



# The Fiscal Policy and The Monetary Policy

Ing. Mansoor Maitah Ph.D.



## The Government and Fiscal Policy

- **Fiscal Policy**—changes in taxes and spending that affect the level of GDP—to stabilize the economy (to achieve particular economic goals, such as low unemployment, price stability, and economic growth.)
- **Net Taxes ( $T$ )** Taxes paid by firms and households to the government minus transfer payments made to households by the government.
- **Disposable, or after- tax, income ( $Y_d$ )** Total income minus net taxes:  $Y - T$ .

$$Y_d \equiv Y - T$$



## The Government and Fiscal Policy

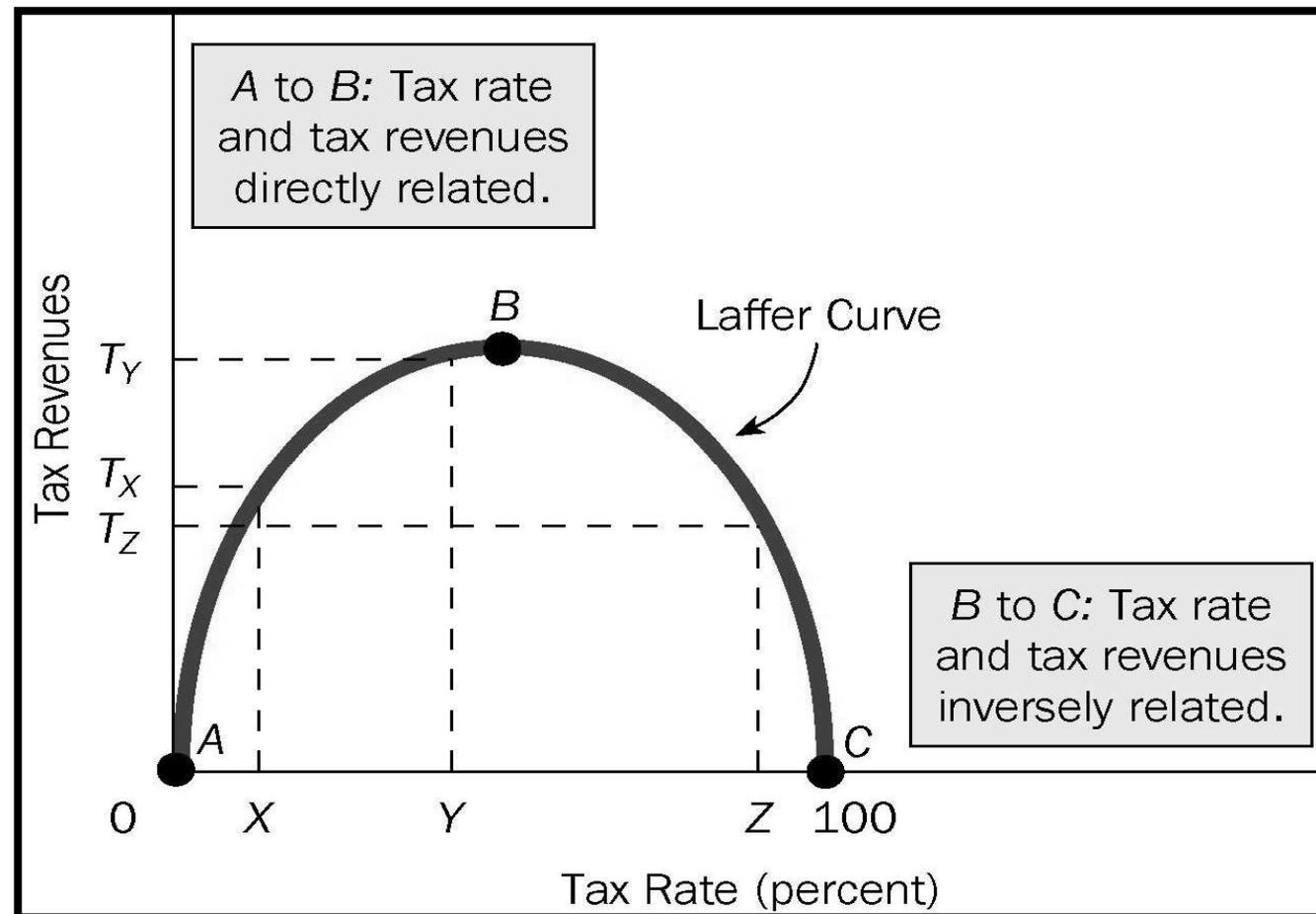
- **Expansionary Fiscal Policy:** Increases in government expenditures and/or decreases in taxes to achieve particular economic goals.
- **Contractionary Fiscal Policy:** Decreases in government expenditures and/or increases in taxes to achieve macroeconomic goals.
- A change in consumption, investment, government purchases, or net exports can change aggregate demand and therefore shift the aggregate Demand (AD) curve.
- A change in taxes can affect consumption or investment or both and therefore can affect AD.

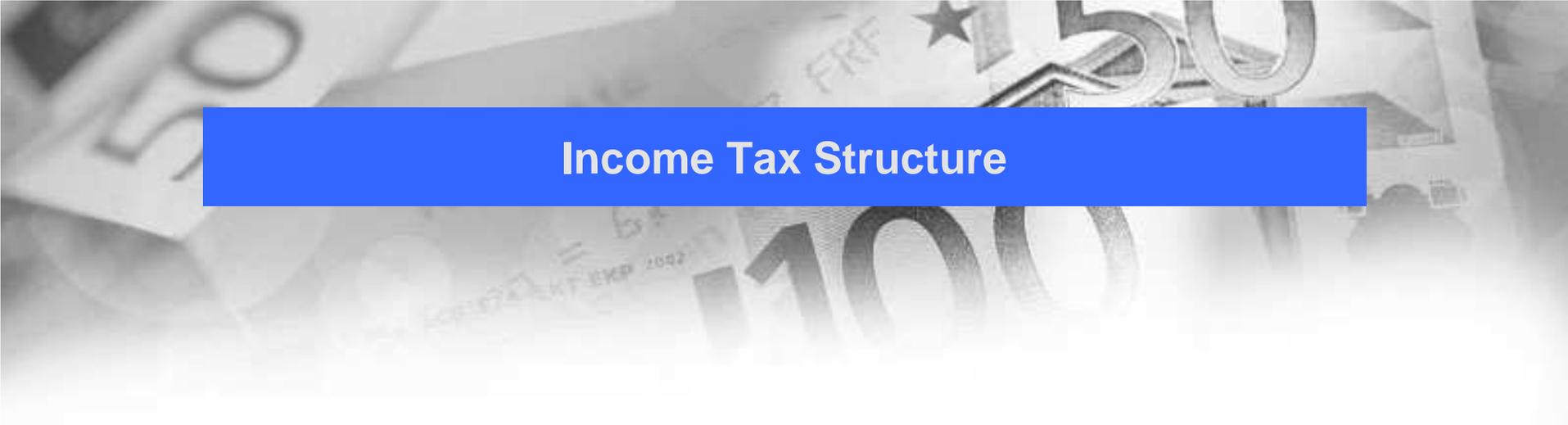


## The Government and Fiscal Policy

- Both expansionary policies and Contractionary policies are examples of **stabilization polices**, actions to move the economy closer to full employment or potential output.
- Stabilization policy is difficult because there are time lags between recognition and response to changes in the economy, and because we simply do not know enough about all aspects of the economy.

## The Laffer Curve

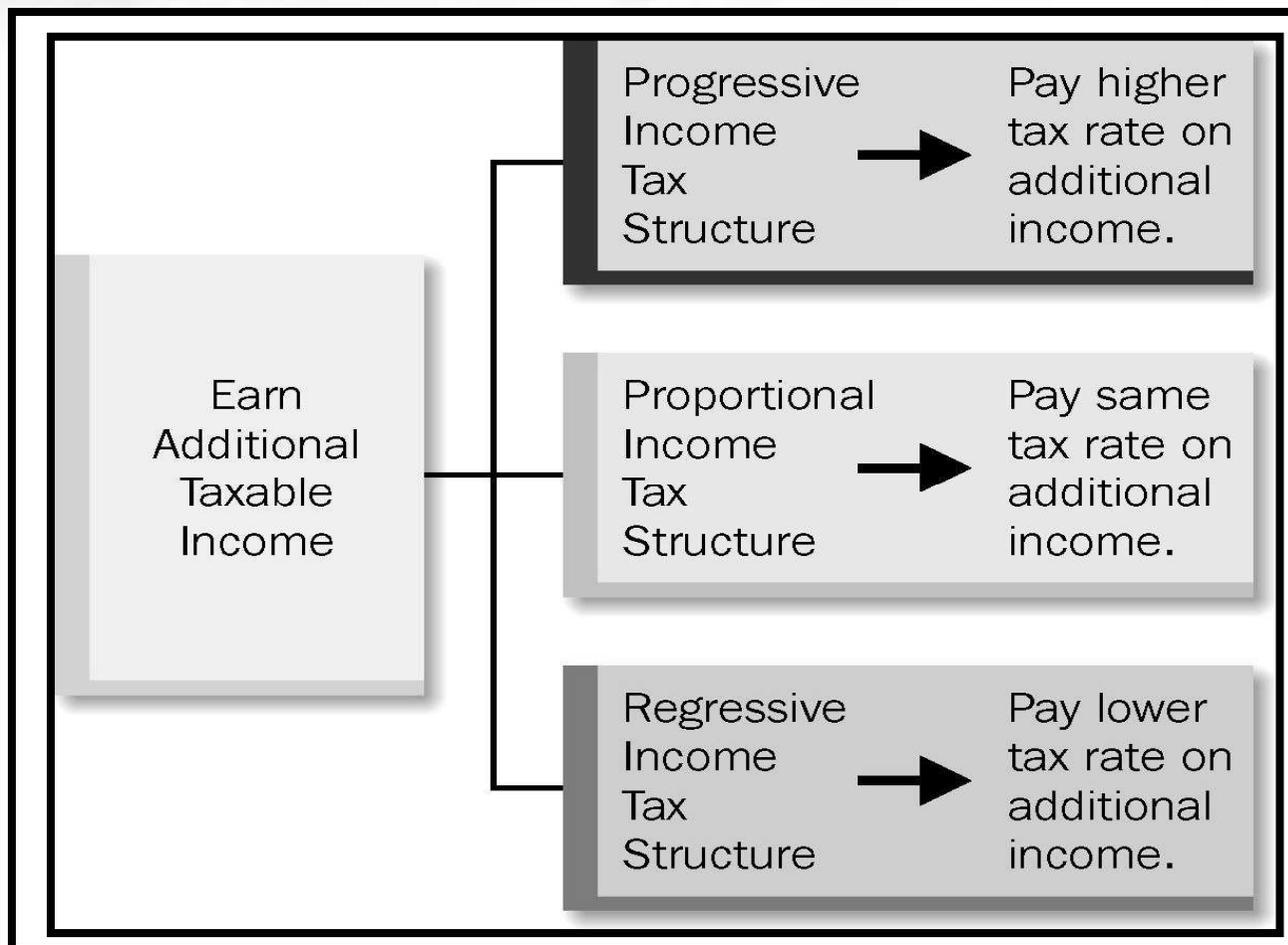




## Income Tax Structure

- **Progressive Income Tax:** the tax rate increases as a person's taxable income level rises.
- **Proportionate Income Tax:** the same tax rate is used for all levels. This is sometimes called a flat tax.
- **Regressive Income Tax:** the tax rate decreases as a person's taxable income level rises.
- Two types of taxes:
  - **direct taxes:** on individuals and firms. For example, income taxes
  - **indirect taxes:** value-added taxes (VAT).

## Income Tax Structure

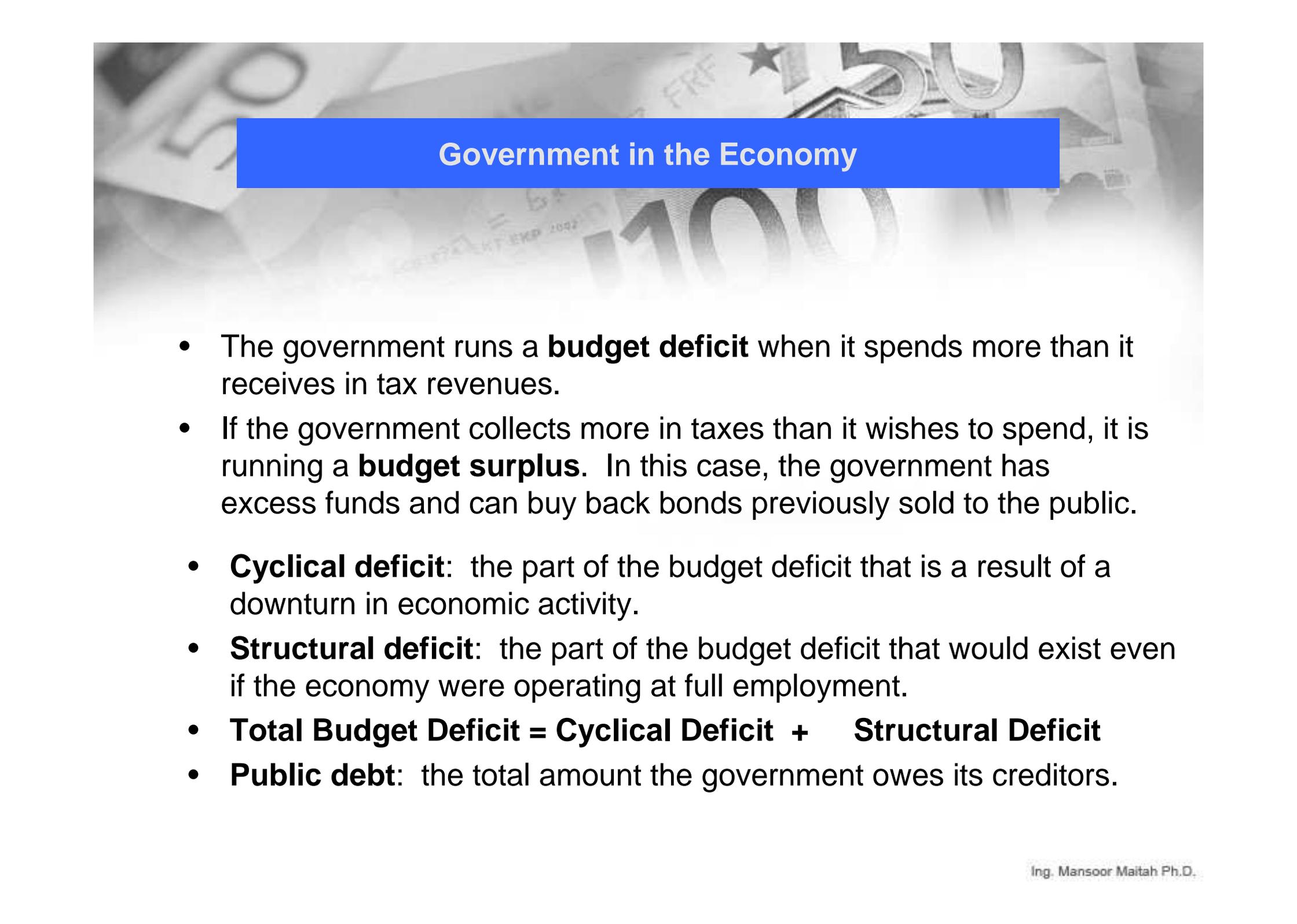




## Government in the Economy

- **Budget Deficit** The difference between what a government spends and what it collects in taxes in a given period:  $G - T$ .

- **Budget Deficit  $\equiv G - T$**



## Government in the Economy

- The government runs a **budget deficit** when it spends more than it receives in tax revenues.
- If the government collects more in taxes than it wishes to spend, it is running a **budget surplus**. In this case, the government has excess funds and can buy back bonds previously sold to the public.
- **Cyclical deficit**: the part of the budget deficit that is a result of a downturn in economic activity.
- **Structural deficit**: the part of the budget deficit that would exist even if the economy were operating at full employment.
- **Total Budget Deficit = Cyclical Deficit + Structural Deficit**
- **Public debt**: the total amount the government owes its creditors.

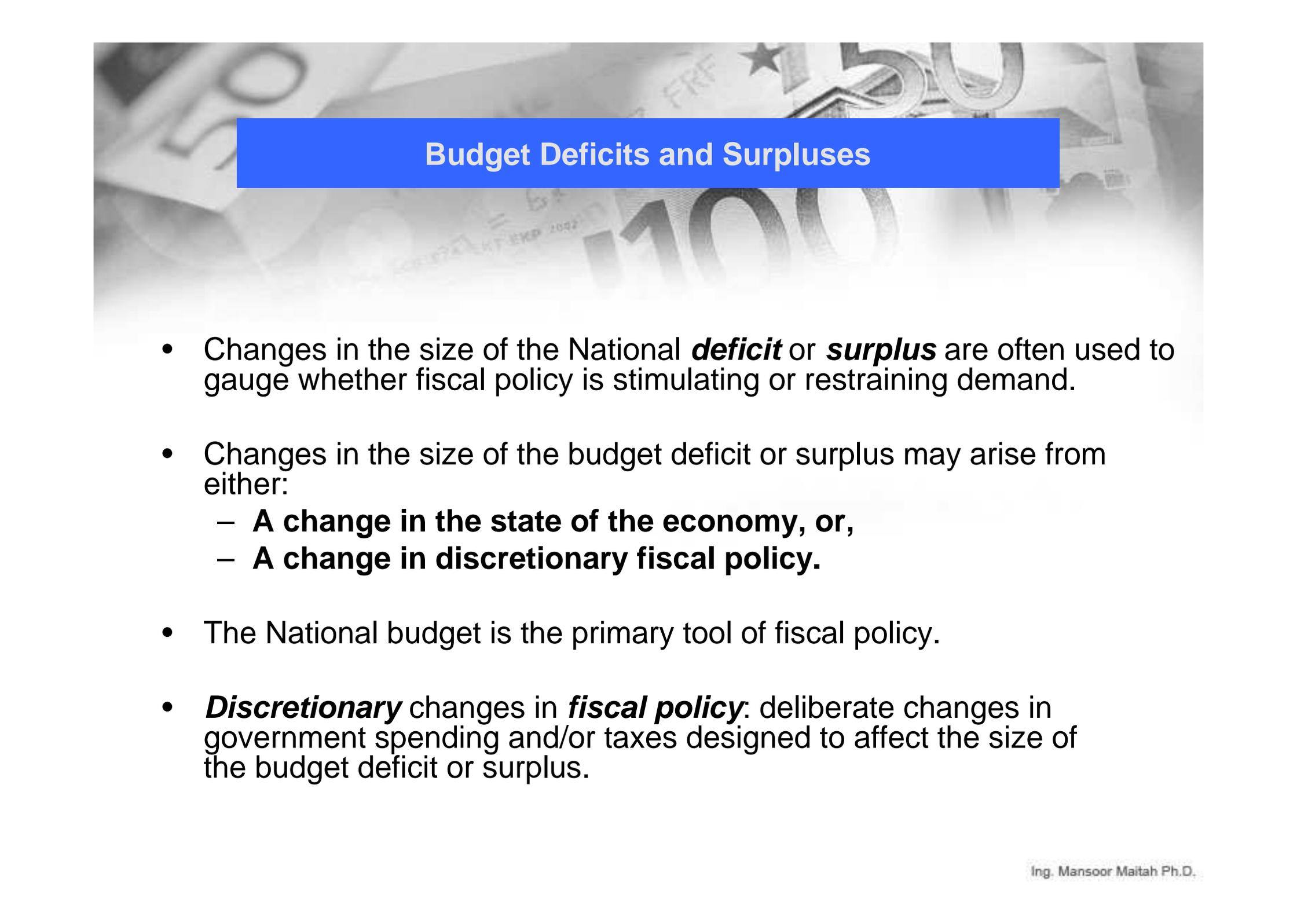


## Budget Deficits and Surpluses

- ***Budget deficit:***
  - When the money supply is constant, deficits must be covered with borrowing.
  - The National Treasury borrows by issuing bonds.
- ***Budget surplus:***

Present when total government spending is greater than total revenue.

  - Surpluses reduce the magnitude of the government's outstanding debt.



## Budget Deficits and Surpluses

- Changes in the size of the National **deficit** or **surplus** are often used to gauge whether fiscal policy is stimulating or restraining demand.
- Changes in the size of the budget deficit or surplus may arise from either:
  - **A change in the state of the economy, or,**
  - **A change in discretionary fiscal policy.**
- The National budget is the primary tool of fiscal policy.
- **Discretionary** changes in **fiscal policy**: deliberate changes in government spending and/or taxes designed to affect the size of the budget deficit or surplus.

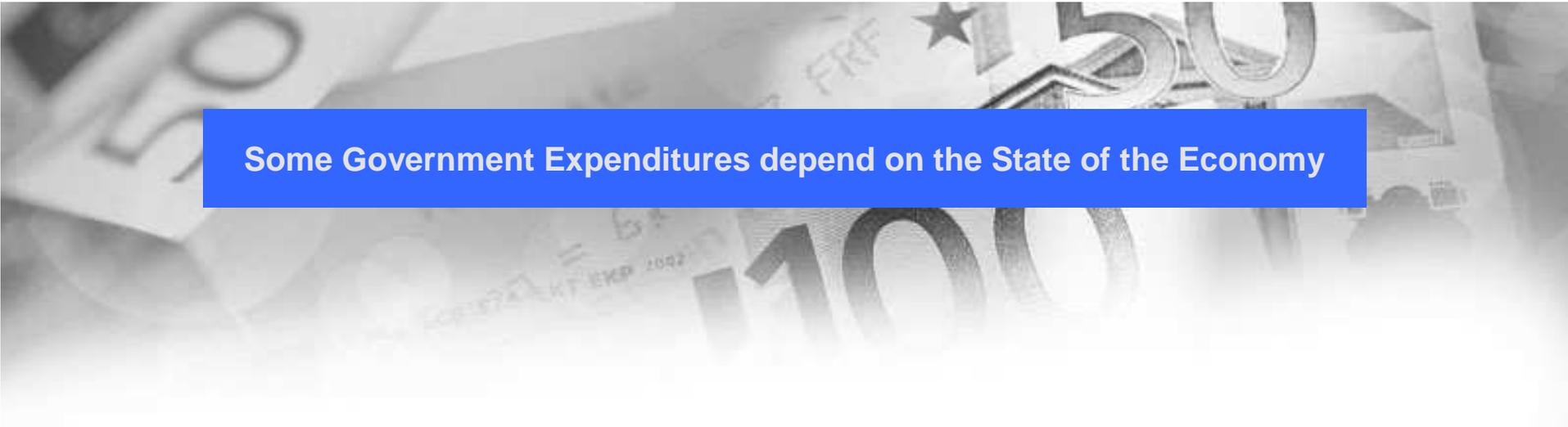


## Government in the Economy

- Taxes ( $T$ ) are a leakage from the flow of income. Saving ( $S$ ) is also a leakage.
- In equilibrium, aggregate output (income) ( $Y$ ) equals planned aggregate expenditure ( $AE$ ), and leakages ( $S + T$ ) must equal planned injections ( $I + G$ ).

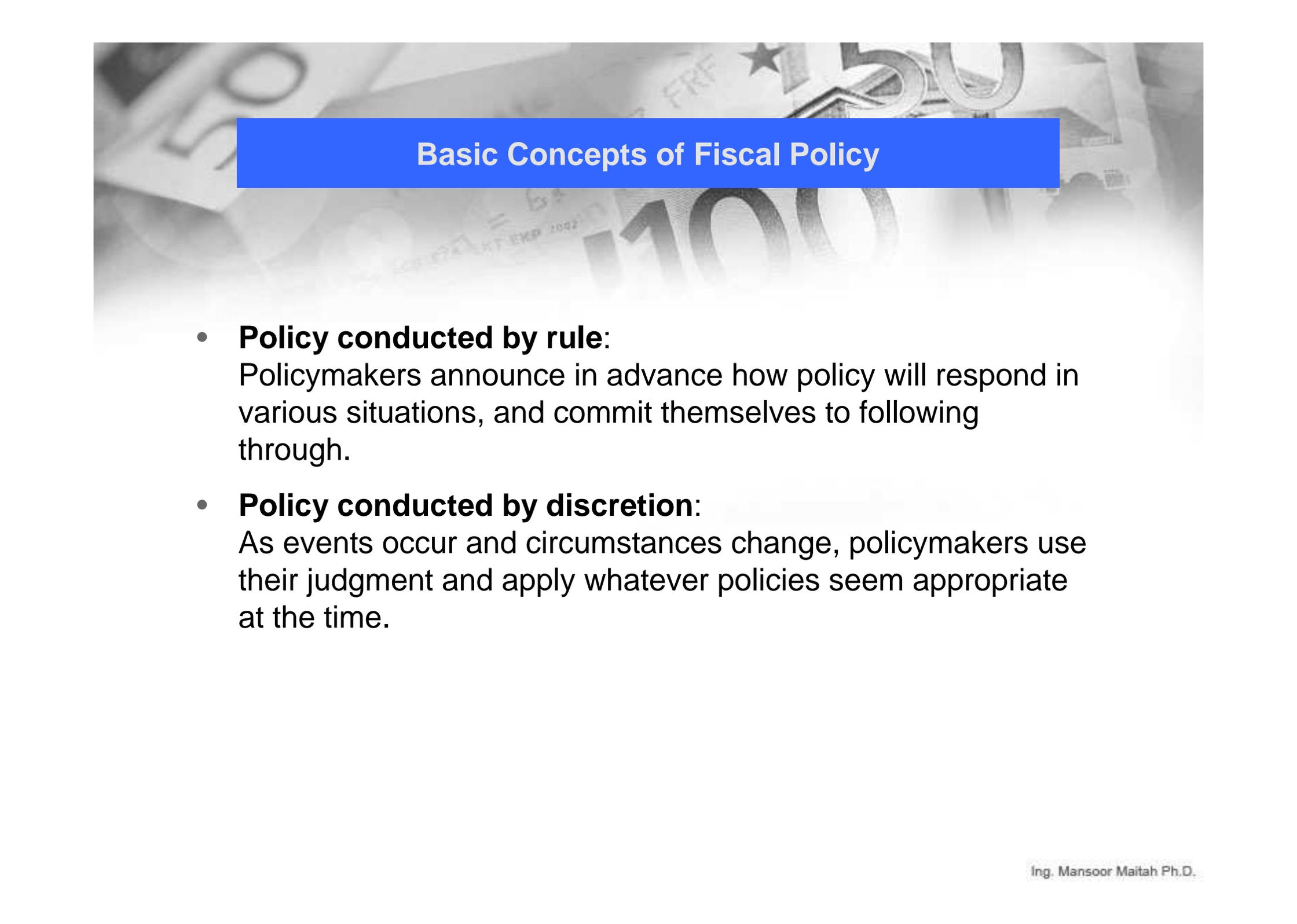
- **Leakages / injections approach to equilibrium:**
  - **$S + T = I + G$**

- Tax revenue depends on taxable income, and income depends on the state of the economy, which the Government does *not* control.



Some Government Expenditures depend on the State of the Economy

- Transfer payments tend to go down automatically during an expansion.
- Inflation often picks up when the economy is expanding. This can lead the government to spend more than it had planned to spend.
- Any change in the interest rate changes government interest payments.



## Basic Concepts of Fiscal Policy

- **Policy conducted by rule:**  
Policymakers announce in advance how policy will respond in various situations, and commit themselves to following through.
- **Policy conducted by discretion:**  
As events occur and circumstances change, policymakers use their judgment and apply whatever policies seem appropriate at the time.



## Basic Concepts of Fiscal Policy

1. Advocates of active policy believe:
  - **frequent shocks lead to unnecessary fluctuations in output and employment**
  - **fiscal and monetary policy can stabilize the economy**
2. Advocates of passive policy believe:
  - **the long & variable lags associated with monetary and fiscal policy render them ineffective and possibly destabilizing**
  - **inept policy increases volatility in output, employment**



## Basic Concepts of Fiscal Policy

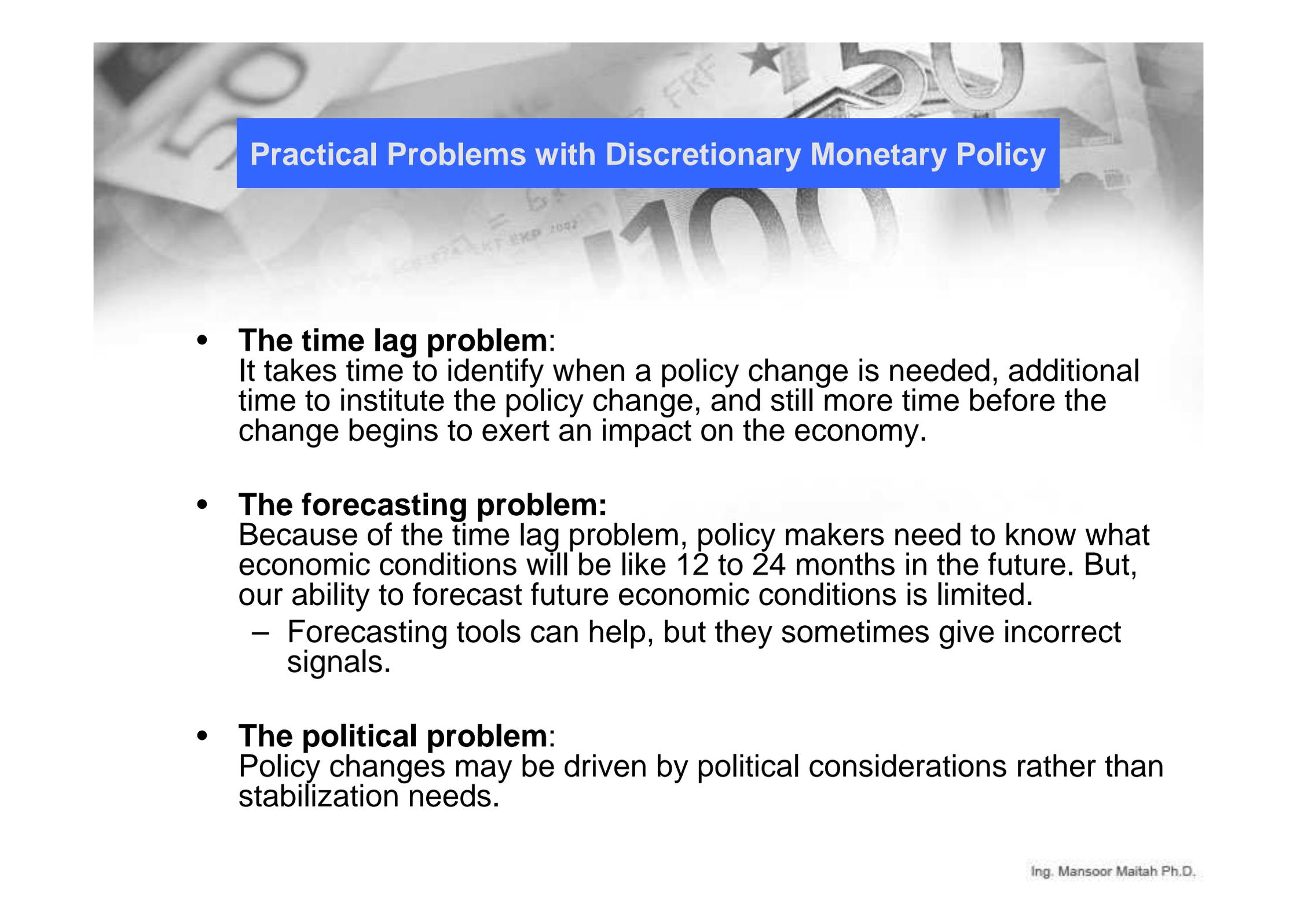
3. Advocates of discretionary policy believe:
  - **discretion gives more flexibility to policymakers in responding to the unexpected**
4. Advocates of policy rules believe:
  - **the political process cannot be trusted: politicians make policy mistakes or use policy for their own interests**
  - **commitment to a fixed policy is necessary to avoid time inconsistency and maintain credibility**



## Arguments against active policy

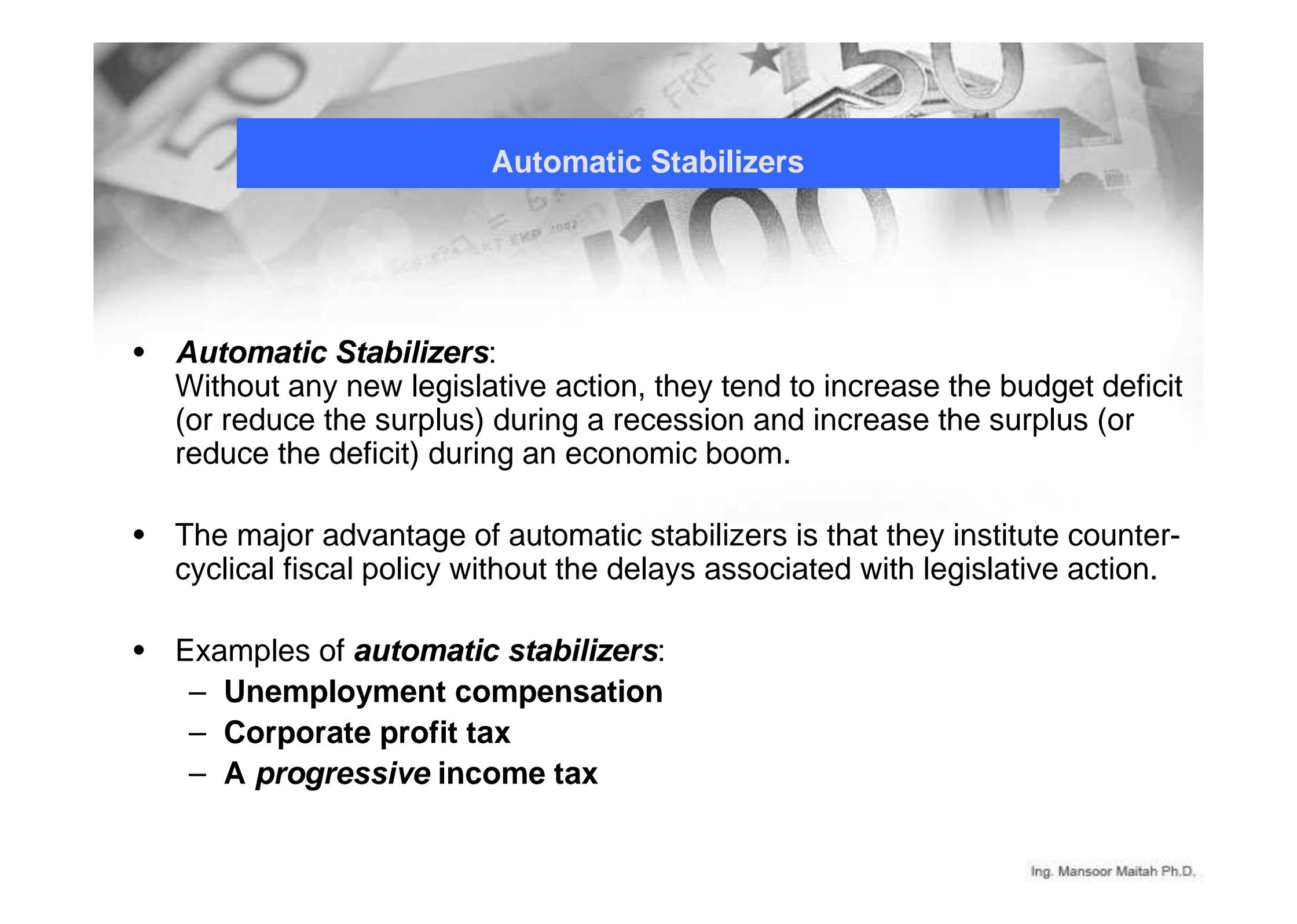
1. The time between the shock and the policy response
  - It takes time to recognize shock
  - It takes time to implement policy, especially fiscal policy
  - It takes time for policy to affect economy

If conditions change before policy's impact is felt, then policy may end up destabilizing the economy.



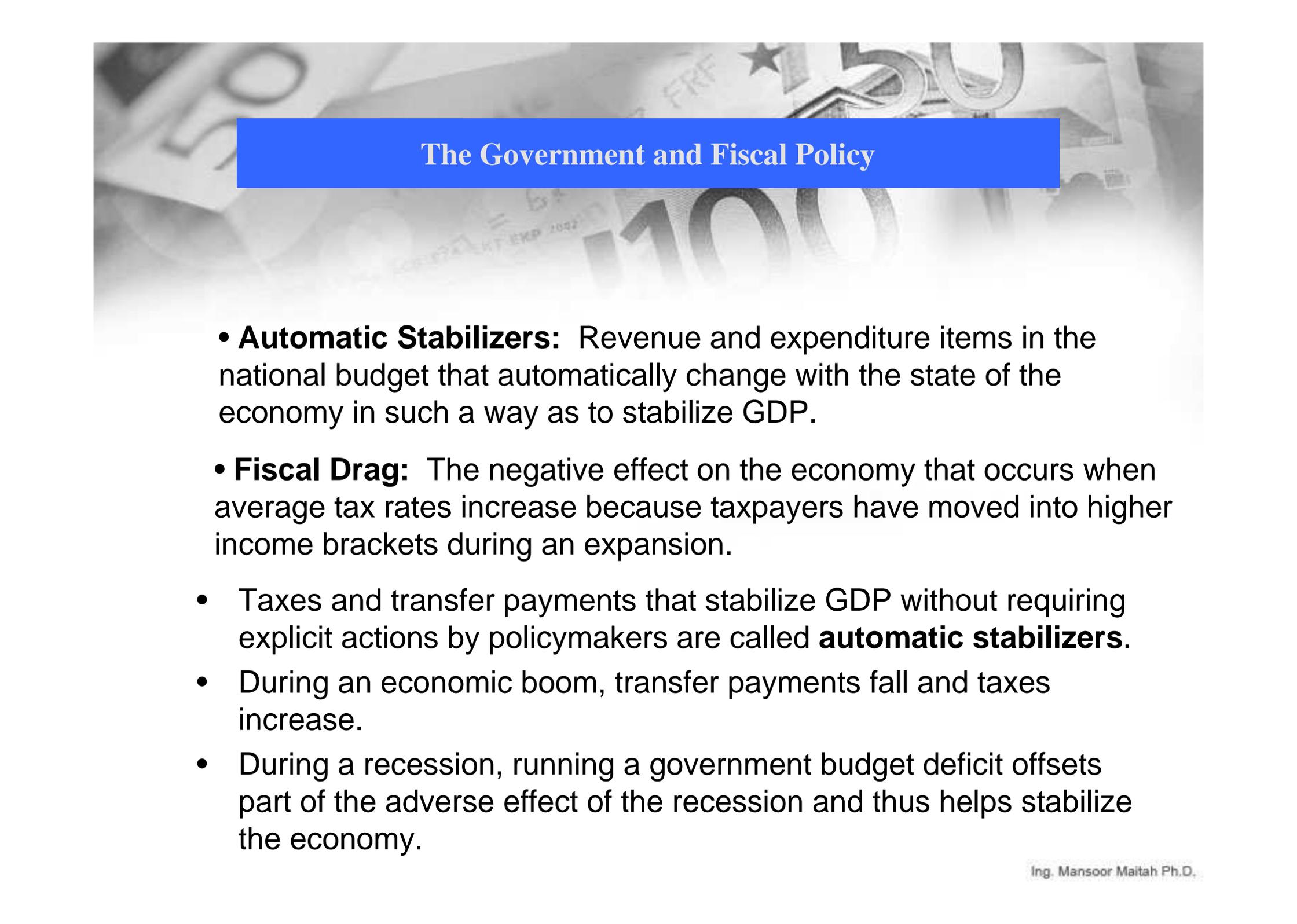
## Practical Problems with Discretionary Monetary Policy

- **The time lag problem:**  
It takes time to identify when a policy change is needed, additional time to institute the policy change, and still more time before the change begins to exert an impact on the economy.
- **The forecasting problem:**  
Because of the time lag problem, policy makers need to know what economic conditions will be like 12 to 24 months in the future. But, our ability to forecast future economic conditions is limited.
  - Forecasting tools can help, but they sometimes give incorrect signals.
- **The political problem:**  
Policy changes may be driven by political considerations rather than stabilization needs.



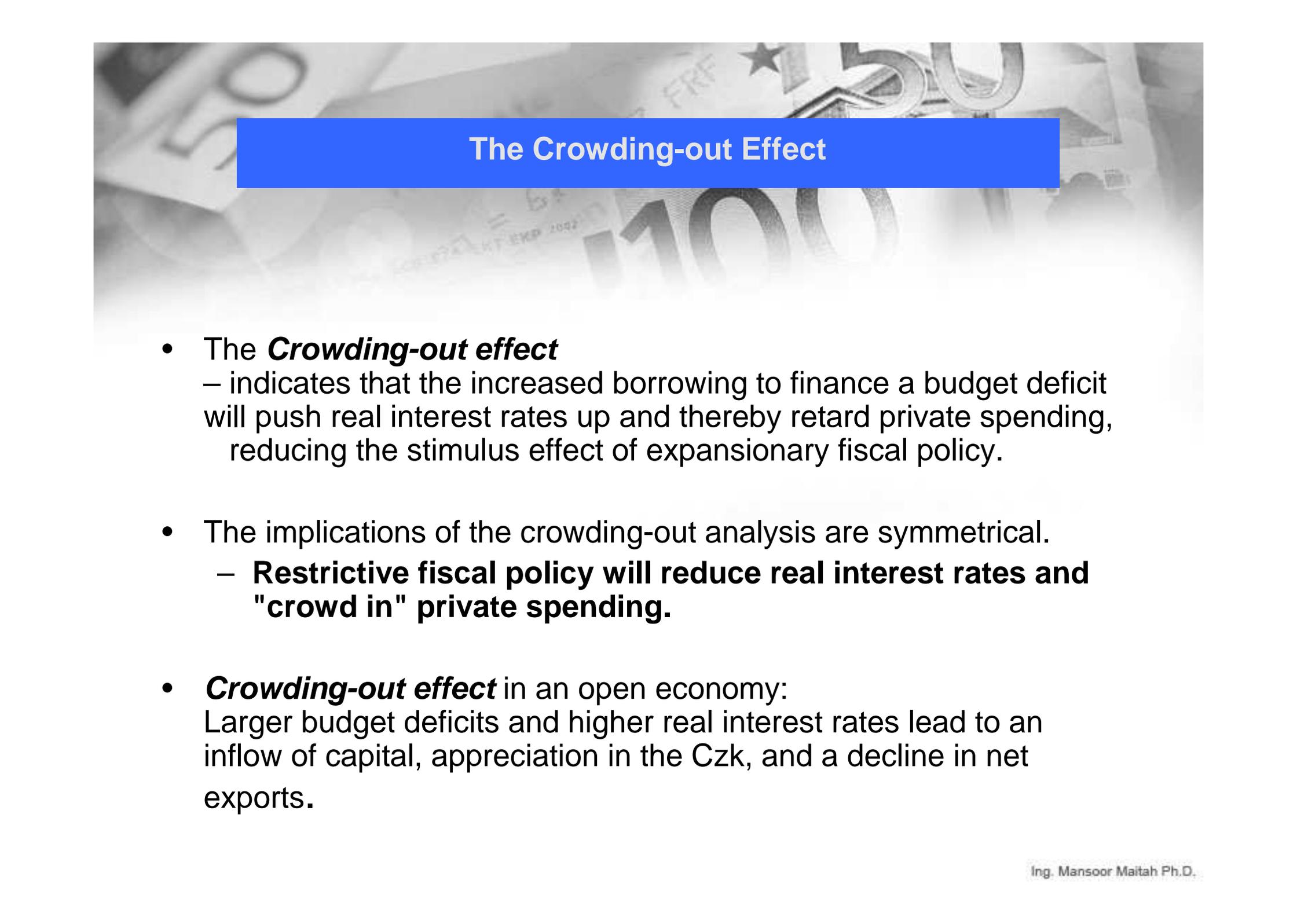
## Automatic Stabilizers

- ***Automatic Stabilizers:***  
Without any new legislative action, they tend to increase the budget deficit (or reduce the surplus) during a recession and increase the surplus (or reduce the deficit) during an economic boom.
- The major advantage of automatic stabilizers is that they institute counter-cyclical fiscal policy without the delays associated with legislative action.
- Examples of ***automatic stabilizers:***
  - **Unemployment compensation**
  - **Corporate profit tax**
  - **A *progressive* income tax**



## The Government and Fiscal Policy

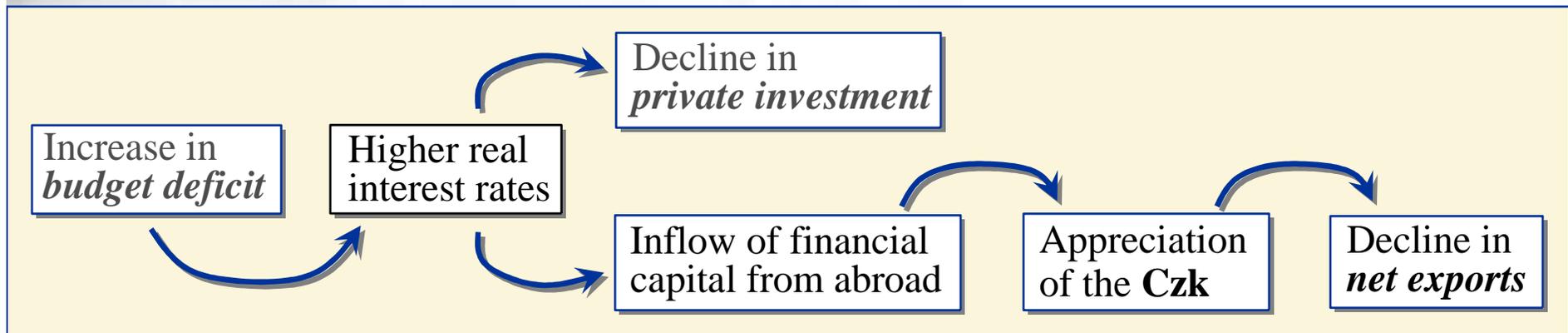
- **Automatic Stabilizers:** Revenue and expenditure items in the national budget that automatically change with the state of the economy in such a way as to stabilize GDP.
- **Fiscal Drag:** The negative effect on the economy that occurs when average tax rates increase because taxpayers have moved into higher income brackets during an expansion.
- Taxes and transfer payments that stabilize GDP without requiring explicit actions by policymakers are called **automatic stabilizers**.
- During an economic boom, transfer payments fall and taxes increase.
- During a recession, running a government budget deficit offsets part of the adverse effect of the recession and thus helps stabilize the economy.



## The Crowding-out Effect

- The ***Crowding-out effect***
  - indicates that the increased borrowing to finance a budget deficit will push real interest rates up and thereby retard private spending, reducing the stimulus effect of expansionary fiscal policy.
- The implications of the crowding-out analysis are symmetrical.
  - **Restrictive fiscal policy will reduce real interest rates and "crowd in" private spending.**
- ***Crowding-out effect*** in an open economy:  
Larger budget deficits and higher real interest rates lead to an inflow of capital, appreciation in the Czk, and a decline in net exports.

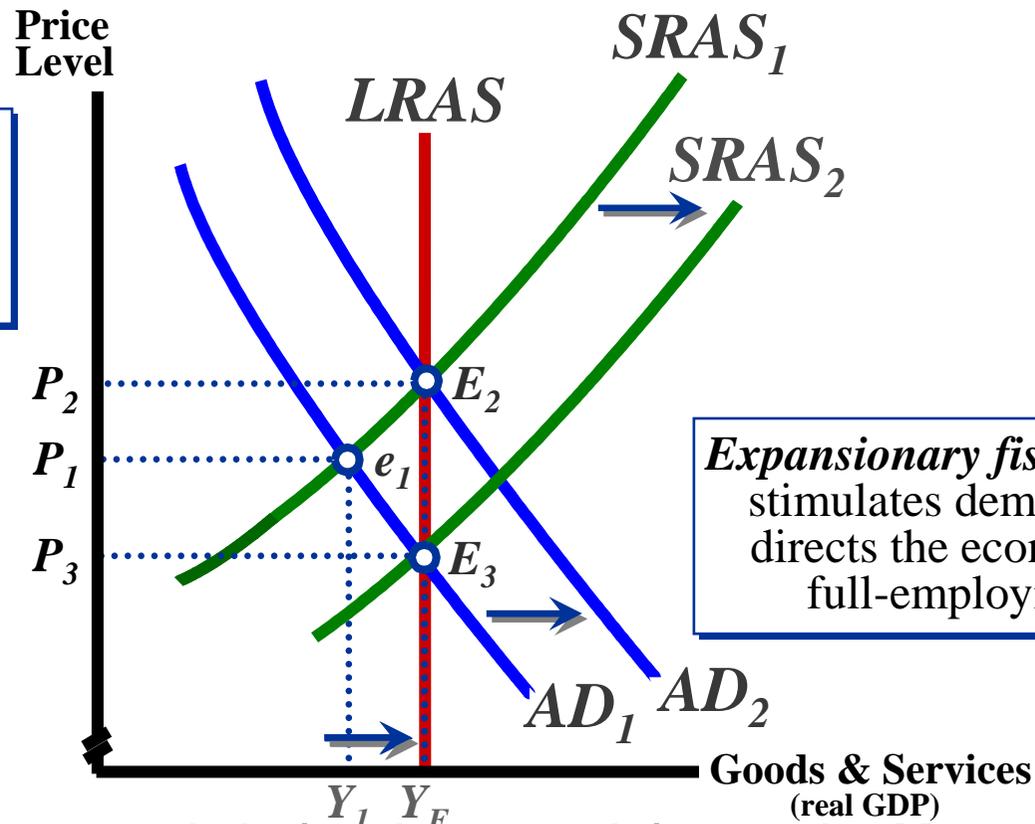
## The Crowding-out Effect



- An increase in government borrowing to finance an enlarged budget deficit places upward pressure on real interest rates.
- This retards private investment and **Aggregate Demand**.
- In an open economy, high interest rates attract foreign capital.
- As foreigners buy more czk to buy czech bonds and other financial assets, the czk appreciates.
- The appreciation of the czk causes net exports to fall.
- Thus, the larger deficits and higher interest rates trigger reductions in both private investment and net exports, which limit the expansionary impact of a budget deficit.

## Expansionary Fiscal Policy

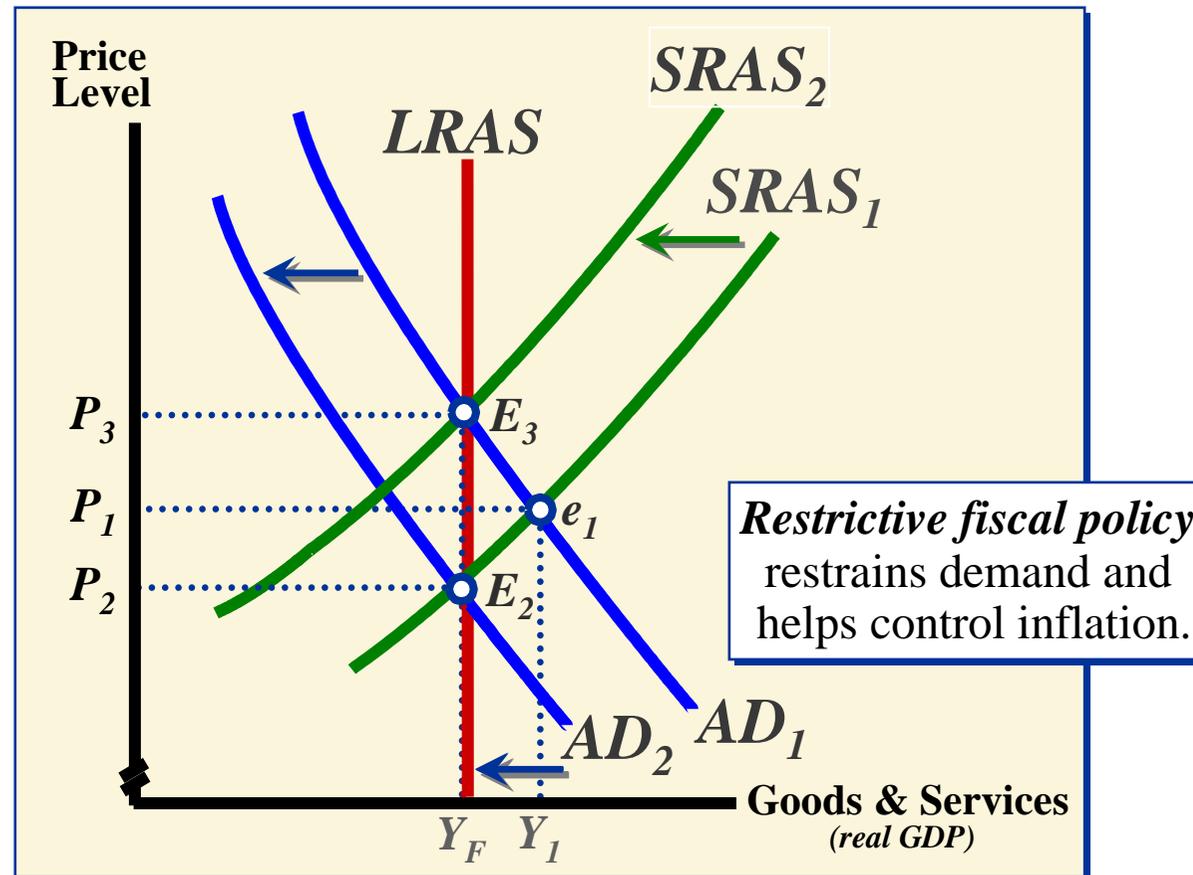
*Keynesians* believe that allowing for the market to self-adjust may be a lengthy and painful process.



*Expansionary fiscal policy* stimulates demand and directs the economy to full-employment

- At  $e_1$  ( $Y_1$ ), the economy is below its potential capacity  $Y_F$ . There are 2 routes to long-run full-employment equilibrium:
  - Wait for lower wages and resource prices to reduce costs, increase supply to  $SRAS_2$  and restore equilibrium to  $E_3$ , at  $Y_F$ .
  - Alternatively, expansionary fiscal policy could stimulate  $AD$  (shift to  $AD_2$ ) and guide the economy back to  $E_2$ , at  $Y_F$ .

## Restrictive Fiscal Policy



- Strong demand such as  $AD_1$  will temporarily lead to an output rate beyond the economy's long-run potential  $Y_F$ .
  - If maintained, the strong demand will lead to the long-run equilibrium  $E_3$  at a higher price level (SRAS shifts to  $SRAS_2$ ).
  - *Restrictive fiscal policy* could reduce demand to  $AD_2$  (or keep  $AD$  from shifting to  $AD_1$  initially) and lead to equilibrium  $E_2$ .

## The Quantity Theory of Money

- The *quantity theory of money*:

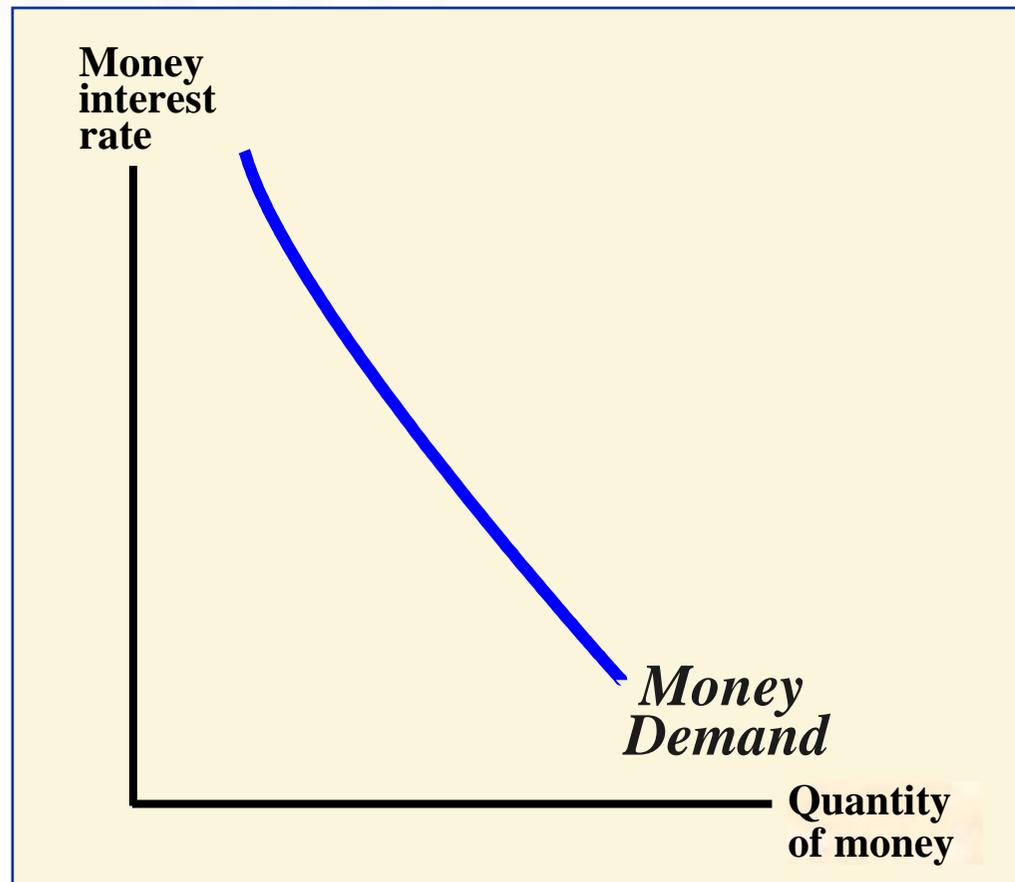
$$M \times V = P \times Y$$

$M$  Money       $V$  Velocity       $P$  Price       $Y =$  Income

- If  $V$  and  $Y$  are constant, then an increase in  $M$  will lead to a proportional increase in  $P$ .

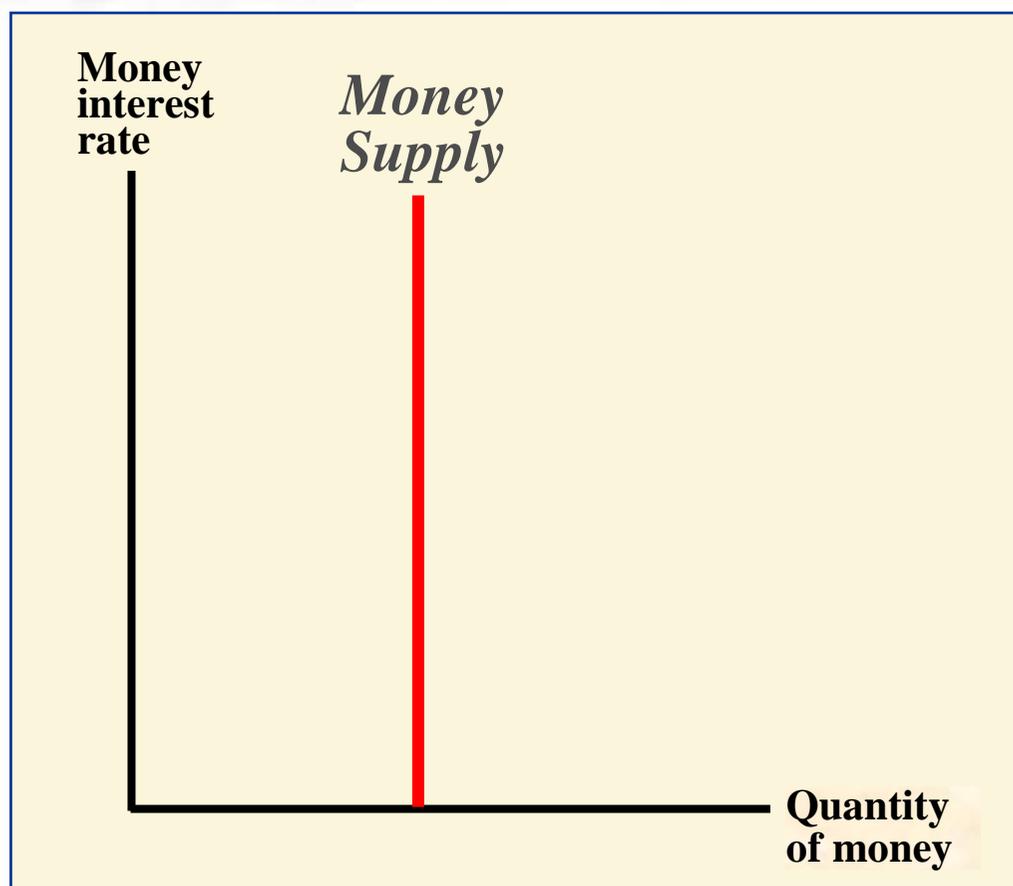
## The Demand for Money

- The quantity of money people want to hold (the ***demand for money***) is inversely related to the money rate of interest, because higher interest rates make it more costly to hold money instead of interest-earning assets like bonds.



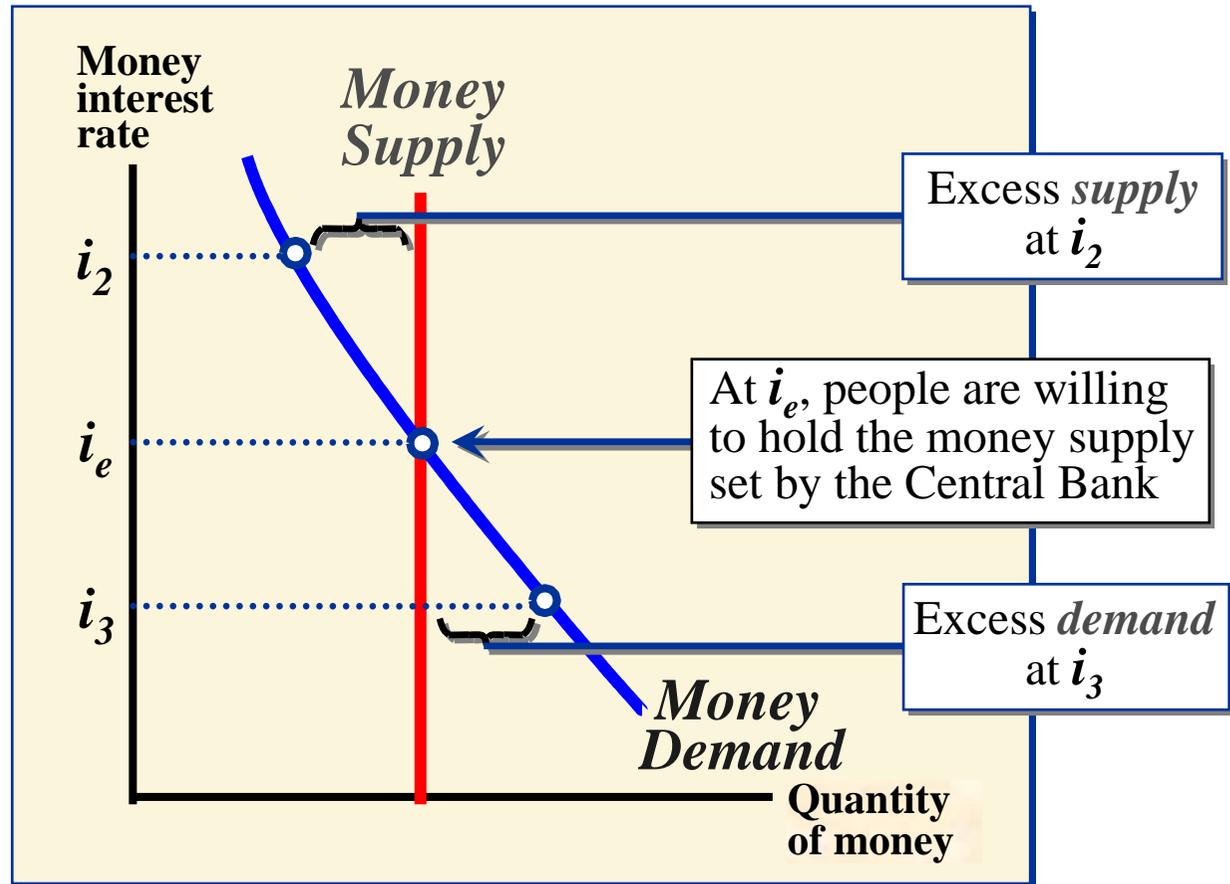
## The Supply of Money

- The ***supply of money*** is vertical because it is established by the Central Bank and, hence, determined independent of the interest rate.



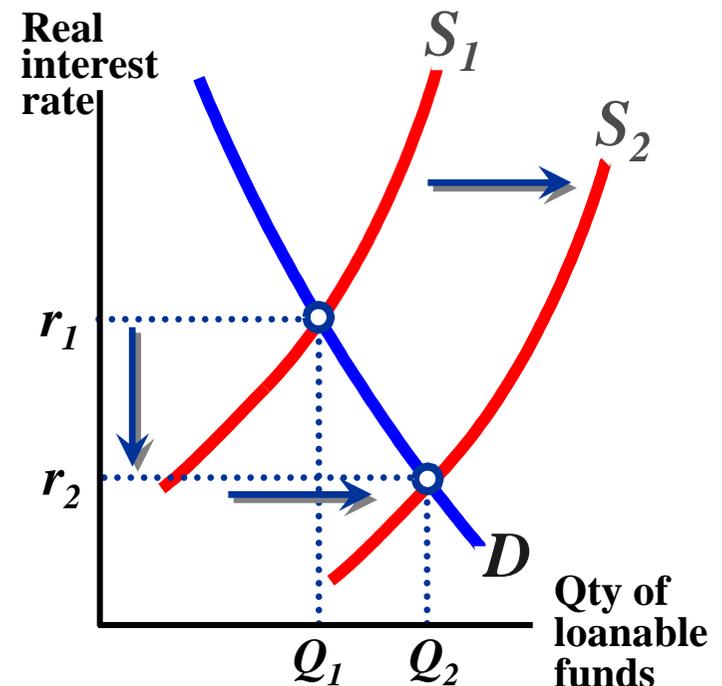
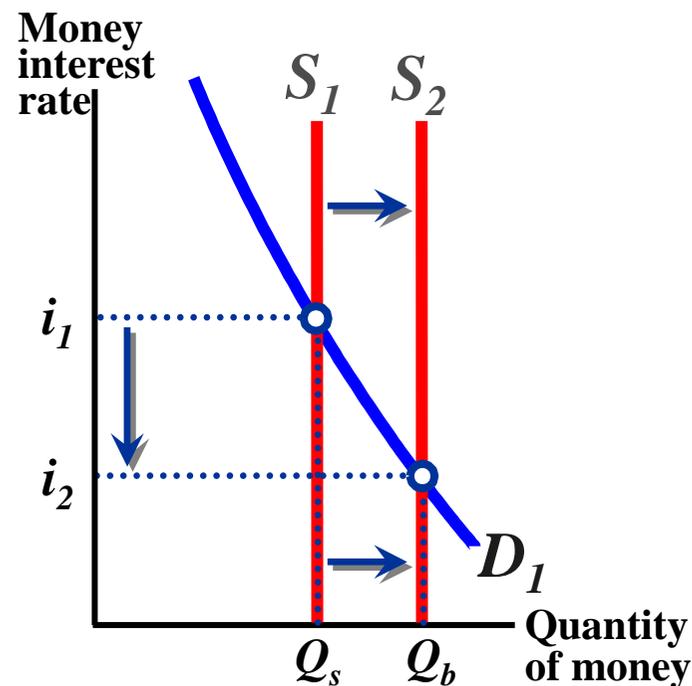
# The Demand and Supply of Money

- **Equilibrium:** The money interest rate gravitates toward the rate where the quantity of money people want to hold (**demand**) is just equal to the stock of money the Central Bank has **supplied**.



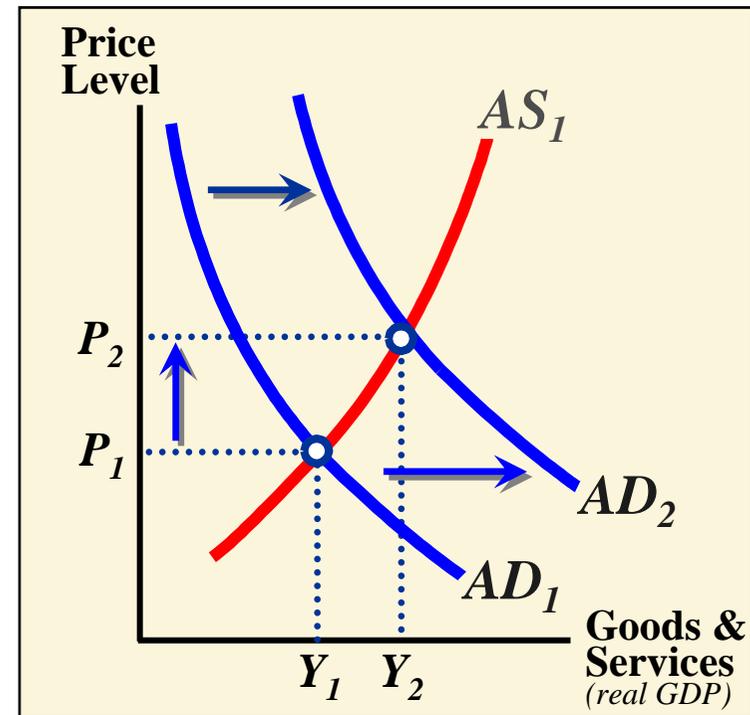
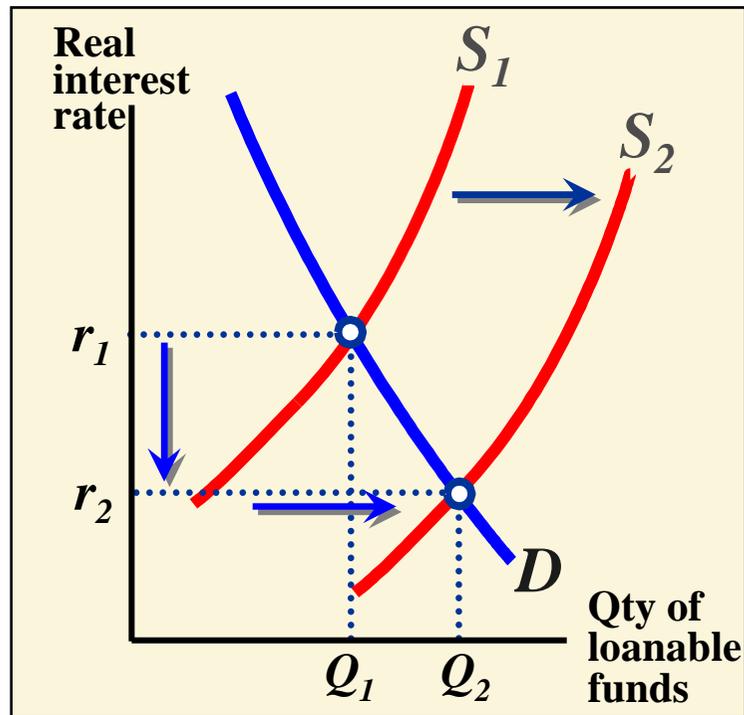
## Transmission of Monetary Policy

- When the C.B shifts to a more expansionary monetary policy, it usually buys additional bonds, expanding the money supply.
- This increase in the money supply (shift from  $S_1$  to  $S_2$  in the market for money) provides banks with additional reserves.
- The C.B bond purchases and the bank's use of new reserves to extend new loans increases the supply of loanable funds (shifting  $S_1$  to  $S_2$  in the loanable funds market) ... and puts downward pressure on real interest rates (a reduction to  $r_2$ ).

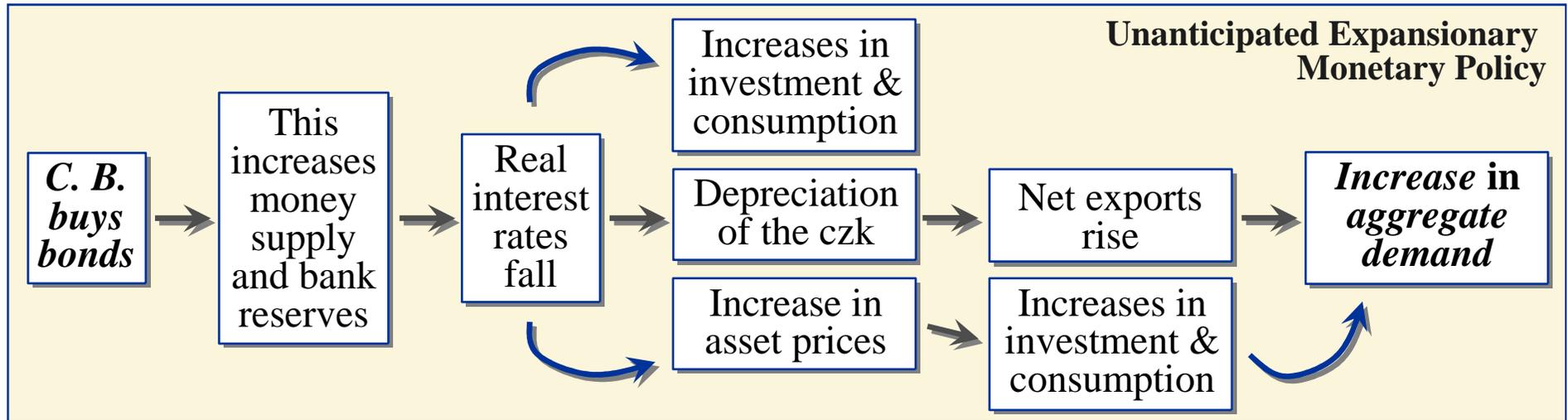


# Transmission of Monetary Policy

- As the real interest rate falls, **AD** increases (to **AD<sub>2</sub>**).
- As the monetary expansion was unanticipated, the expansion in **AD** leads to a short-run increase in output (from **Y<sub>1</sub>** to **Y<sub>2</sub>**) and an increase in the price level (from **P<sub>1</sub>** to **P<sub>2</sub>**) – **inflation**.
- The impact of a shift in monetary policy is transmitted through interest rates, exchange rates, and asset prices.

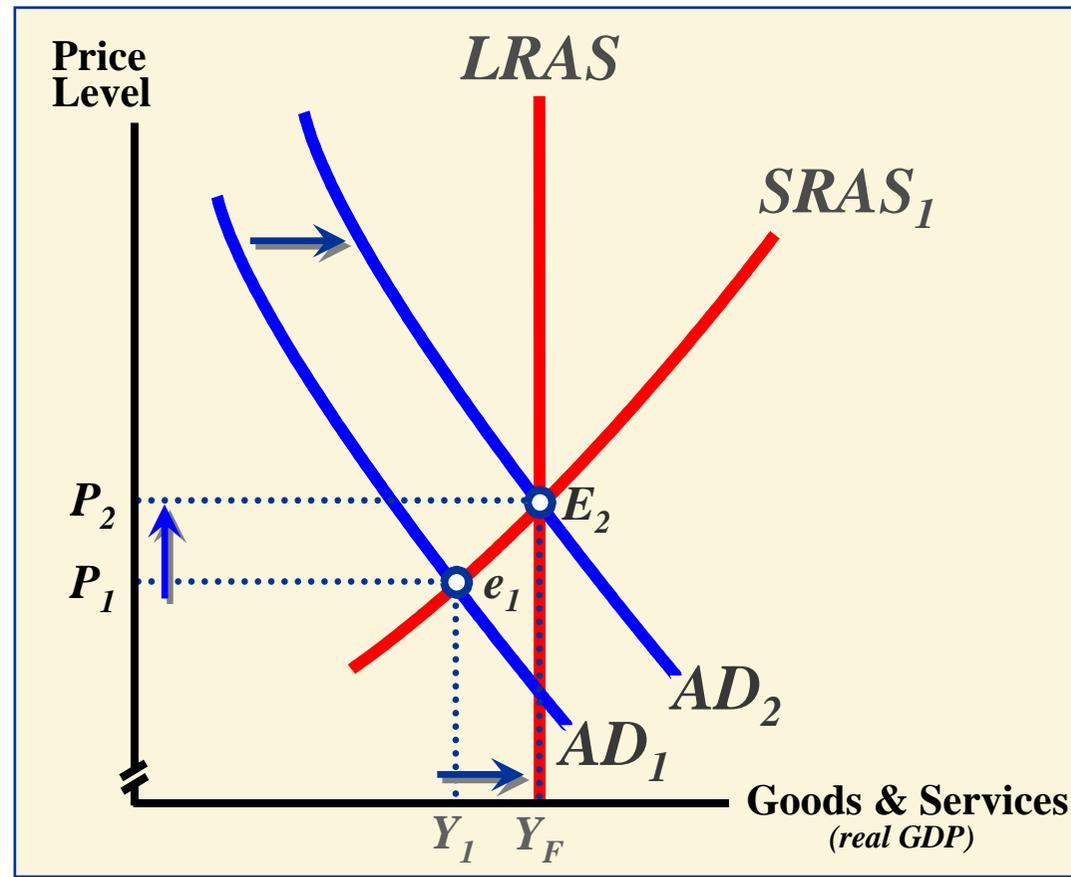


## Transmission of Monetary Policy



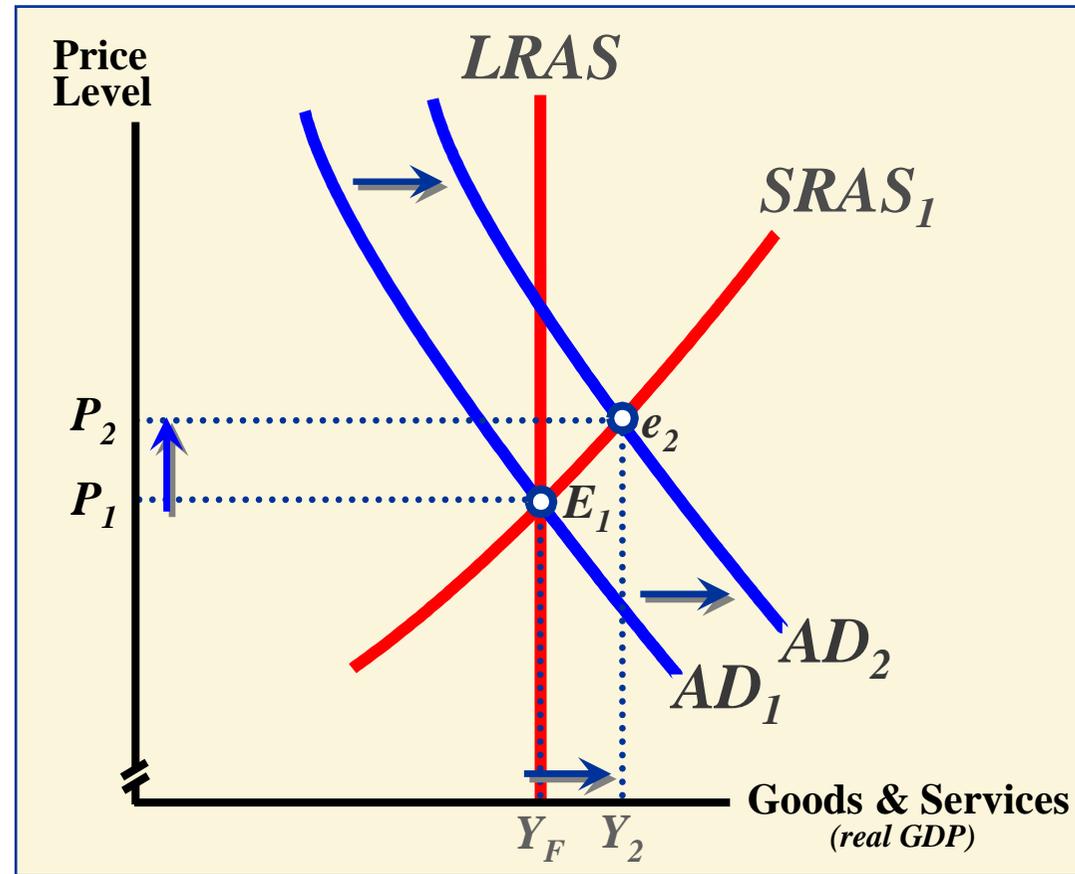
## Expansionary Monetary Policy

- Here, the increase in output from  $Y_1$  to  $Y_F$  will be long term.
- If the increase in **AD** accompanying expansionary monetary policy is felt when the economy is operating below capacity, the policy will help direct the economy toward long-run full-employment equilibrium  $Y_F$ .



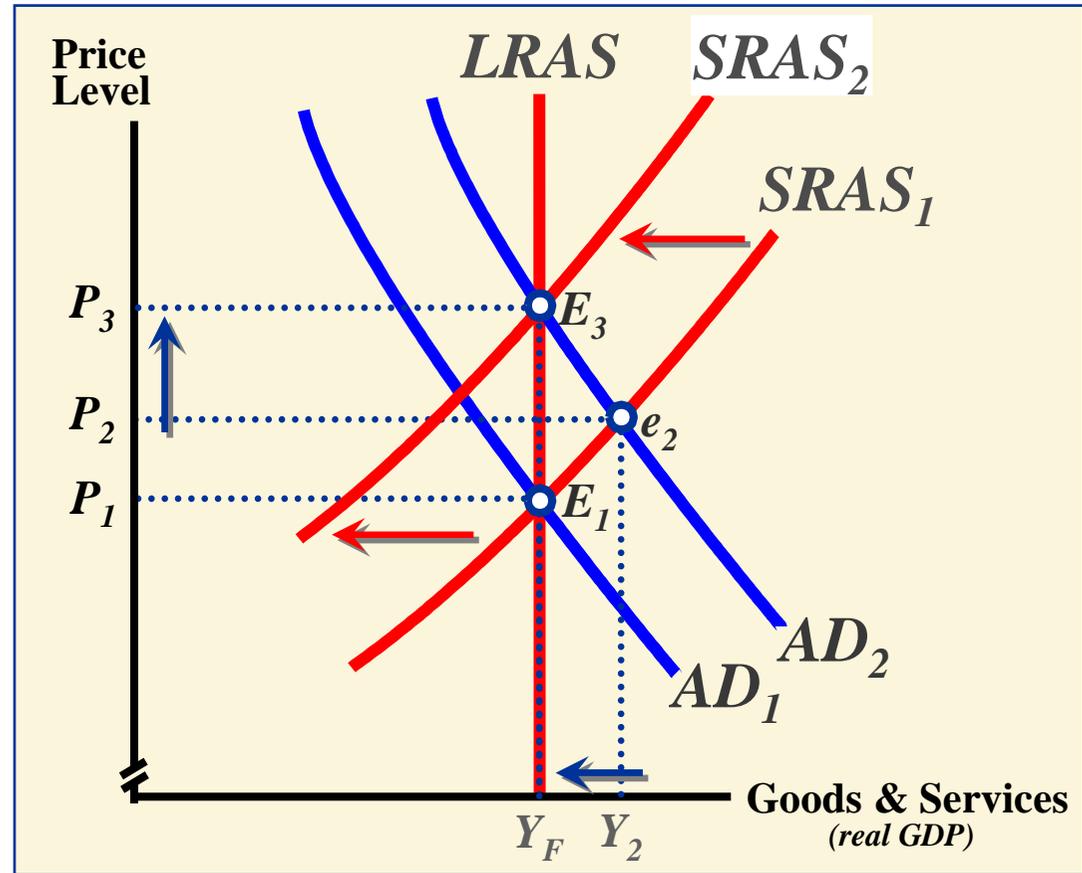
## AD Increase Disrupts Equilibrium

- Alternatively, if the demand-stimulus effects are imposed on an economy already at full-employment  $Y_F$ , they will lead to excess demand, higher product prices, and temporarily higher output ( $Y_2$ ).



## AD Increase: Long Run

- In the long-run, the strong demand pushes up resource prices, shifting **short run aggregate supply** (from  $SRAS_1$  to  $SRAS_2$ ).
- The price level rises (from  $P_2$  to  $P_3$ ) and output falls back to full-employment output again ( $Y_F$  from its temporary high,  $Y_2$ ).

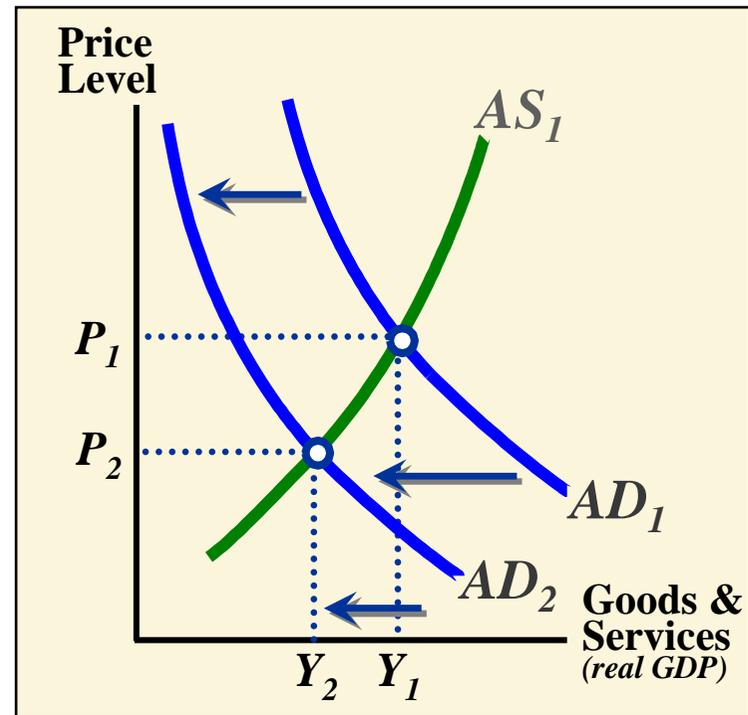
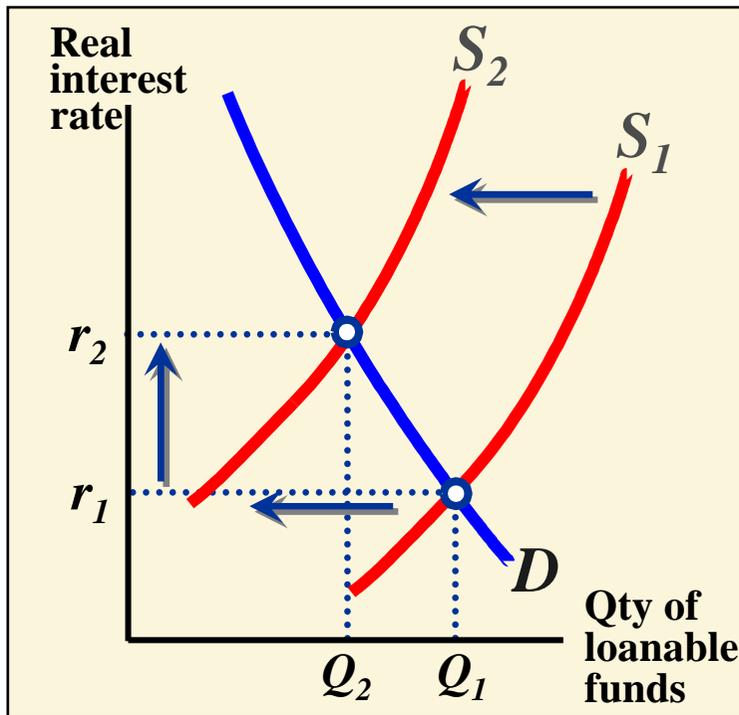


## A Shift to More Restrictive Monetary Policy

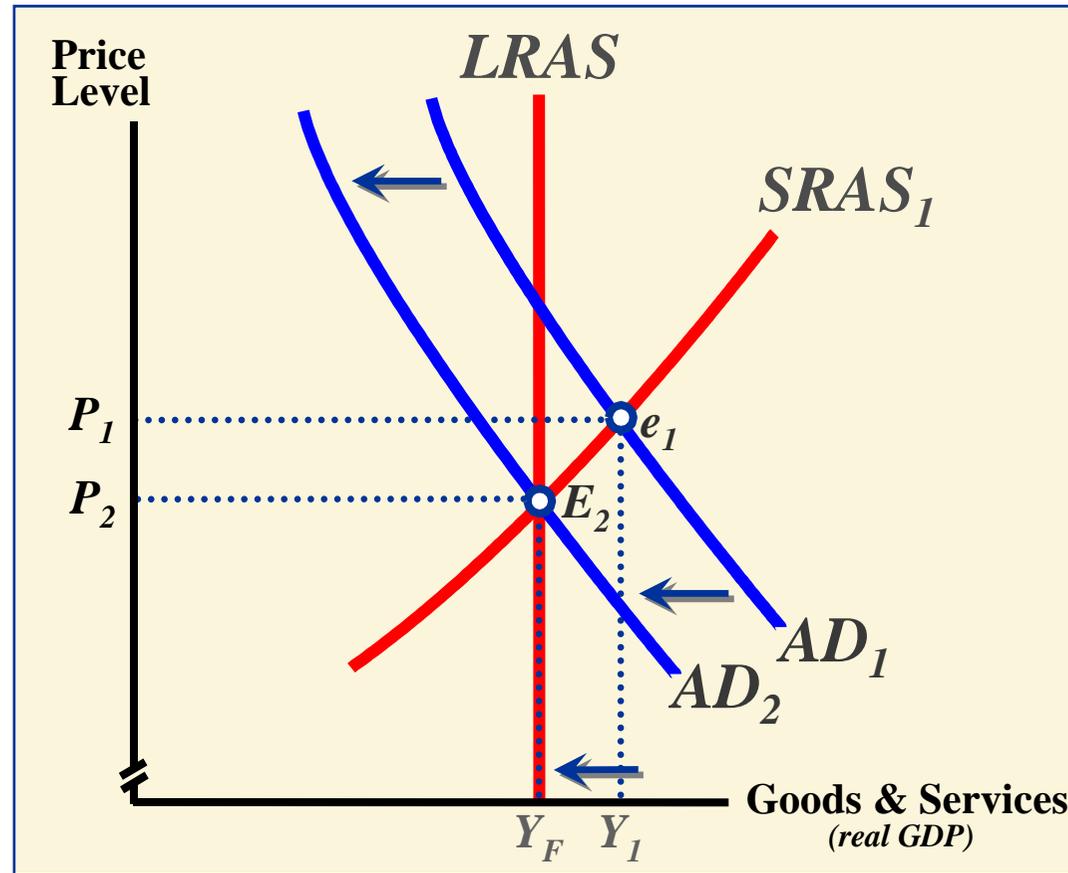
- The Central Bank institutes ***restrictive monetary policy*** by selling bonds, increasing the discount rate, or raising the reserve requirements.
- The Central Bank generally sells bonds, which:
  - **depresses bond prices,**
  - **drains reserves from the banking system, which then,**
  - **places upward pressure on real interest rates.**
- As a result, an unanticipated shift to a more restrictive monetary policy reduces ***aggregate demand*** and thereby decreases both output and employment.

## A Shift to More Restrictive Monetary Policy

- A shift to a **more restrictive monetary policy**, will increase real interest rates.
- Higher interest rates decrease aggregate demand (to  $AD_2$ ).
- When the reduction in  $AD$  is unanticipated, real output will decline (to  $Y_2$ ) and downward pressure on prices will result.

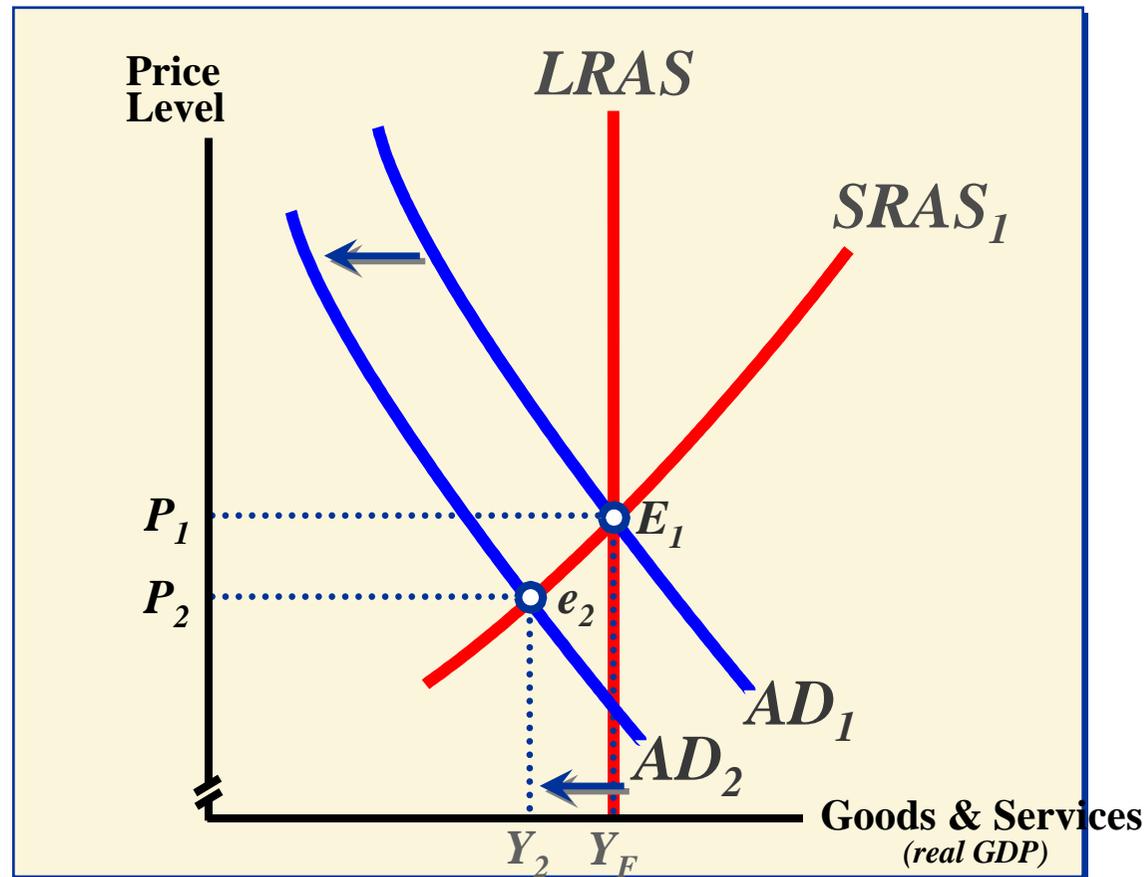


## Restrictive Monetary Policy



- The stabilization effects of restrictive monetary policy depend on the state of the economy when the policy exerts its impact.
- Restrictive monetary policy will reduce **aggregate demand**. If the demand restraint occurs during a period of strong demand and an overheated economy, then it may limit or prevent an inflationary boom.

## AD Decrease Disrupts Equilibrium



- In contrast, if the reduction in **aggregate demand** takes place when the economy is at full-employment, then it will disrupt long-run equilibrium, and result in a **recession**.

## AD Decrease Disrupts Equilibrium

- If a change in monetary policy is timed poorly, it can be a source of economic instability.
  - **It can cause either recession or inflation.**
- Proper timing of monetary policy is not easy:
  - **While the Central Bank can institute policy changes rapidly, there may be a time lag before the change exerts much impact on output & prices.**
    - This time lag may be 6 to 18 months in the case of output, and even longer, perhaps as much as 36 months, before there is a significant impact on the price level.
  - **Given our limited ability to forecast the future, these lengthy time lags clearly reduce the effectiveness of discretionary monetary policy as a stabilization tool.**



*Thank You for your Attention*



## Literature

- 1 - John F Hall: Introduction to Macroeconomics, 2005
- 2 - Fernando Quijano and Yvonn Quijano: Introduction to Macroeconomics
- 3 - Karl Case, Ray Fair: Principles of Economics, 2002
- 4 - Boyes and Melvin: Economics, 2008
- 5 - James Gwartney, David Macpherson and Charles Skipton: Macroeconomics, 2006
- 6 - N. Gregory Mankiw: Macroeconomics, 2002
- 7- Yamin Ahmed: Principles of Macroeconomics, 2005
- 8 - Olivier Blanchard: Principles of Macroeconomics, 1996