Is about the general equilibrium of the two markets.
- Can tell us about how the two markets interacts.
- Can tell us about the effects of policies.
- Analyzes economy in the short-run.
- Assumes that Price Level is constant.

The AD-AS Model…

- Is about the “demand” and “supply” of the economy.
- Is used to analyze “BUSINESS CYCLES”. For example, what if we produce more than full-employment output?
- Can also tell us about the effects of policies.
- Analyzes economy in the short run and the long run.
- ***Assumes that Price Level is endogenous.***
- P is determined by AD and AS.

Price and Inflation

- The AD-AS also analyzes economy in the long run.
- Hence, **the price and wage are no longer sticky.**
- There will inflation/deflation, but inflation/deflation will disappear when the economy reaches **a new long-run equilibrium**.
- Thus, the AD-AS **DOES NOT** allow for **persistent** inflation/deflation.

Deriving the AD-AS Model

- Note that IS-LM and AD-AS are NOT strongly related.
- Different economists developed these two models.
- We can derive the AD-AS model from Keynesian Cross.
- However, in this course, we will derive it from the IS-LM.

From IS-LM to AD-AS…

- Demand and Supply are relationships between P and Y.

- The IS curve (goods market) is NOT directly related to P.
- $Y = C(Y - T) + I(i) + G$
- This is because all variables are **REAL** variables, which do not depend on P. But, P can affect IS through LM.

- The LM curve (money market) is directly related to P.
- $M/\mathbf{P} = L(i, Y)$
- Thus, **we will derive the AD curve from the LM curve**.

From the LM to the AD…

- **We want to plot a relationship between P and Y from the LM curve.**

- LM Equation: $M/P = L(i, Y)$
- **Real** Money Supply = **Real** Money Demand

- An increase in P will reduce the **Real Money Supply**.
- Smaller Real Ms will drive up interest rate.
- Higher interest rate discourages investment.
- Lower investment reduces output (lower Y).
- Hence, AD relationship: **P↑ >> Y↓**

From the LM to the AD…

An increase in P is like Contractionary Monetary Policy.

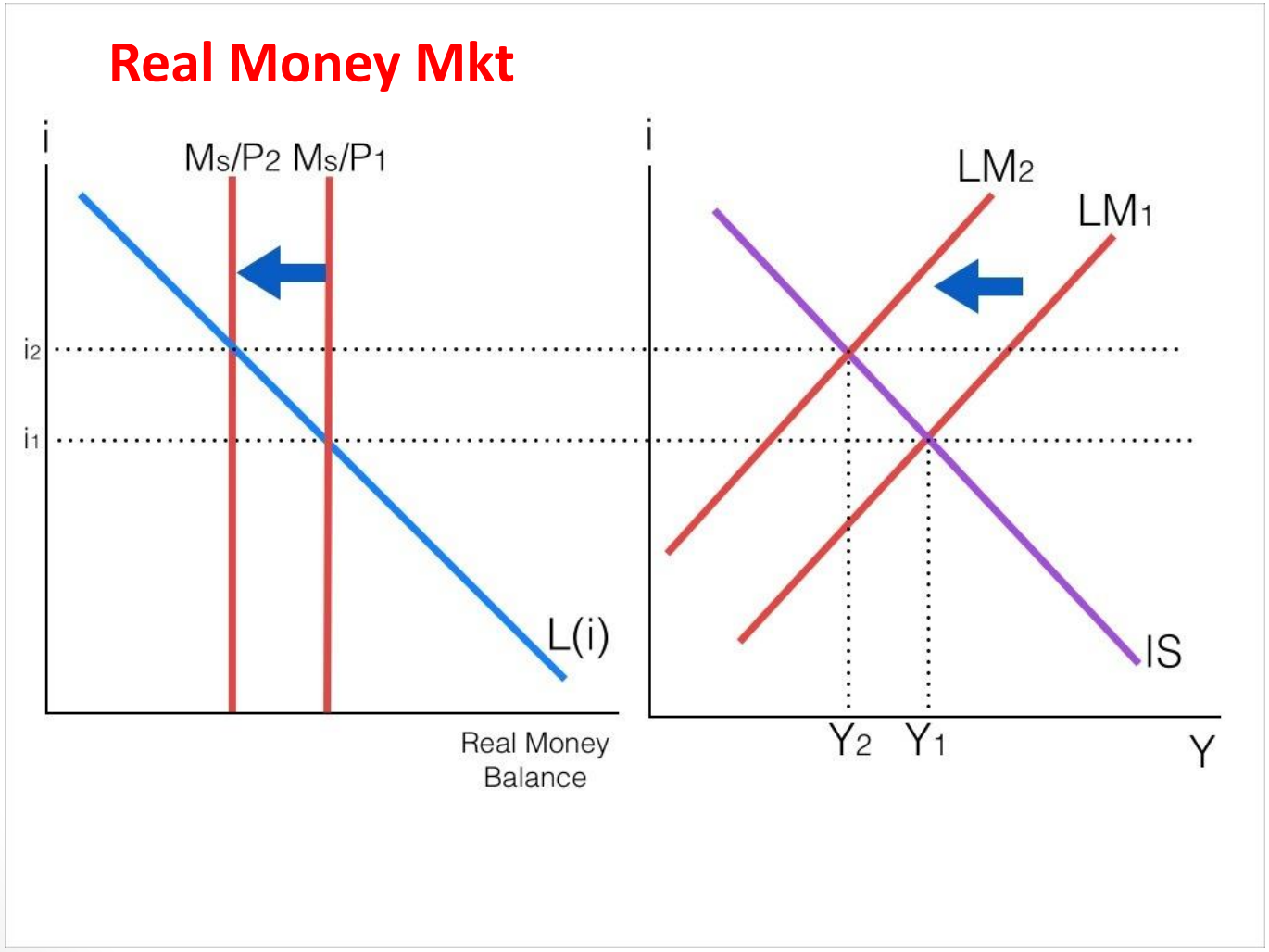
<u>When P↑</u>

- Money Mkt (LM): **P↑** >> **i↑**
- Goods Mkt (IS): **i↑** >> I↓ >> AE↓ >> **Y↓**

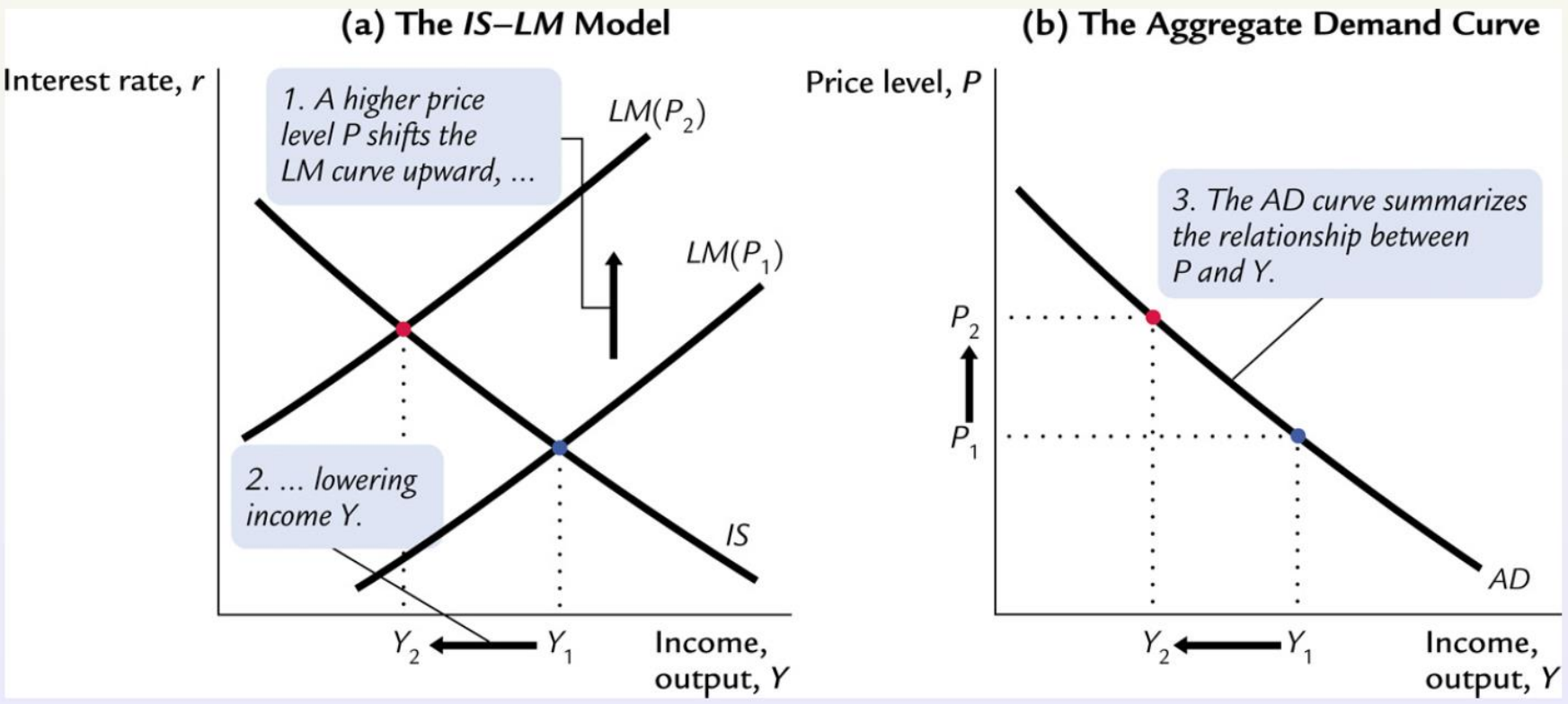
Thus, **we have the AD relationship**: **P↑ >> Y↓**

Interest rate links the two markets and is what makes the AD downward-sloping.

Higher P reduces Real Ms
LM curve then shifts to the LEFT.



From the LM to the AD…



Shifts in the AD Curve

- Changes in Price cause **movement** along the AD curve.
- Shift in the AD means that **output changes while the price remains constant.**
- Therefore, the factors that shifts the AD, are the **NON-PRICE** factors that shift the IS-LM.

Shifts in the AD Curve

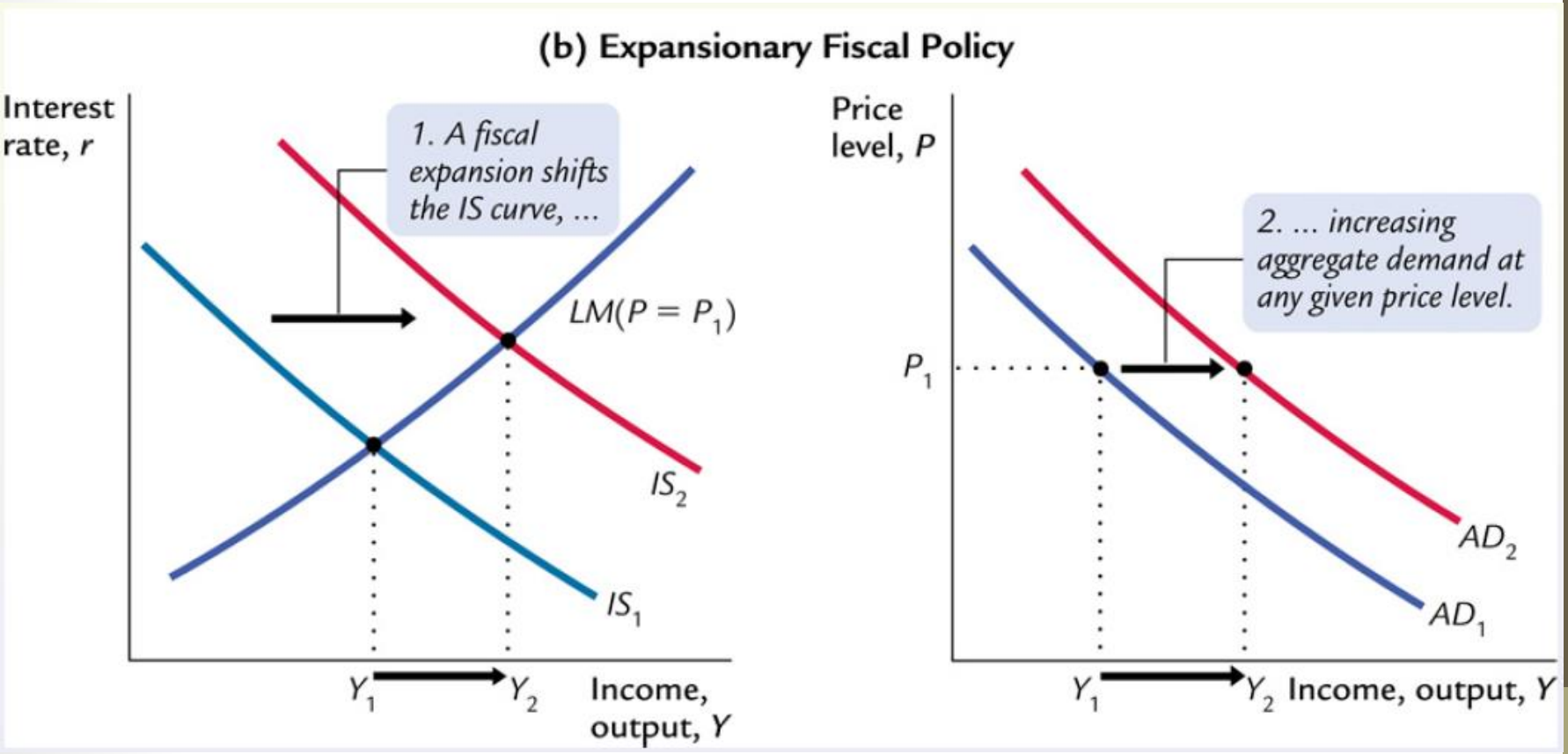
Non-Price factors (in **Bold**) that shifts the IS-LM

Shifts in the IS: $Y = AE = C + I + G$

- $C = \mathbf{C_0} + C_1(Y - \mathbf{T})$
- $I = \mathbf{I_0} - I_1 \cdot i$
- $G = \mathbf{G_0}$
- $T = \mathbf{T_0}$

- Fiscal Policy (G and T) can shift the AD.
- Changes in Autonomous C and I can shift the AD too.

Shifts in the AD Curve



Shifts in the AD Curve

Non-Price factors (in **Bold**) that shifts the IS-LM

Shifts in the LM: $M/P = L(i, Y)$

- $L(i, Y) = L_0 \cdot Y - L_1 \cdot i$
- $M = \mathbf{M_0}$
- $P = P_0$

- Monetary Policy (M) can shift the AD.

Shifts in the AD Curve