The Influence of Monetary Policy and Fiscal Policy on AD

Châu Văn Thành

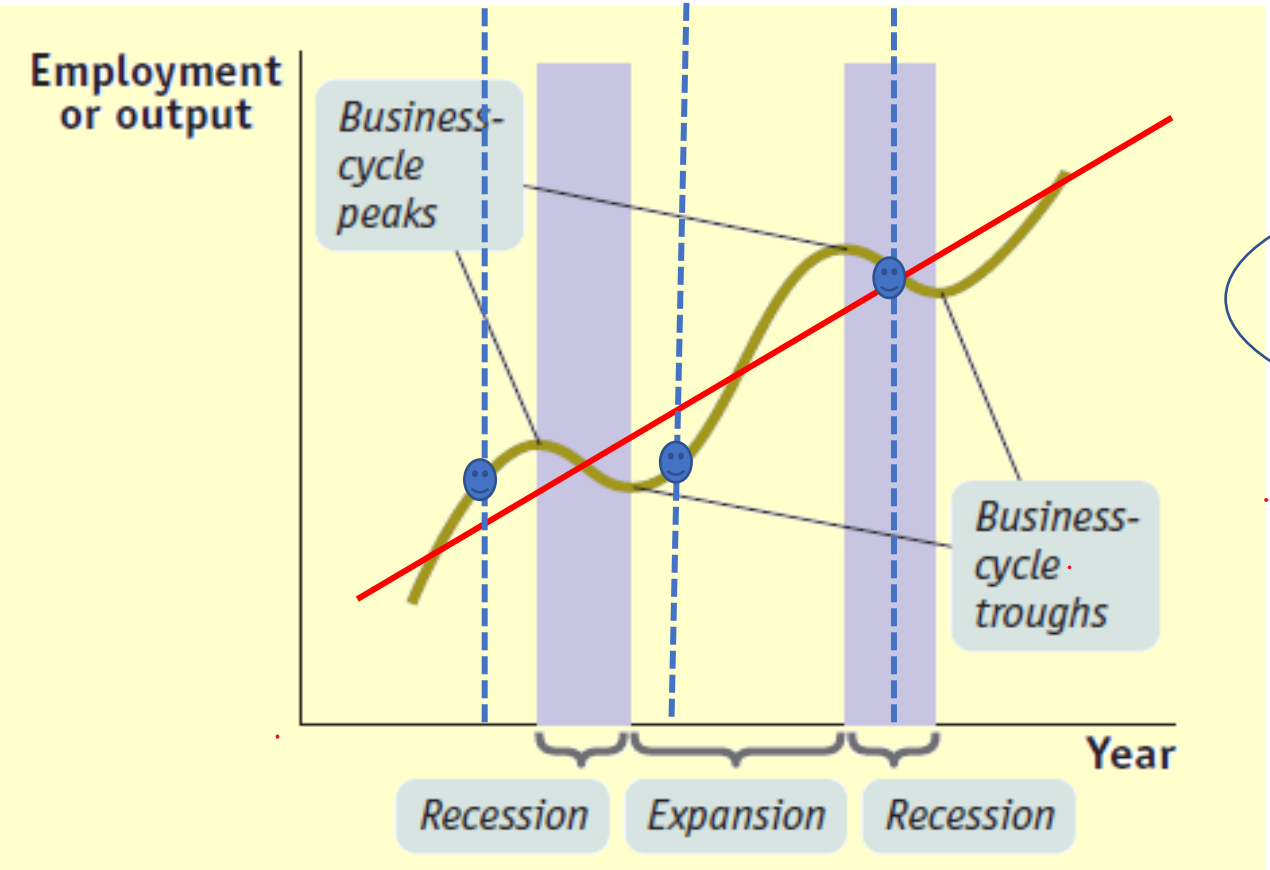
Monetary Policy?

Fiscal Policy?

Demand Management Policy

Stabilization Policy

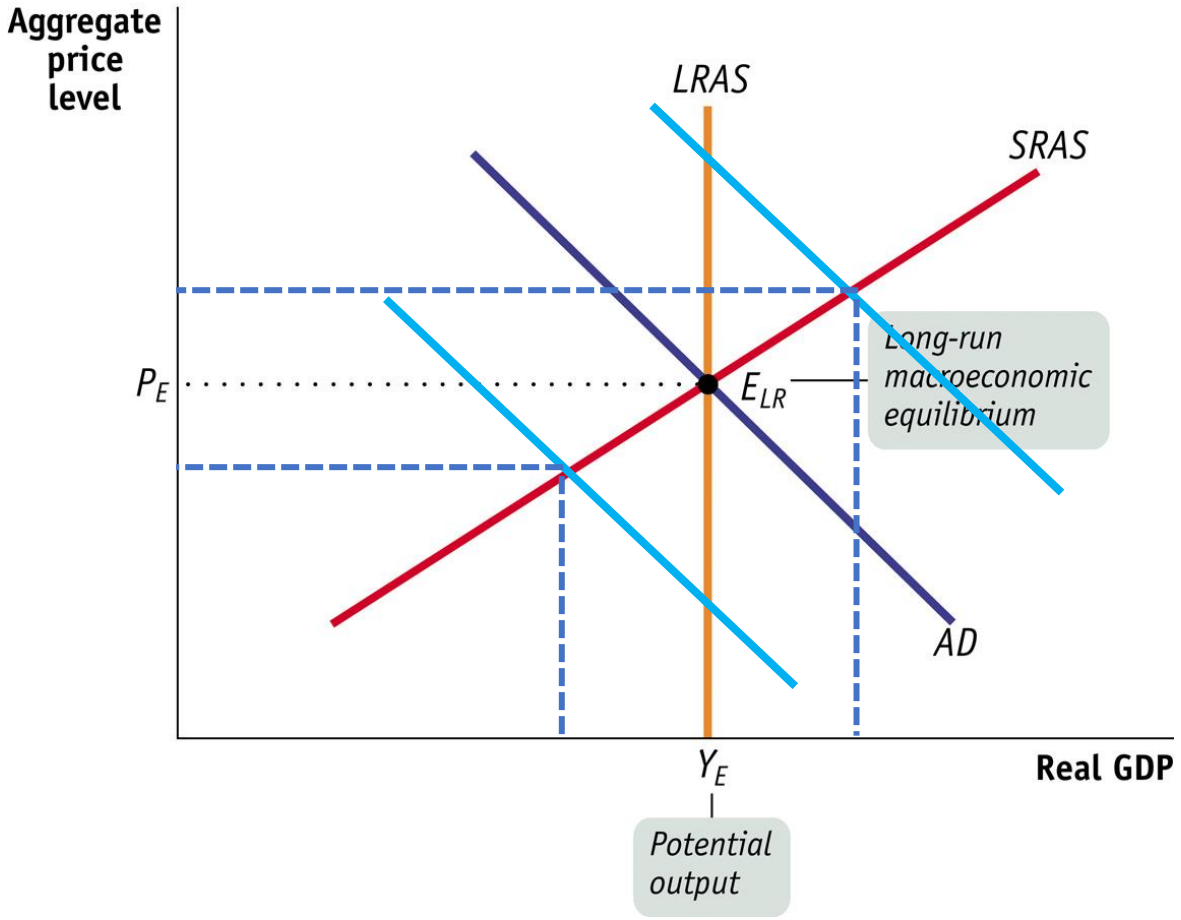
Macroeconomics

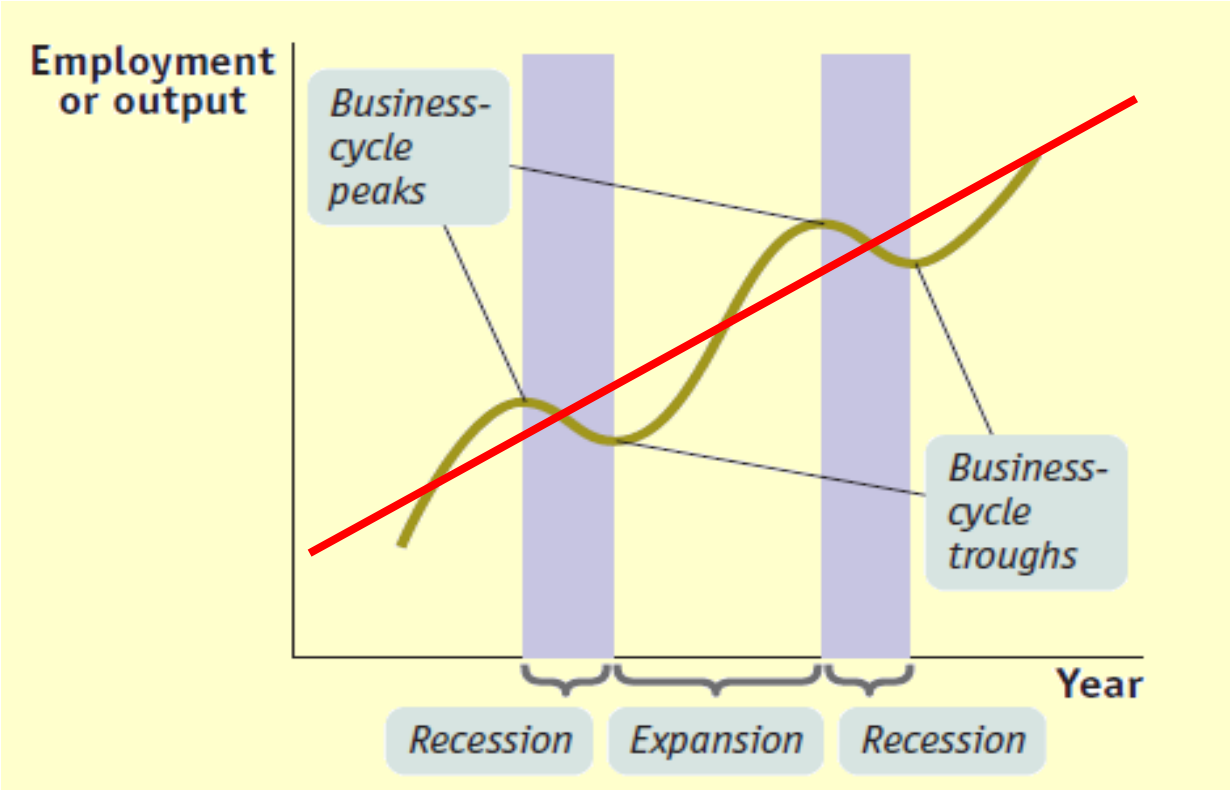


- **Economic growth** – longer trend
- **Economic fluctuations** – short run economic fluctuations

Demand Management Policy
 # Stabilization Policy
- Monetary Policy
  - ✓ Exchange Rate Policy
- Fiscal Policy

Short-run Economic Fluctuations & AS-AD Model





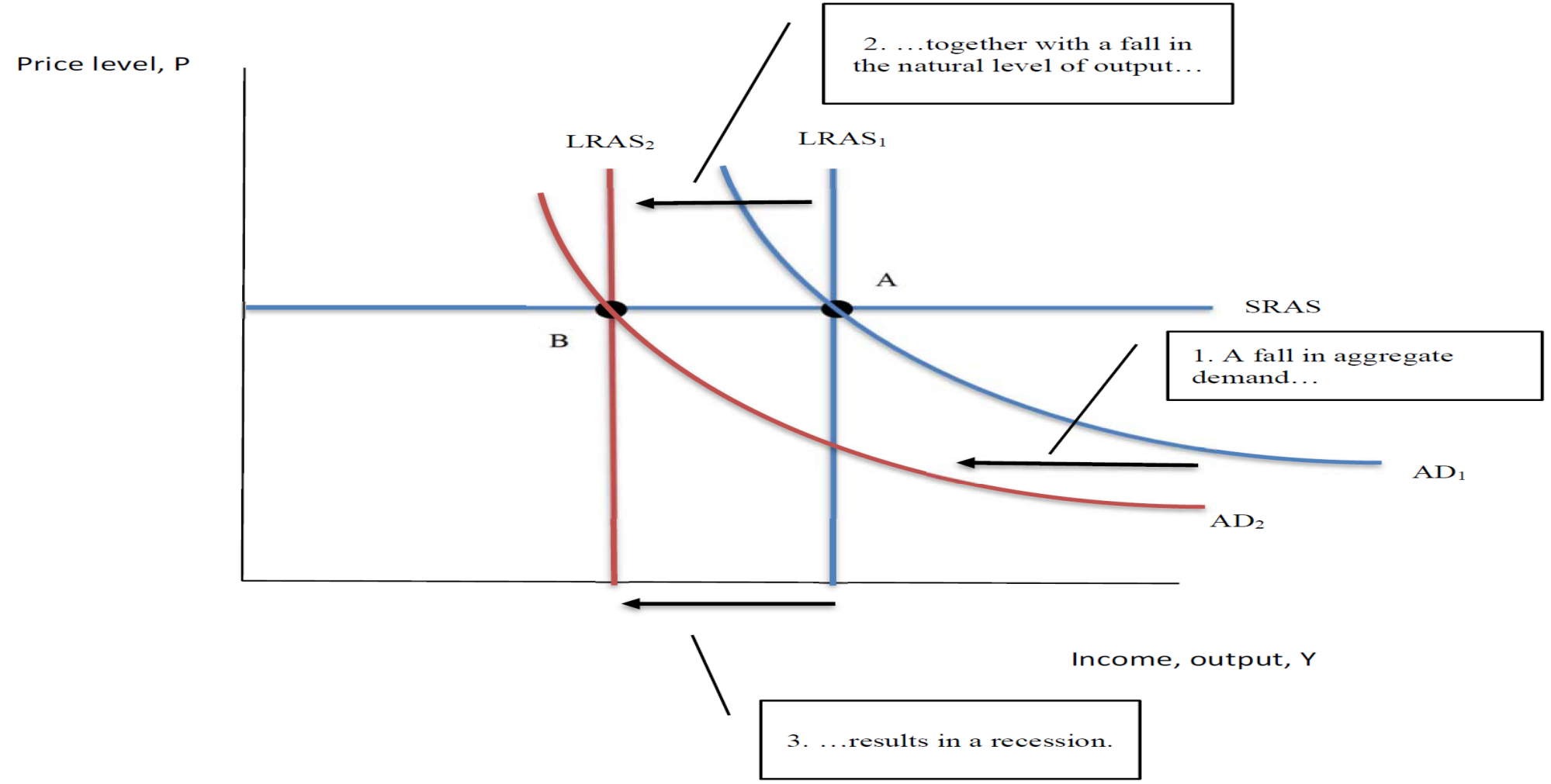


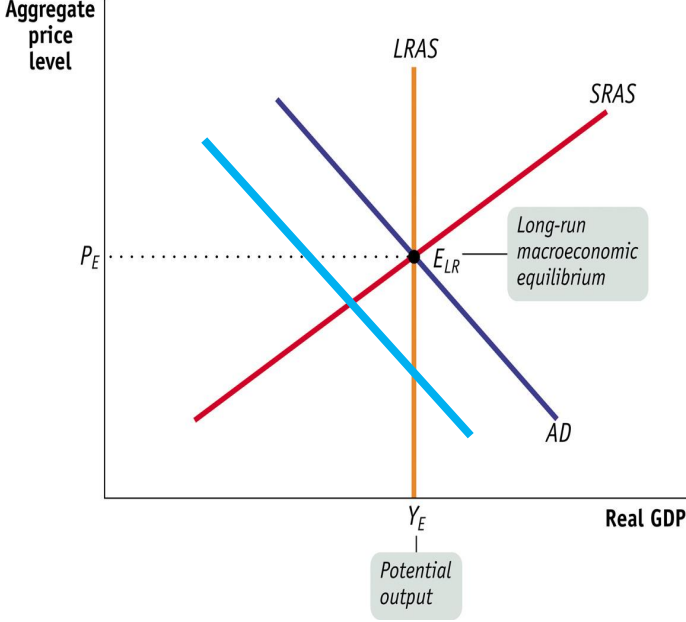
FIGURE 1

Source: G. Mankiw (8/2020)

The Covid-19 Recession of 2020

When a pandemic strikes and many businesses are temporarily closed, aggregate demand falls because people are staying at home rather than spending at those businesses. Because those businesses cannot produce goods and services, the economy's potential output, as reflected in the LRAS curve, falls as well. The economy moves from point A to point B.

Tổng cầu AD?



$$AD = C(Y-\overset{+}{T}) + I(\overset{-}{r}) + G + X(\overset{+}{\varepsilon},\overset{+}{Y^*}) - M(\overset{-}{\varepsilon},\overset{+}{Y})$$

- $C = C(Y-T)$ [Hộ gia đình]
- **G** [Chính phủ]
- $I = I(r)$ [Doanh nghiệp] [$i = r + \%\Delta P$],[Ms, i]
- $NX = NX(\varepsilon,Y^*,Y)$ [Nước ngoài] [$\varepsilon = e.P^*/P$],[e]

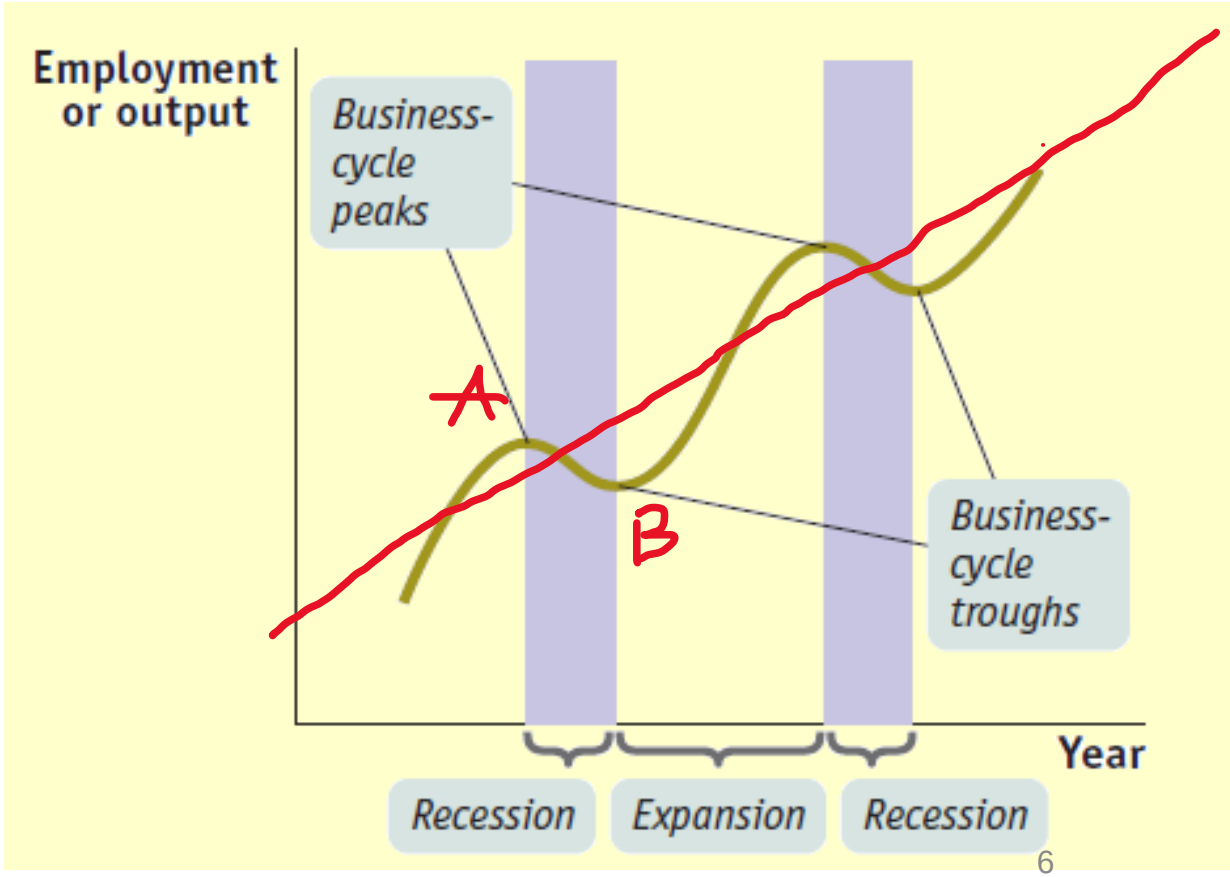
Fiscal Policy?

- **Govt.** (T,G) => AD => Y&g_Y, u, P&%ΔP,…
- T = NT = Net Taxes = Taxes – Govt. Transfers
- Automatic Stabilizers? (Taxes, Govt. Transfers)
  - Taxes = To + **t.Y**
  - Govt. Transfers = **Tr**
- Business Cycle & Fiscal Policy:
  - Expansionary Fiscal Policy (T?, G?)
  - Contractionary Fiscal Policy (T?, G?)

$AD = C(Y-T) + I(r) + G + X(\varepsilon,Y^*) - M(\varepsilon,Y)$

$i = r + \%\Delta P$

ε = e.P*/P = Price of Foreign Goods/Price of Domestic Goods



Fiscal Policy

$$AD = C(Y-T) + I(r) + G + X(\varepsilon,Y^*) - M(\varepsilon,Y)$$

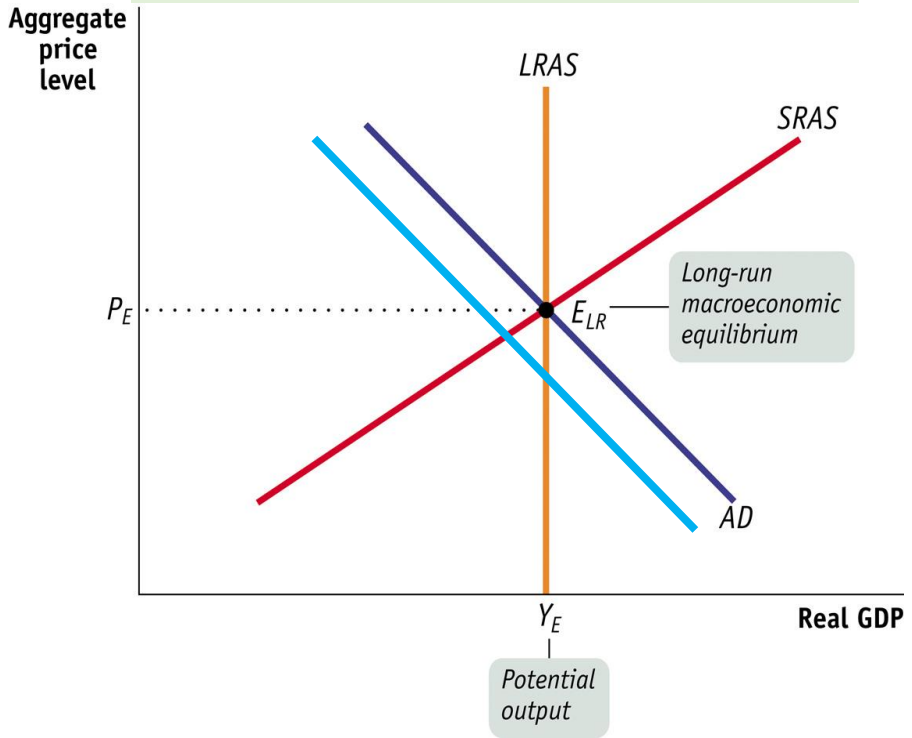
Fiscal Policy
Government
(G, T)

→

Aggregate Demand,
AD

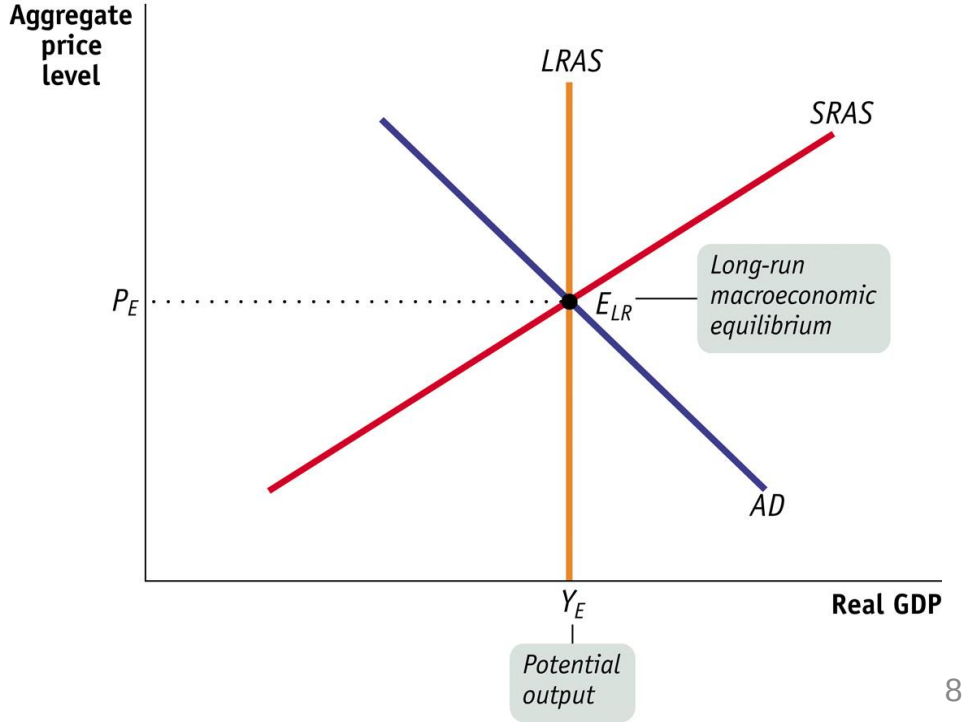
→

$Y\&g_Y$,
u,
P&%ΔP,…



Fiscal Policy Influences AD

- Fiscal policy
  - Government policymakers
  - Set the level of government spending (G) and taxation (T)
    - **Shift AD**
      - **Multiplier effect**
      - **Crowding-out effect**



Fiscal Policy & Multiplier effect

Closed Economy: AD = C + I + G

- C = Co + MPC.(Y-T) [C = 100 + 0.8(Y-T)]
- T = To [T = 100]
- G = Go [G = 100]
- I = Io [I = 200]

- Equilibrium: Y = AD

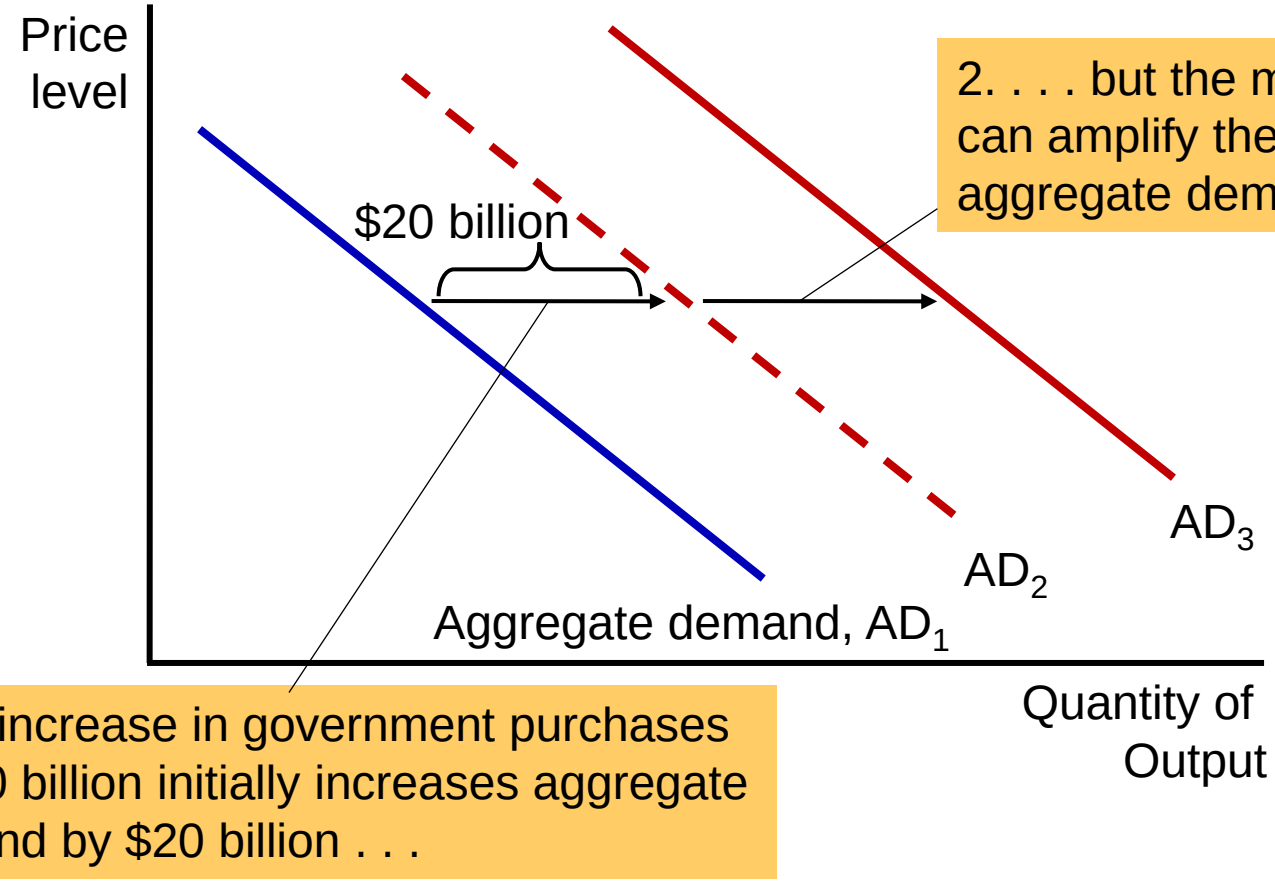
Y = [Co – MPC.To + Io + Go] + MPC.Y

$Y = \frac{1}{(1-MPC)}$[Co – MPC.To + Io + Go]

=> $\Delta Y = \frac{1}{(1-MPC)} \Delta G$ ΔG = 20 => ΔY = 100

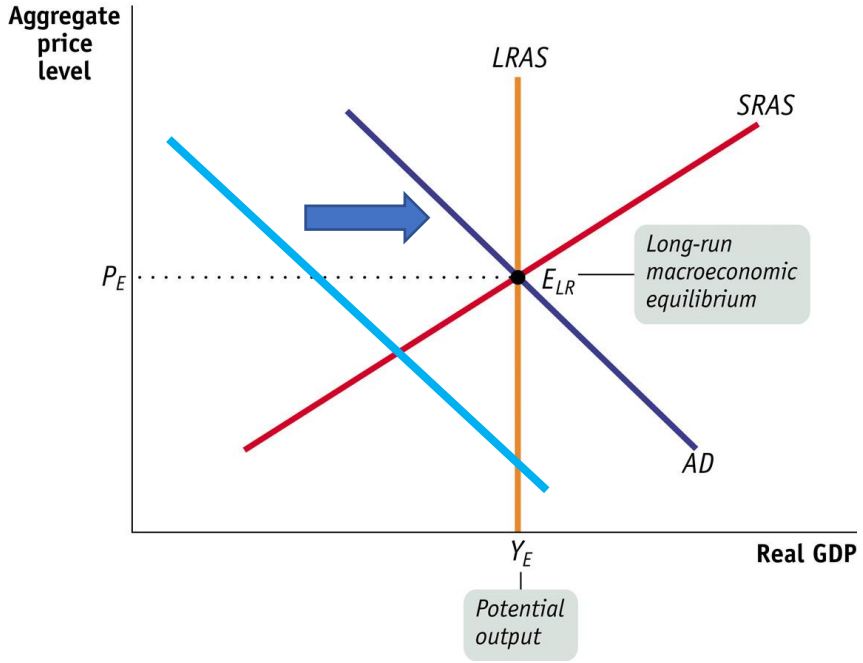
- $\frac{1}{(1-MPC)}$: multiplier (số nhân chi tiêu chính phủ)

Fiscal Policy & The Multiplier Effect



2. . . . but the multiplier effect can amplify the shift in aggregate demand.

1. An increase in government purchases of $20 billion initially increases aggregate demand by $20 billion . . .



An increase in government purchases of $20 billion can shift the aggregate-demand curve to the right by more than $20 billion. This multiplier effect arises because increases in aggregate income stimulate additional spending by consumers.

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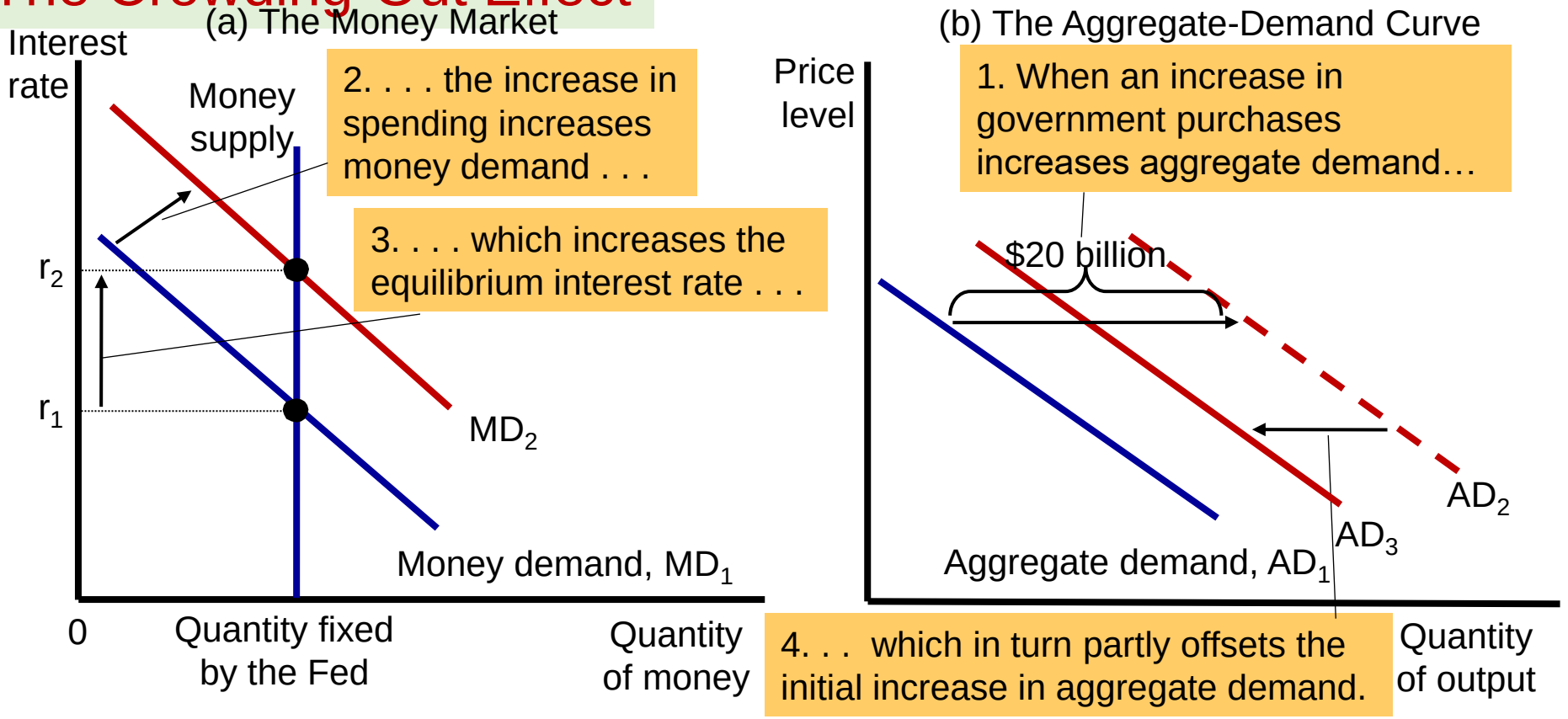
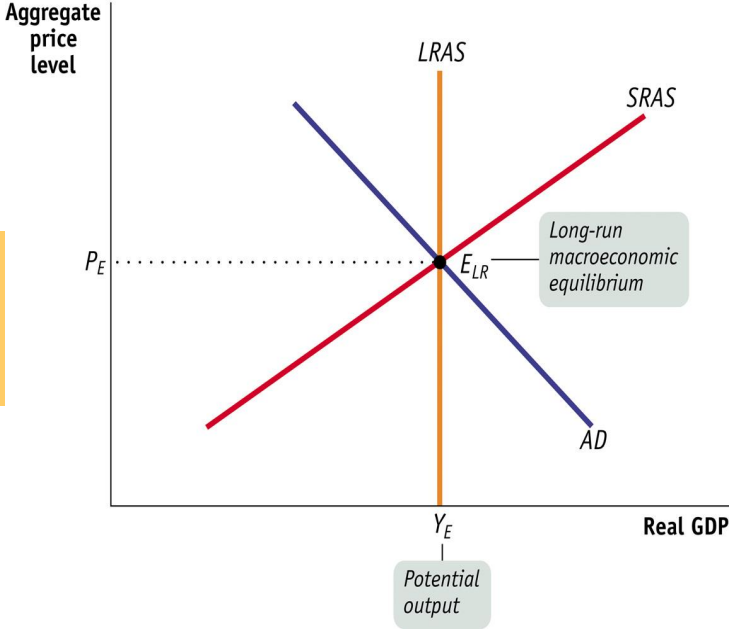
Fiscal Policy & The Crowding-Out Effect





Panel (a) shows … ting increase in incor… rise from r_1 to r_2. Panel (b)… ses shifts the aggregate-demand curve from AD_1 to AD_2. Yet because the interest rate is the cost of borrowing, the increase in the interest rate ten… crowding out of investmer… ate-demand curve shifts only to AD_3.

G => AD => Y => Md => r => I => AD => Y

$$AD = C(Y-T) + I(r) + G + X(\varepsilon, Y^*) - M(\varepsilon, Y)$$

"Crowd out"

- Chèn ép
- Lấn át
- Hất ra

G tăng => I giảm

[**G "lấn át" I**]

=> AD?

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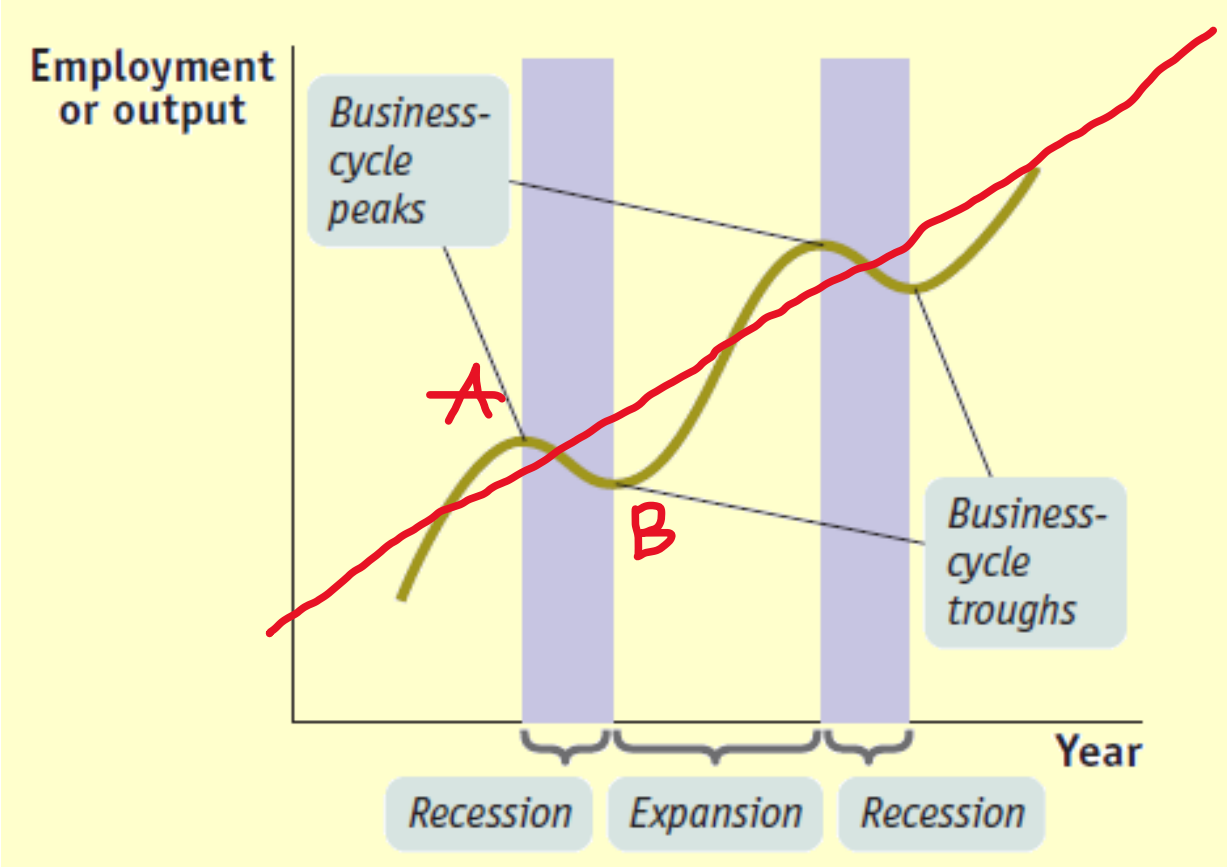
Automatic Stabilizers?
[Các nhân tố bình ổn tự động]

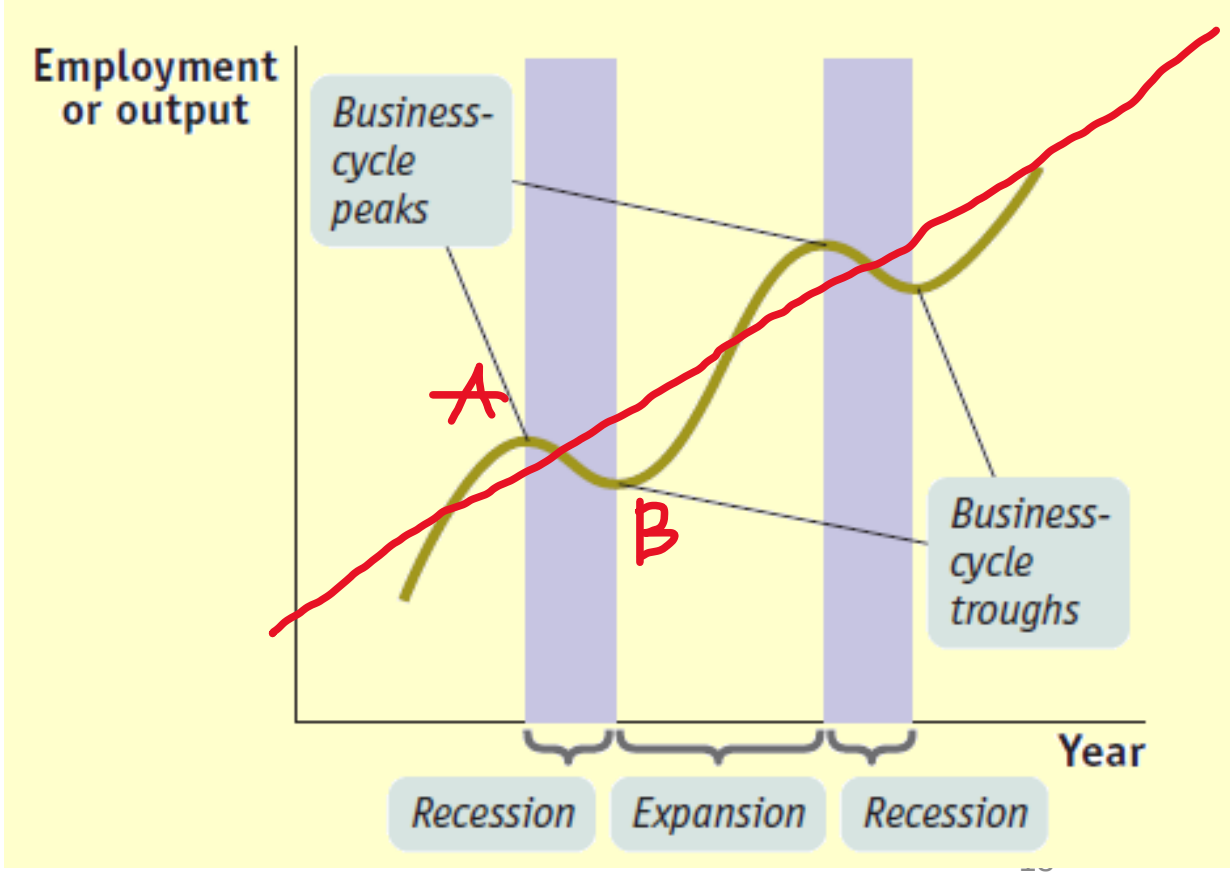
- Taxes = To + **t.Y**
  - t: suất thuế [ví dụ 10% hay 0.1]
- Govt. Transfers = **Tr**

Tại sao các nhân tố này không phát huy như những tố bình ổn tự động ở Việt Nam so Hoa Kỳ?



Monetary Policy

- **Central Bank** (i,Ms) => AD => **P&%ΔP**, Y&g_Y, u,…
- Business Cycle:
  - Expansionary Monetary Policy (i?, Ms?)
  - Contractionary Monetary Policy (i?, Ms?)
- **Liquidity Trap** [Bẫy thanh khoản]



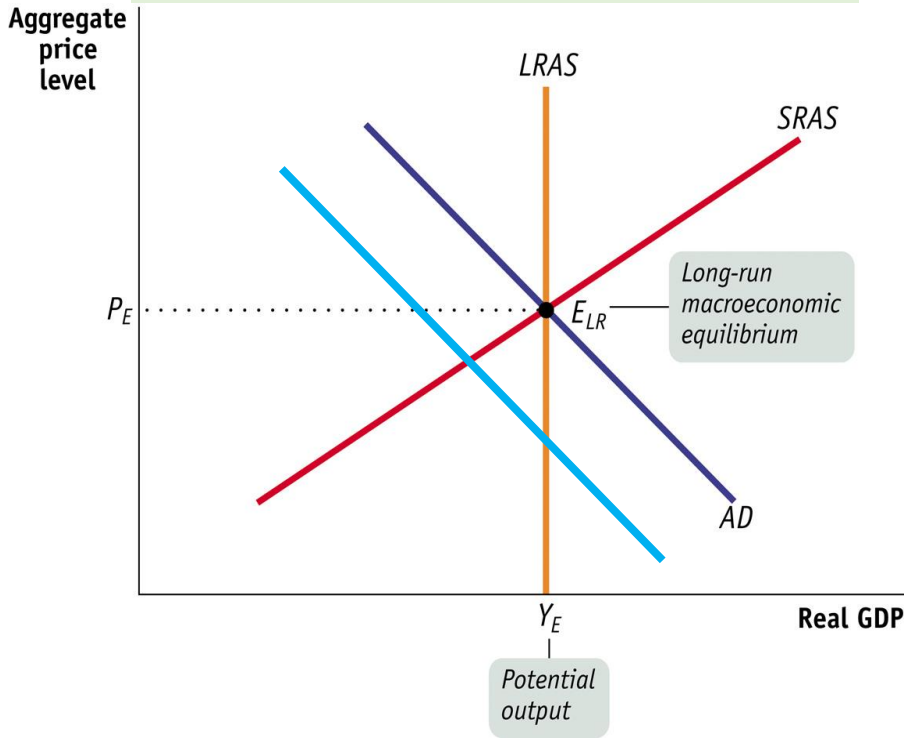
Monetary Policy

$$AD = C(Y-T) + I(\mathbf{r}) + G + X(\boldsymbol{\varepsilon},Y^*) - M(\boldsymbol{\varepsilon},Y)$$

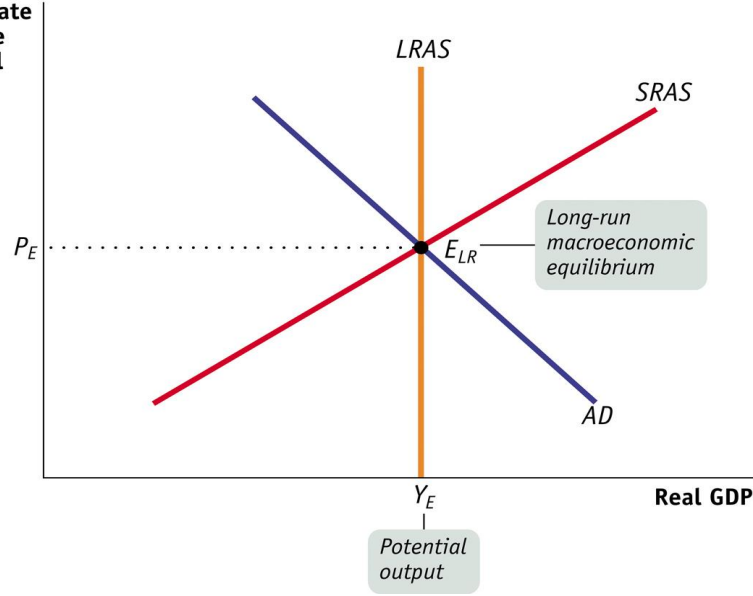
Monetary Policy
Central Bank
(**i**, $\mathbf{M^S}$)

Aggregate Demand,
AD

P&%ΔP,
Y&g_Y,
u, …



Aggregate Demand - AD



- Aggregate-demand (AD) curve slopes downward:
  - Simultaneously:
    - The wealth effect
    - The interest-rate effect
    - The exchange-rate effect
  - When P falls - quantity of goods and services demanded increases
  - When P rises - quantity of goods and services demanded decreases
- For U.S. economy
  - The wealth effect - least important
    - Money holdings – a small part of household wealth
  - The exchange-rate effect - not large
    - Exports and imports – small fraction of GDP
  - The interest-rate effect (Fed & Monetary Policy)
    - The most important
- Vietnam economy?

AD

- The theory of liquidity preference
  - Keynes's theory
  - Interest rate adjusts:
    - To bring money supply and money demand into balance
  - Nominal interest rate, $i = r + \%\Delta P(e)$
  - Real interest rate (r)
  - Assumption: expected rate of inflation $\%\Delta P(e)$ is constant => i & r?
- Wealth = Money + Other Assets (Bonds,…)
  - Wealth Max.?
  - $i(M) = 0$ vs. $i(B) > 0$?
  - i(B): opportunity cost of holding money
  - Money Demand & i(B)?

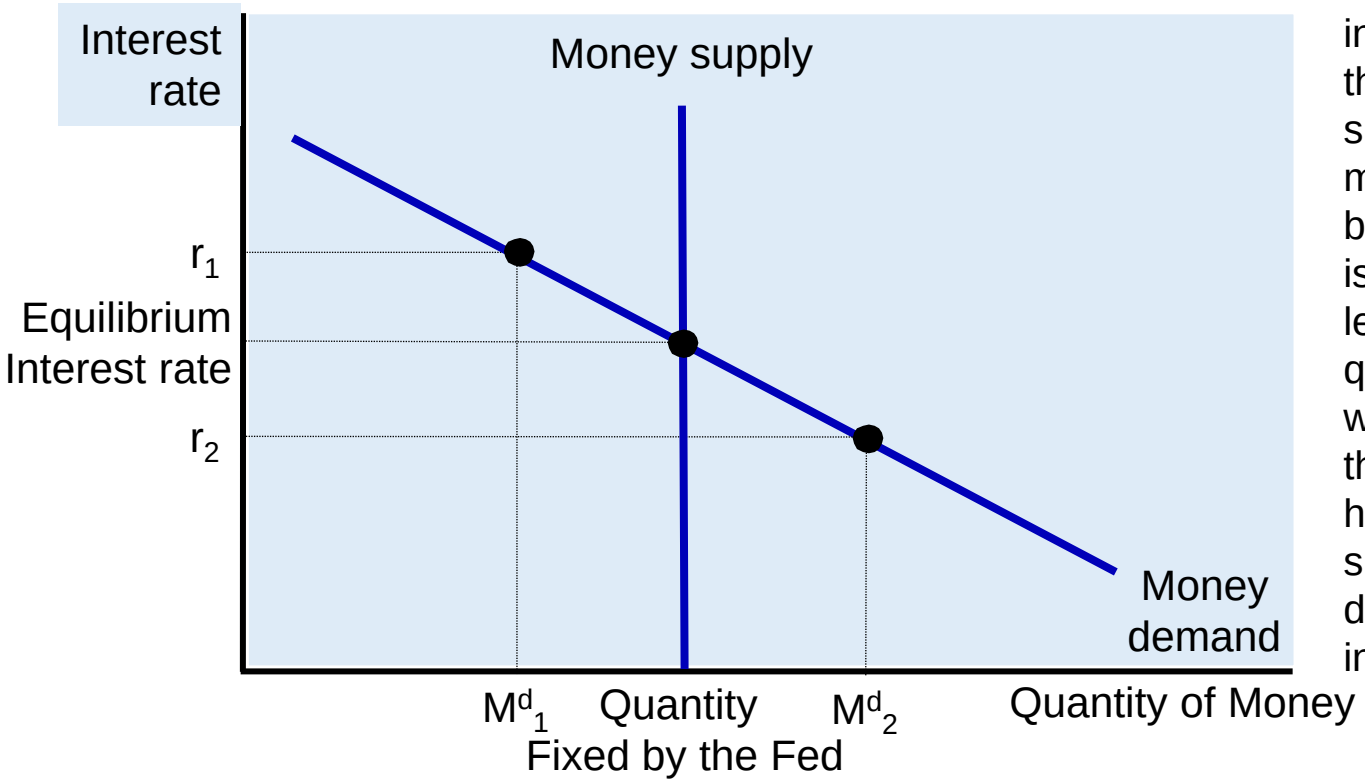
Demand and Supply of Money

- Money supply Ms = M = C + D
  - Controlled by the Fed => vertical Ms
  - Quantity of money supplied
    - Fixed by Fed policy
    - Doesn't vary with interest rate
  - Fed alters the money supply
    - Changing the quantity of reserves in the banking system
      - Purchase and sale of government bonds in open-market operations
- Money demand Md
  - Money – most liquid asset
    - Can be used to buy goods and services
  - Interest rate – opportunity cost of holding money
  - Money demand curve – downward sloping
    - Increase in the interest rate
      - Raises the cost of holding money
      - Reduces the quantity of money demanded

Equilibrium in the money market

- Interest rate – adjust to balance the supply and demand for money
- Equilibrium interest rate
- Quantity of money demanded exactly balances the quantity of money supplied

Equilibrium in the Money Market



According to the theory of liquidity preference, the interest rate adjusts to bring the quantity of money supplied and the quantity of money demanded into balance. If the interest rate is above the equilibrium level (such as at r_1), the quantity of money people want to hold (M^d_1) is less than the quantity the Fed has created, and this surplus of money puts downward pressure on the interest rate.

Conversely, if the interest rate is below the equilibrium level (such as at r_2), the quantity of money people want to hold (M^d_2) is greater than the quantity the Fed has created, and this shortage of money puts upward pressure on the interest rate. Thus, the forces of supply and demand in the market for money push the interest rate toward the equilibrium interest rate, at which people are content holding the quantity of money the Fed has created.

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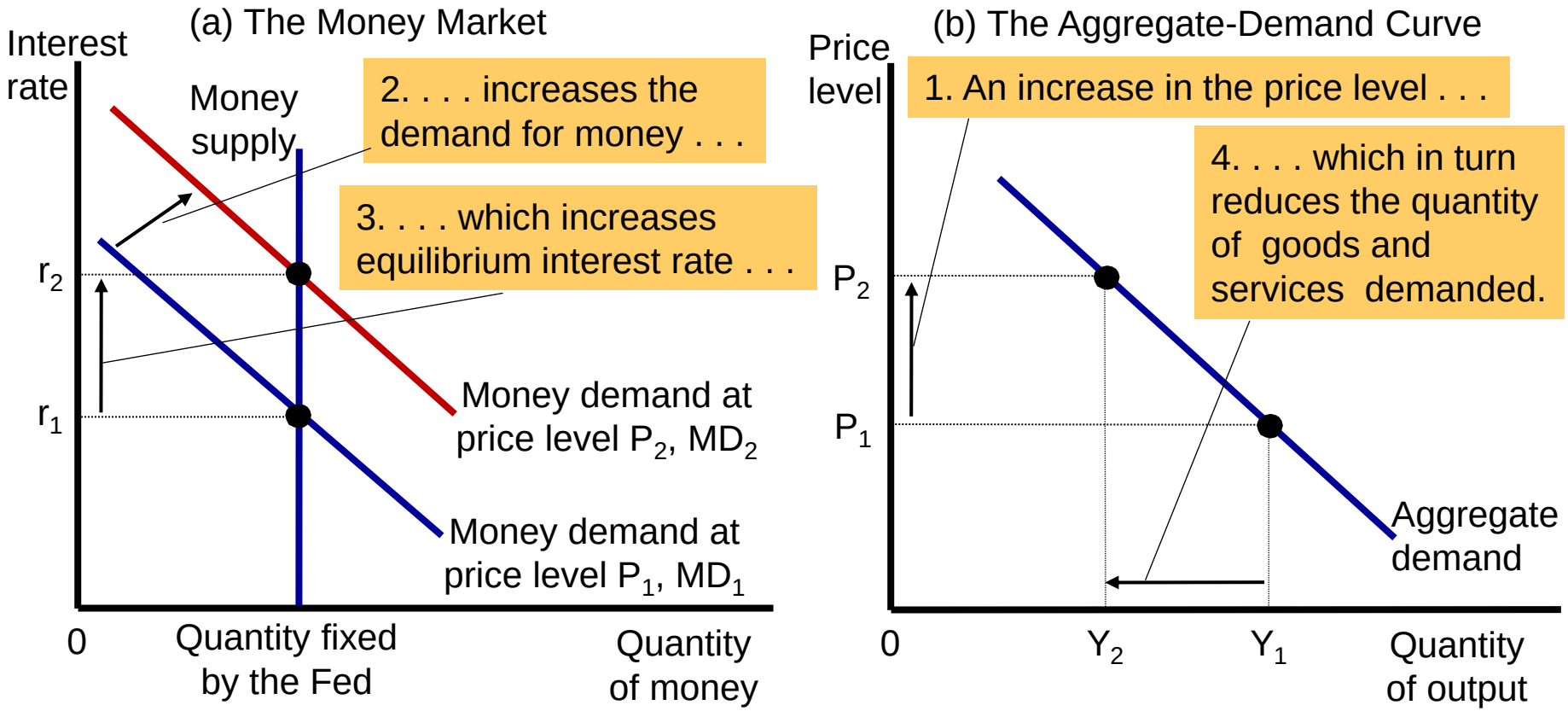
The Money Market and the Slope of the Aggregate-Demand Curve



An increase in the price level from P_1 to P_2 shifts the money-demand curve to the right, as in panel (a). This increase in money demand causes the interest rate to rise from r_1 to r_2. Because the interest rate is the cost of borrowing, the increase in the interest rate reduces the quantity of goods and services demanded from Y_1 to Y_2. This negative relationship between the price level and quantity demanded is represented with a downward-sloping aggregate-demand curve, as in panel (b).

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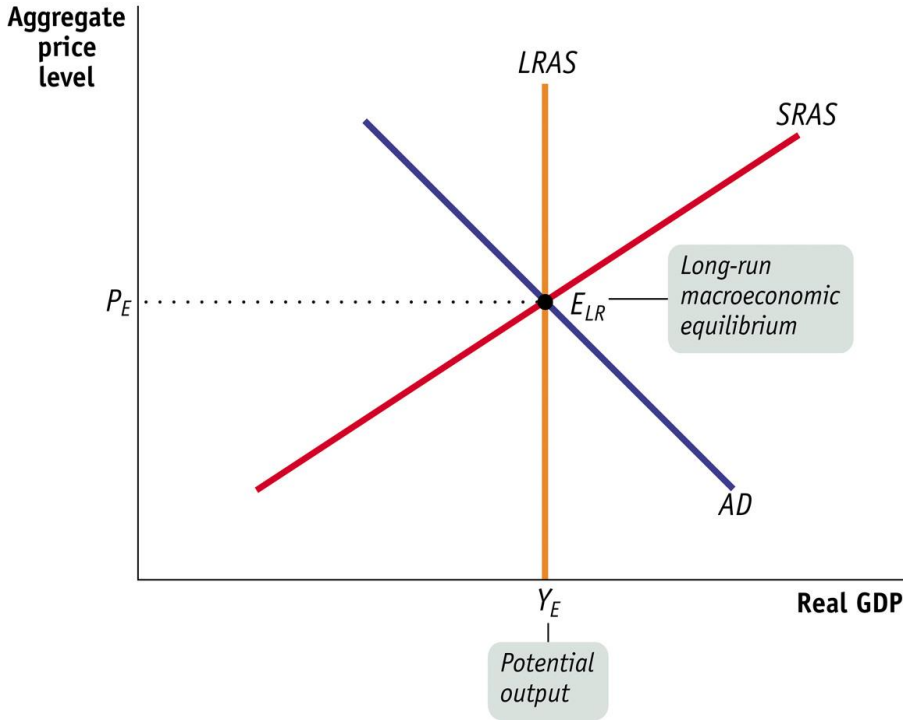
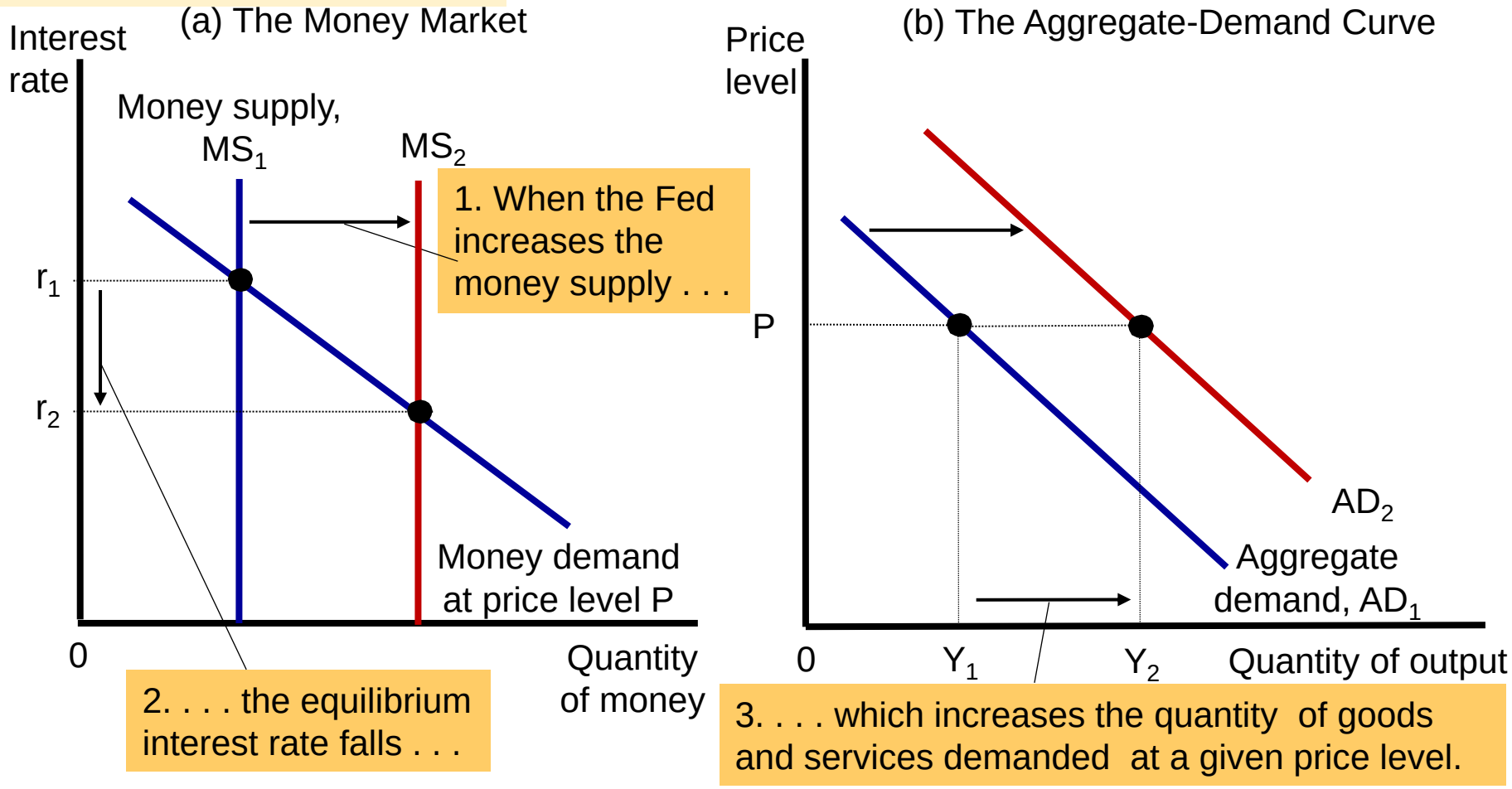
Monetary Policy Influences AD



- Aggregate-demand curve shifts
  - Quantity of goods and services demanded changes
  - For a given price level
- Monetary policy
  - Increase in money supply
  - Decrease in money supply
  - **Shifts AD curve**
- Changes in monetary policy – **Expansionary Monetary Policy**
  - Aimed at **expanding aggregate demand**
    - Increasing the money supply
    - Lowering the interest rate
- Changes in monetary policy – **Contractionary Monetary Policy**
  - Aimed at **contracting aggregate demand**
    - Decreasing the money supply
    - Raising the interest rate

A Monetary Injection



In panel (a), an increase in the money supply from MS_1 to MS_2 reduces the equilibrium interest rate from r_1 to r_2. Because the interest rate is the cost of borrowing, the fall in the interest rate raises the quantity of goods and services demanded at a given price level from Y_1 to Y_2. Thus, in panel (b), the aggregate-demand curve shifts to the right from AD_1 to AD_2.

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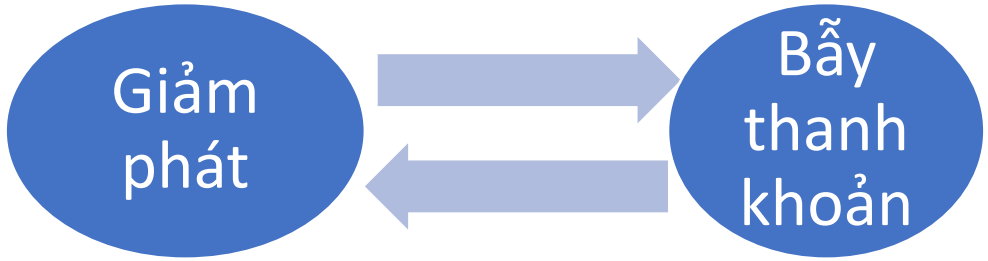
Liquidity Trap & Monetary Policy

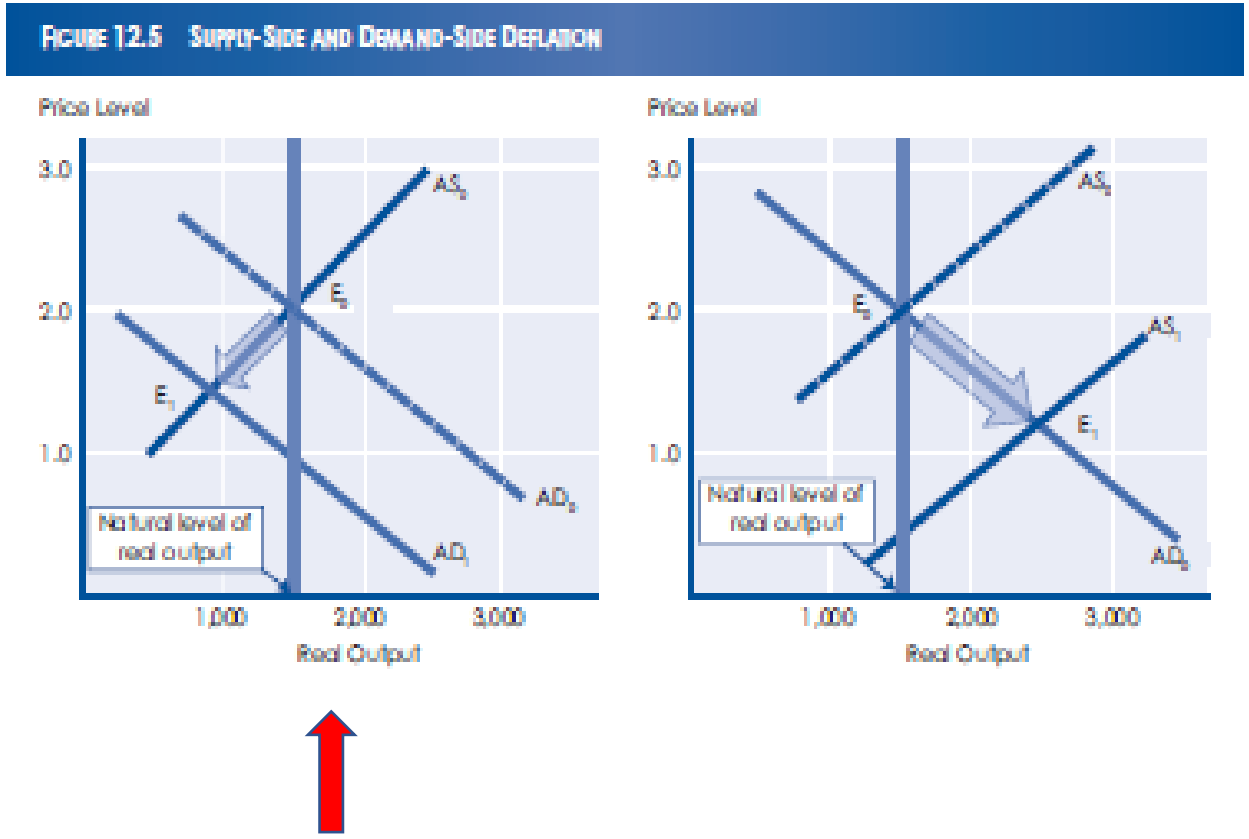
- Liquidity Trap?
  - [Lãi suất quá thấp (tiệm cận zero) do vậy chính sách tiền tệ thông thường mất tác dụng]
- Deflation and Liquidity Trap?
  - [Tại sao giảm phát và bẫy thanh khoản trở thành vòng xoắn đi xuống?]

[xem CVT 2017]

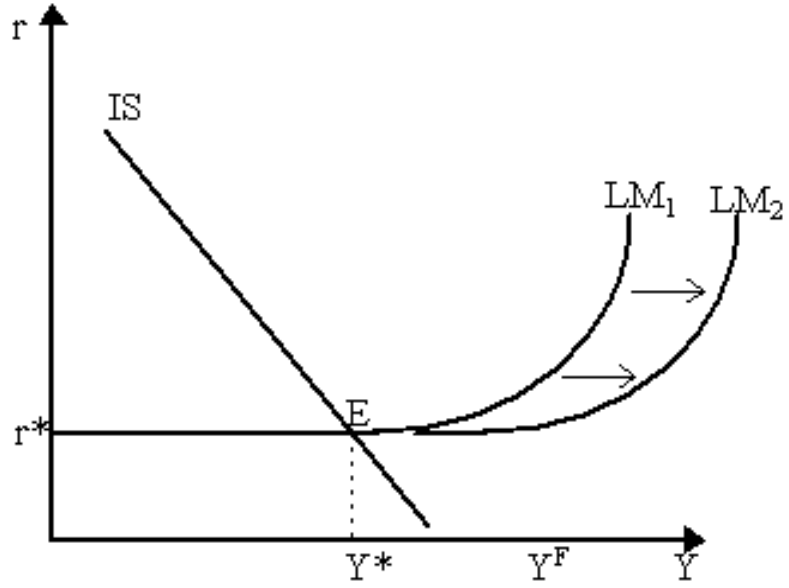
Giảm phát và bẫy thanh khoản



Giảm phát (Deflation)



Bẫy thanh khoản (Liquidity trap)



Hiệu ứng Fisher

Phương trình Fisher (Fisher equation)

$i = r + \%\Delta P^{(e)}$

- $\%\Delta P = 6\%$
- $i = 7\%$

$\Rightarrow r = 1\%$

Hiệu ứng Fisher (Fisher effect)

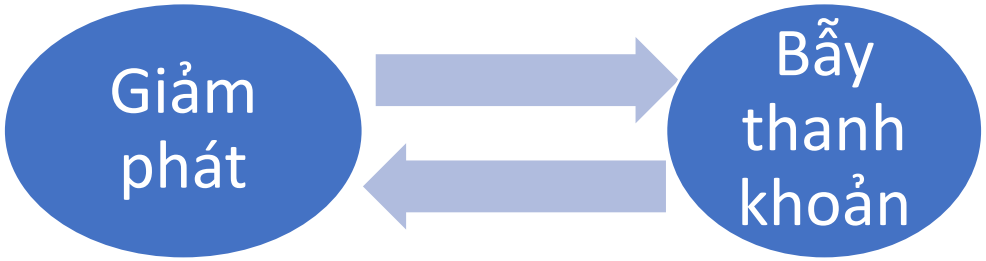
- **$i = r + \%\Delta P^{e}$**

1:1

Khi NHTU tăng tốc độ tăng trưởng tiền, kết quả *dài hạn*

Tỷ lệ lạm phát (%ΔP) cao hơn => Lãi suất danh nghĩa (i) cao hơn

Deflation ⇔ Liquidity Trap



- GFC 2008 => economic depression => AD? => P? = %ΔP? [Deflation]
- Fisher effect: i = r + %ΔP [%ΔP => i] # [1:1]
- %ΔP? => i? (but i: "zero bound") => Liquidity Trap!
- 0 = r + (-1); 0 = r + (-2)… => r = ?
- r => C, I… => AD? => [Deflation]
- And so on…

Solution:

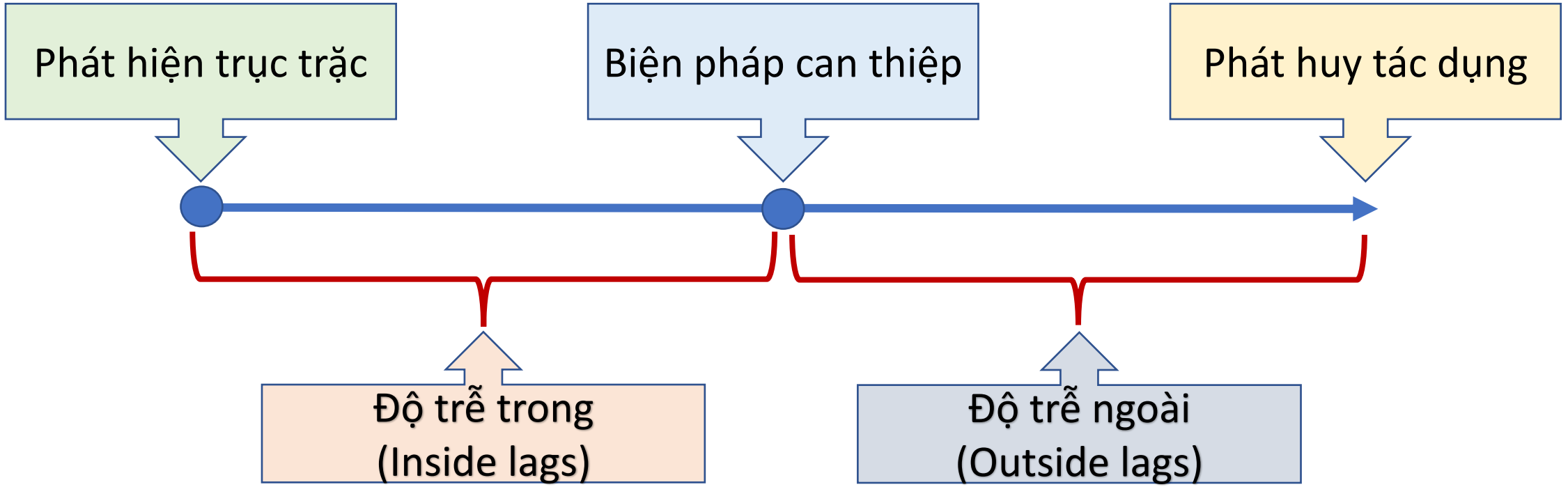
- QE (Quantitative Easing) + …[*not* OMO (Open Market Operations)]
- US vs. Japan & Euro

Using Policy for Stabilization (?)

- **Keynes**
  - Key role of AD in explaining short-run economic fluctuations
  - The **government should actively stimulate aggregate demand**
    - When AD appeared insufficient to maintain production at its full-employment level
- Case **against active** stabilization policy
  - Government
    - **Should avoid** active use of monetary and fiscal policy
      - To try to stabilize the economy
    - Affect the economy with a **big lag** **(Time lags = Inside lags + outside lags)**
- Automatic stabilizers (Taxes & Govt. Transfers)

Stabilization Policy – Time Lags

- **Time lags = Inside lags + outside lags**



Fiscal Policy (Chính sách tài khóa)	*	*
Monetary Policy (Chính sách tiền tệ)	*	*

Macroeconomic Policy – Stabilization the Economy?

- Should Policy be: Active (?) or. Passive (?)
  - Lags in the implementation and effects of policies (Time lags)
  - The difficult jobs of economic forecasting
  - Ignorance, expectations, and the Lucas critique
- If Active: Should Policy be conducted by: Rule (?) or Discretion (?)
  - Rule (?)
  - Distrust of policymakers and the political process.
  - The time inconsistency of discretionary policy.

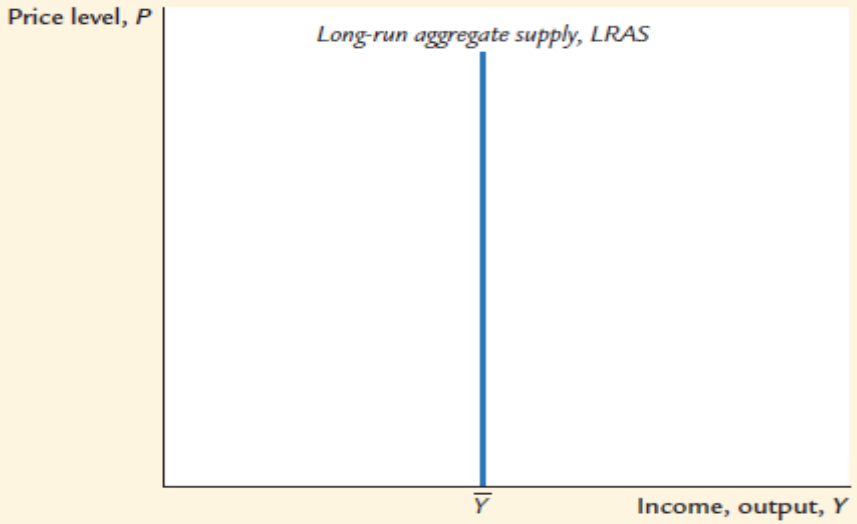
1. Japan: Deflation and %ΔP(Expectation)
2. Inflation Targeting (IT): 1990s, 2000s [%ΔP with buffer zone)
3. United States: Taylor's Rule

   Nominal Federal Funds Rate = Inflation + 2.0 + 0.5(Inflation – 2.0) + 0.5(GDP gap)

Việt Nam?

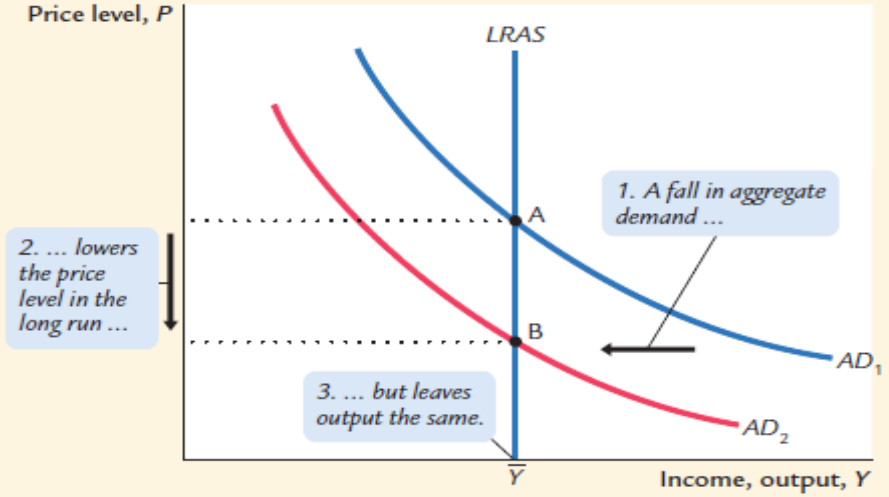
Keynes vs. Classical Theory

FIGURE 10-7



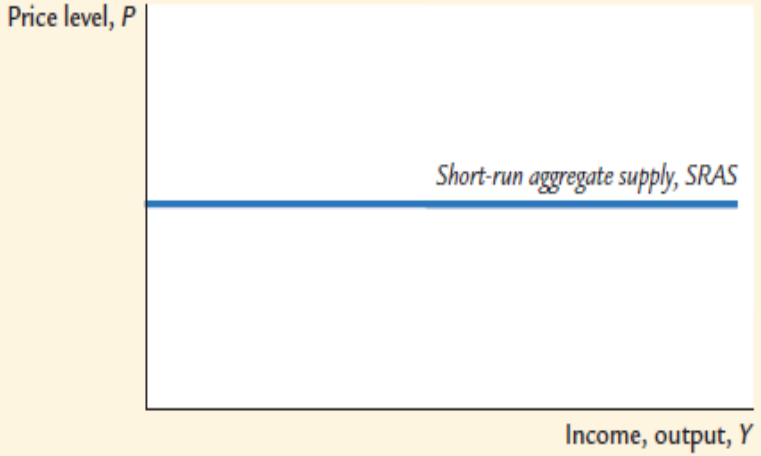
The Long-Run Aggregate Supply Curve In the long run, the level of output is determined by the amounts of capital and labor and by the available technology; it does not depend on the price level. The long-run aggregate supply curve, *LRAS*, is vertical.

FIGURE 10-8



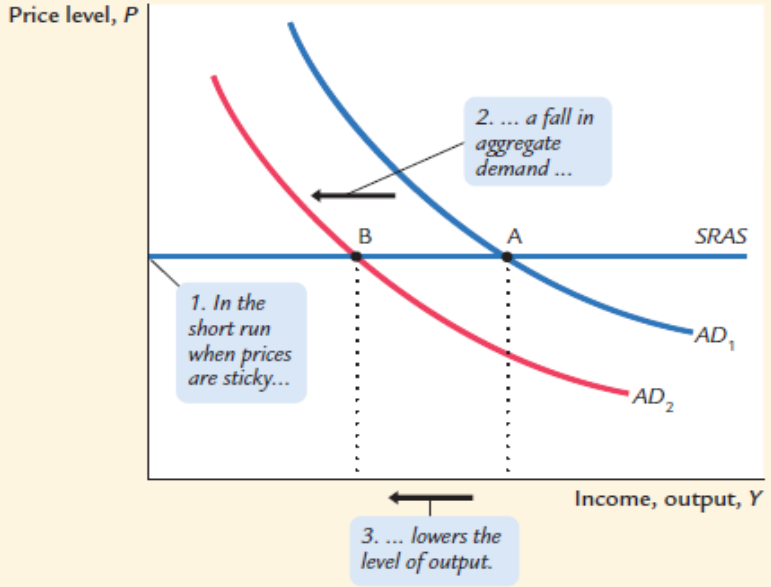
Shifts in Aggregate Demand in the Long Run A reduction in the money supply shifts the aggregate demand curve downward from AD_1 to AD_2. The equilibrium for the economy moves from point A to point B. Because the aggregate supply curve is vertical in the long run, the reduction in aggregate demand affects the price level but not the level of output.

FIGURE 10-9



The Short-Run Aggregate Supply Curve In this extreme example, all prices are fixed in the short run. Therefore, the short-run aggregate supply curve, *SRAS*, is horizontal.

FIGURE 10-10

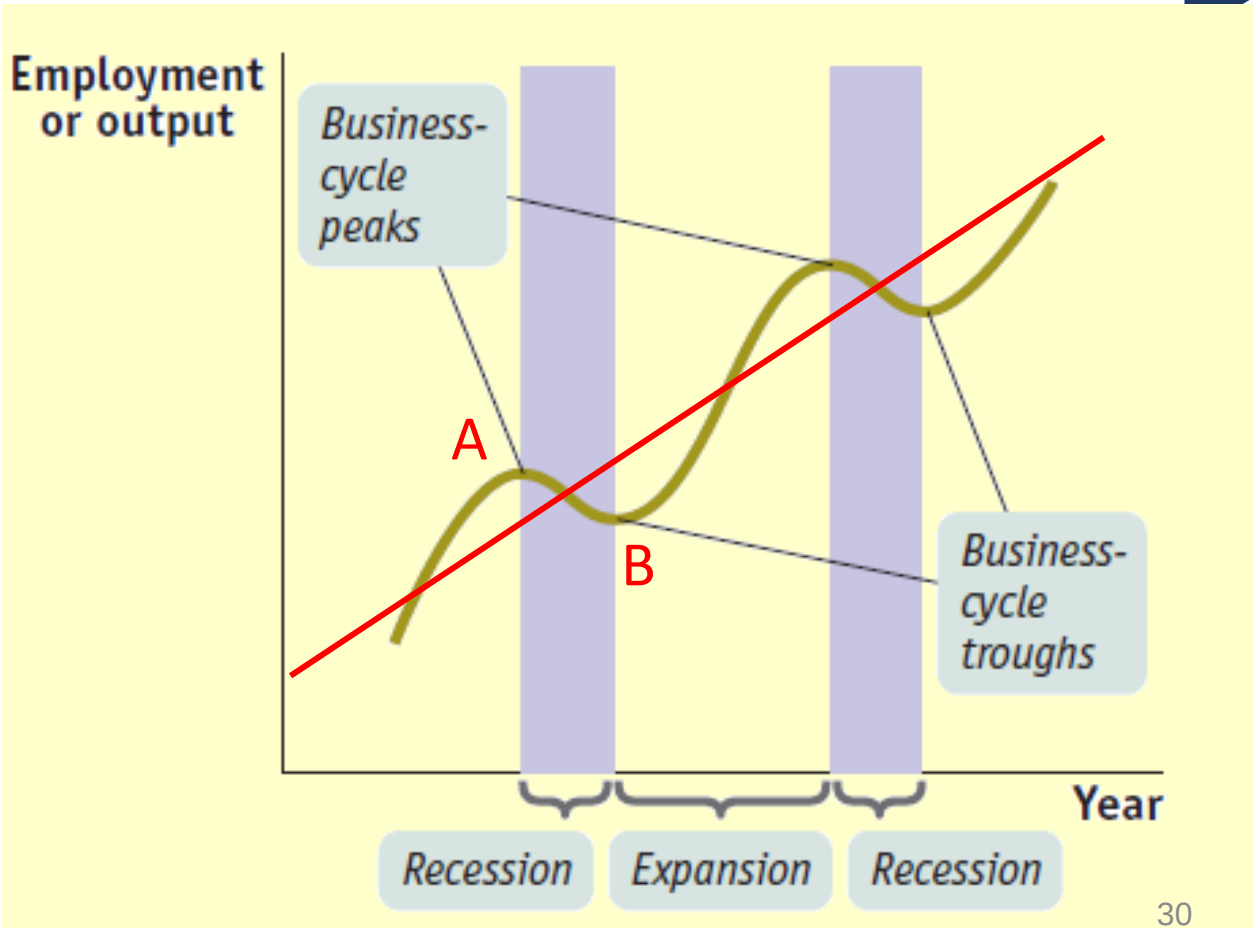


Shifts in Aggregate Demand in the Short Run A reduction in the money supply shifts the aggregate demand curve downward from AD_1 to AD_2. The equilibrium for the economy moves from point A to point B. Because the aggregate supply curve is horizontal in the short run, the reduction in aggregate demand reduces the level of output.

Discussion

- **Counter**-cyclical (monetary, fiscal) policy
- **Pro**-cyclical (monetary, fiscal) policy

- **Keynes**: Counter… or Pro…?
- Why: **Pro…?** How**: avoid?**



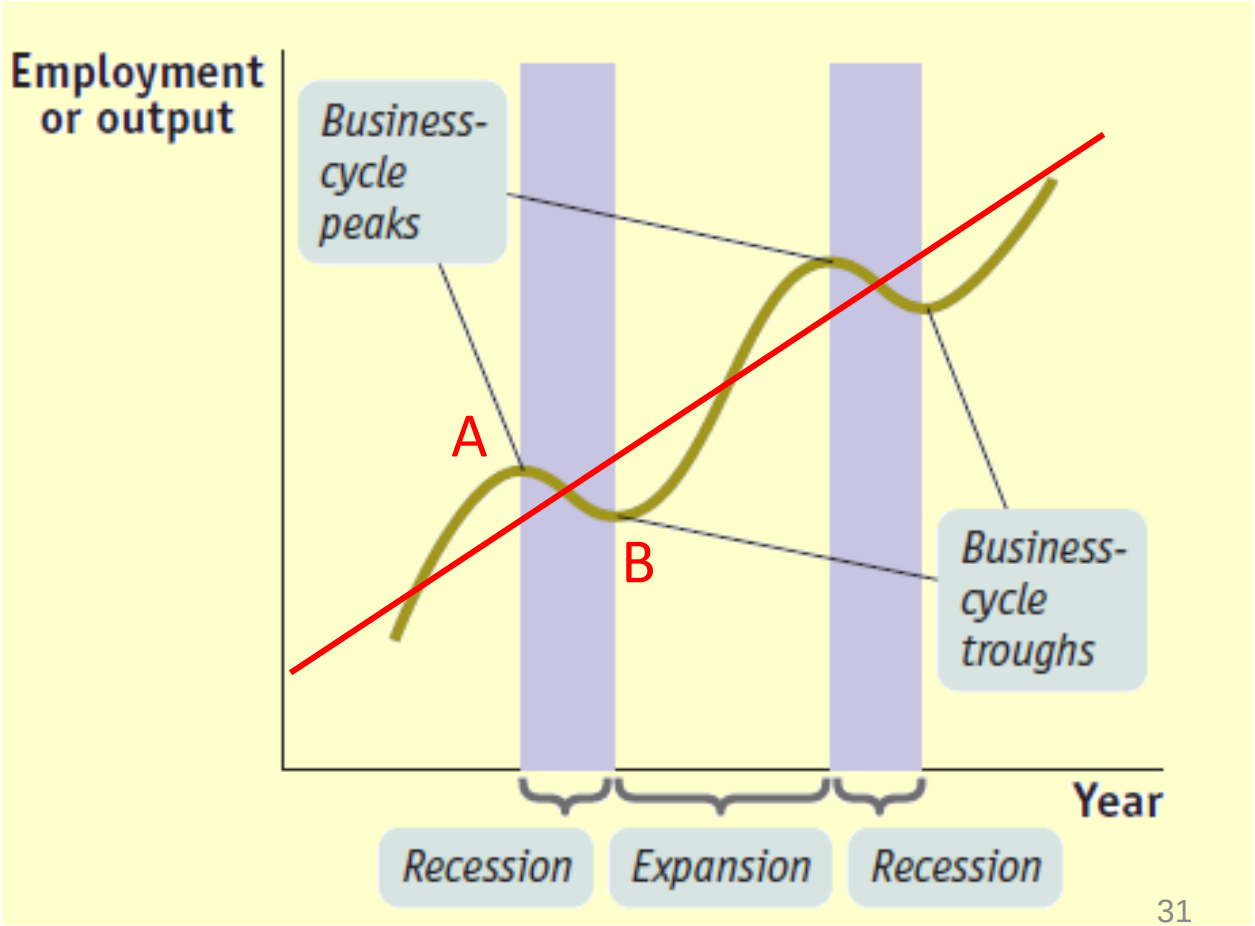
Counter-cyclical (monetary, fiscal) policy
Chính sách nghịch chu kỳ

Kinh tế đang hướng về A

- **Chính sách tài khóa:**
  - **G:**
  - **T:**
- **Chính sách tiền tệ:**
  - **i:**
  - **Ms:**

Kinh tế đang hướng về B

- **Chính sách tài khóa:**
  - **G:**
  - **T:**
- **Chính sách tiền tệ:**
  - **i:**
  - **Ms:**



Pro-cyclical (monetary, fiscal) policy
Chính sách thuận chu kỳ

Kinh tế đang hướng về A

- **Chính sách tài khóa:**
  - **G:**
  - **T:**
- **Chính sách tiền tệ:**
  - **i:**
  - **Ms:**

Kinh tế đang hướng về B

- **Chính sách tài khóa:**
  - **G:**
  - **T:**
- **Chính sách tiền tệ:**
  - **i:**
  - **Ms:**