Fiscal Policy

Theory of Fiscal Policy

Including Aggregate Supply

The Evolution of Fiscal Policy

Fiscal Policy

- **Refers to government**
  - **purchases,**
  - **transfer payments,**
  - **taxes, and borrowing**

  they affect macroeconomic variables like
  - **real GDP, employment, the price level, and economic growth**

- **Two categories**
  - **Automatic stabilizers**
  - **Discretionary (無條件的) fiscal policy**

Automatic Stabilizers

- **Refer to revenue and spending items**
  - **automatically change with the ups and downs of the economy**
  - **stabilize disposable income and, hence, consumption and real GDP**
  - **Ex: Federal income tax**
    - **Reduces the drop in disposable income during recessions and vice versa.**
    - **It requires no congressional action to operate year after year**

Discretionary Fiscal Policy

- **Requires ongoing congressional decisions of government purchases, taxation, and transfers to promote macroeconomic goals such as full employment, price stability, and economic growth**
  - **Bush's 2001 tax cut**

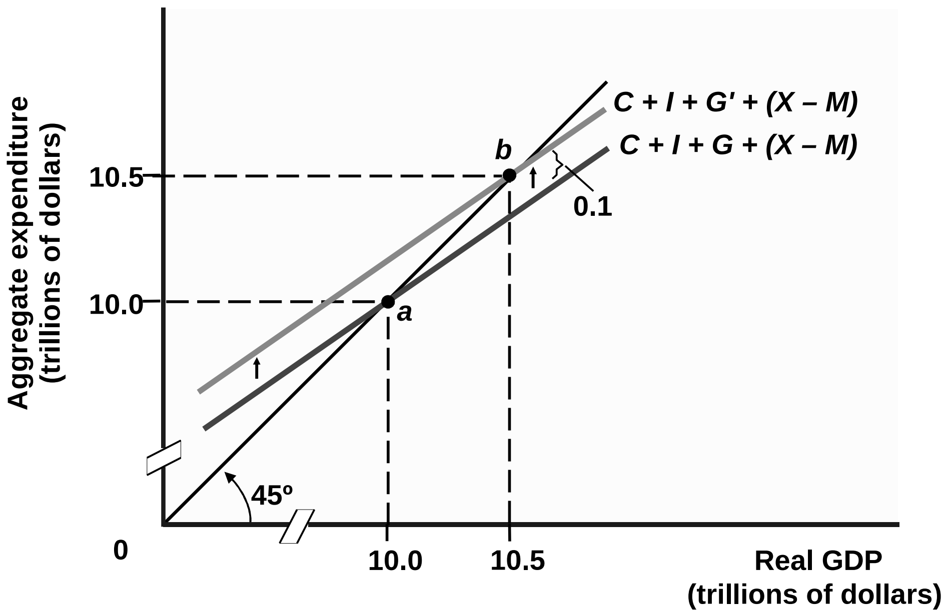
Fiscal Policy

- **Using the income-expenditure framework,**
  - **focus on the demand side**
  - **consider the effect of changes in government purchases, transfer payments, and taxes on real GDP demanded**
- **Result:**
  - **At any given price level,**
  - **Increase in government purchases or in transfer payments increases real GDP,**
  - **Increase in net taxes decreases real GDP,**

Increase in Government Purchases

Begin at point *a*
Let price level remains constant.

Government purchases increase by $0.1 trillion
➔ planned spending exceeds output
➔ By multiplier effect, real GDP and planned spending will increase by $0.5 trillion.



The new equilibrium level of real GDP and aggregate expenditures is at point b, where both equal $10.5 trillion.

Government Purchases Multiplier

If consumption is the only spending component that varies with income, the multiplier for a change in government purchases, equals

$$\frac{1}{1 - MPC}$$

Thus, we can say that for a given price level, and assuming that consumption varies with income

$$\Delta realGDP = \Delta G\left(\frac{1}{1 - MPC}\right)$$

Change in Net Taxes

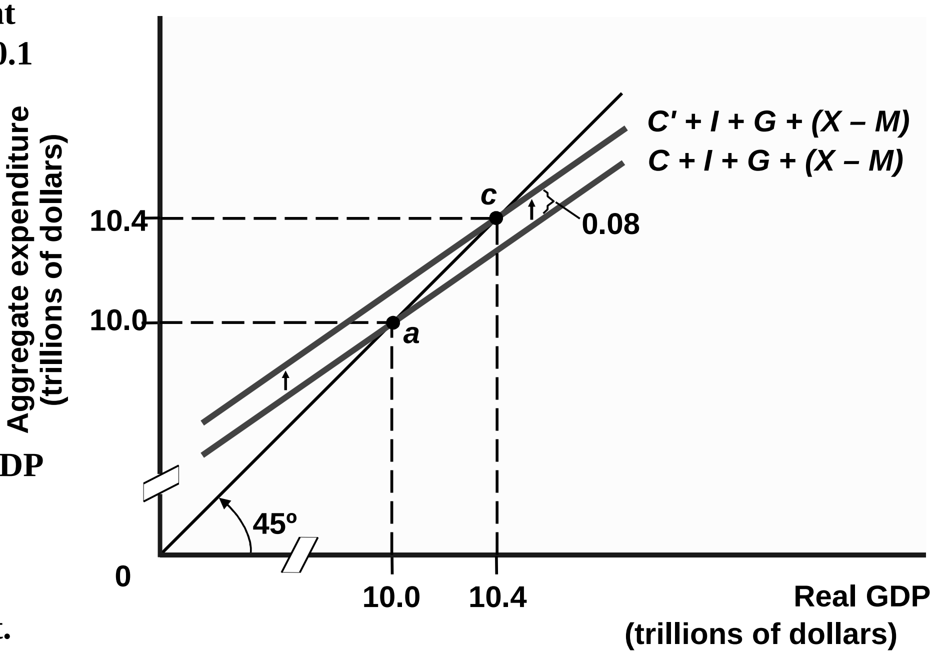
- **Change in net taxes**
  - **affects real GDP demanded,**
  - **less direct**

- **Specifically**
  - **Decrease in net taxes**
    - **→ Increases disposable income**
    - **➔ Consumption increases**

    In a indirect fashion

Decrease in Autonomous Net Taxes

Start at point a, government now reduces net taxes by $0.1 trillion.
C→C': Increase 0.08 trillion.



The net result is that real GDP increases to the new equilibrium level of $10.4 trillion, again assuming the price level remains constant.

Simple Tax Multiplier

The effect of a change in net taxes on real GDP demanded equals → $\dfrac{-MPC}{1-MPC}$

Therefore, the change in real GDP can be determined as

$$\Delta realGDP = \Delta NT\left(\frac{-MPC}{1-MPC}\right)$$

Differences

- Differences between
  - government-purchase multiplier
  - simple tax multiplier

- Government-purchase multiplier is positive ➔ Increase in government purchases leads to an increase in real GDP demanded.
  - The net tax multiplier is negative ➔ Increase in net taxes leads to a decrease in real GDP demanded

Differences

- The multiplier for government purchases is larger by 1 than the absolute value of the multiplier for net taxes
  - Changes in government purchases affect aggregate spending directly
  - tax multiplier increases consumption indirectly by changing disposable income

- Government purchases has a greater impact than an identical tax cut because some tax cut is saved

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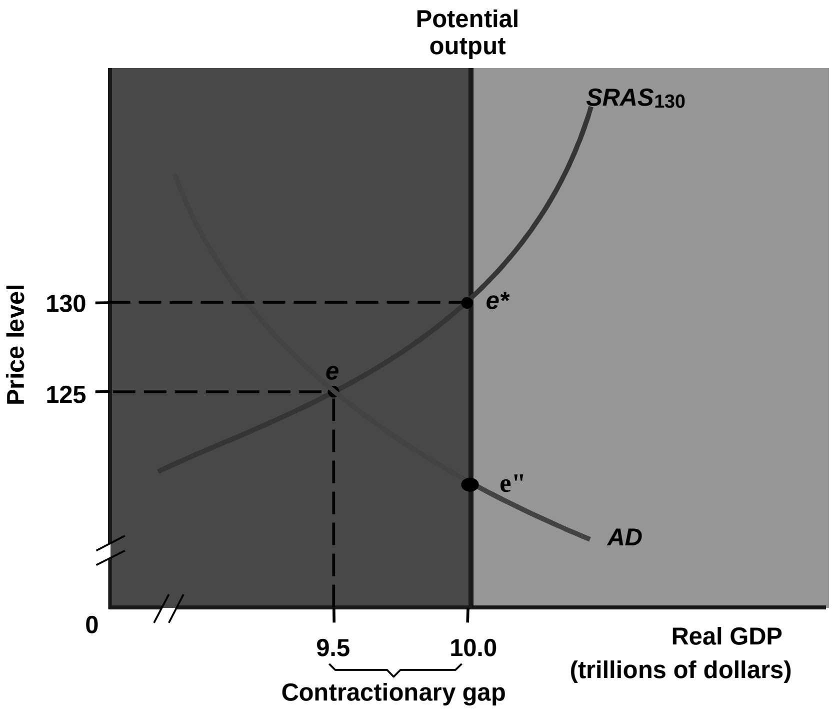
Contractionary Gap

Begin with ($SRAS_{130}$)
if price level=130,
the economy will produce at *e**

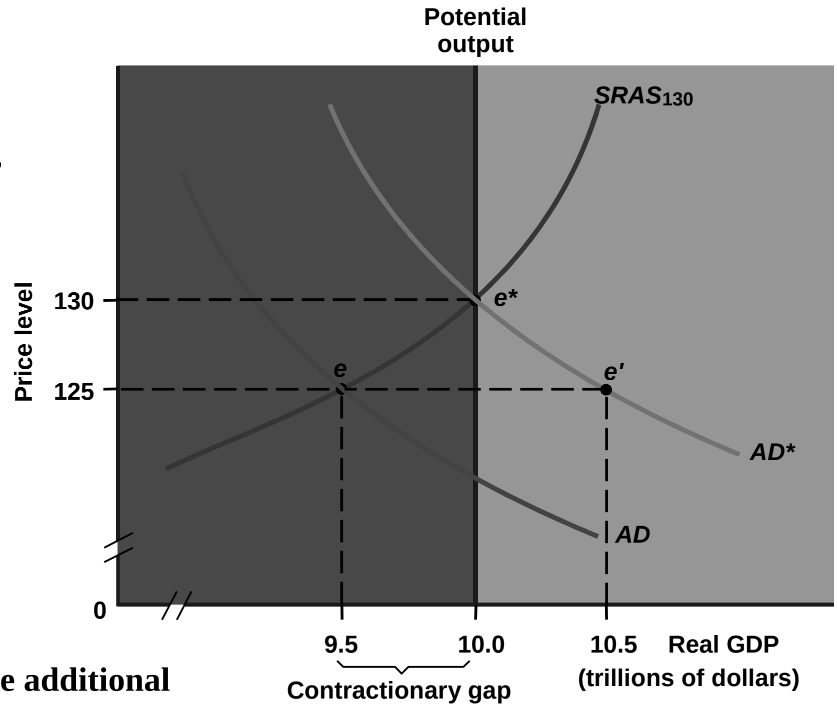
Let AD intersects SRAS at *e*
➔Contractionary gap of $0.5 trillion
➔ unemployment exceeding the natural rate

If markets adjust naturally to high unemployment,
➔SRAS would shift rightward to achieve *e*“ with a lower price level.



Contractionary Gap

Suppose policy makers believe market forces will take too long to return to potential output,
Fiscal Policy:
(1)Increase government purchases,
(2) Decrease in net taxes, or some
(3) Combination of the two,
to increase AD.



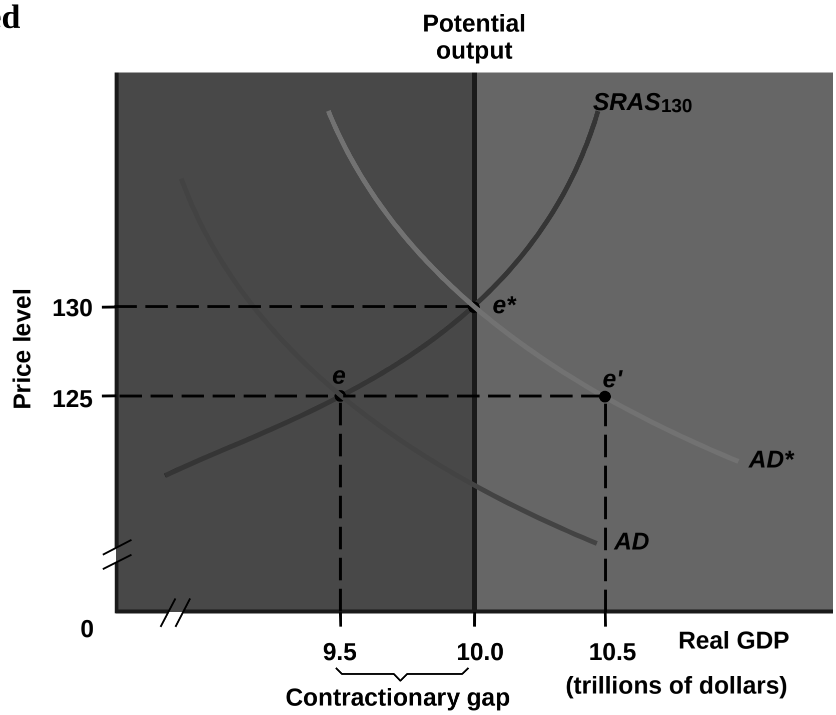
A $0.2 trillion increase in government purchases shift AD to AD*

If the price level remains at 125, the additional spending would increase the quantity demanded to $10.5 trillion, reflecting the simple multiplier, given a constant price level.

Contractionary Gap

However, excess quantity demanded causes the price level to rise.
It then cause real GDP supplied increases but real GDP demanded decreases.

Move back at *e** where the price level is 130 and output equals potential GDP.



If the federal budget was in balance before the fiscal stimulus, the increase in government spending creates a budget deficit.

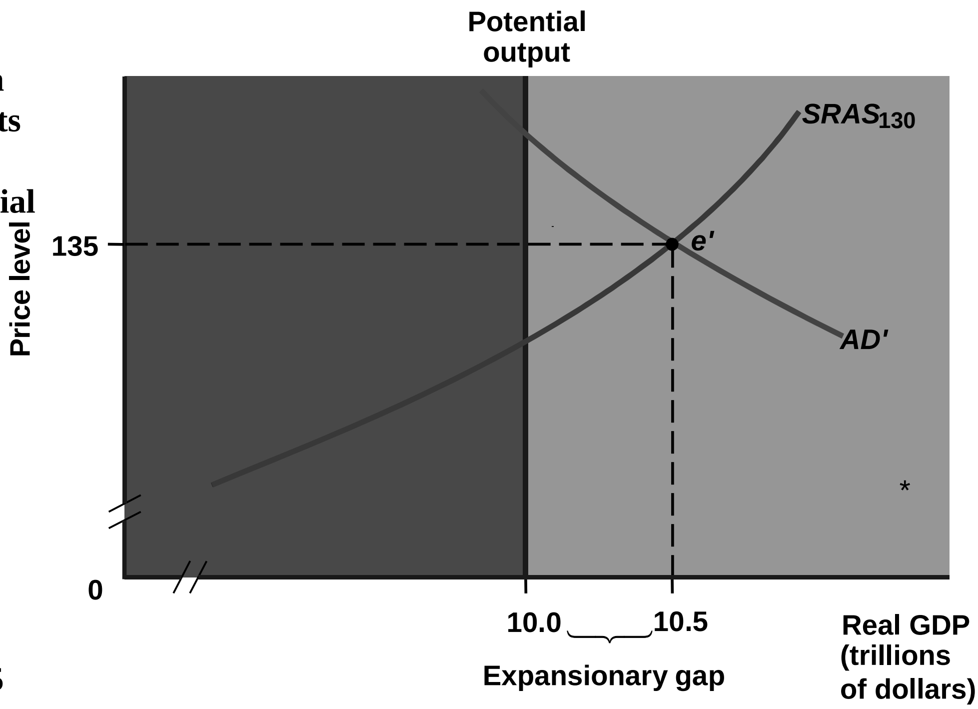
Fiscal Policy: Contractionary Gap

- **What if policy makers stimulate aggregate demand more than needed to achieve potential GDP?**
  - **In the short run,**
    - **real GDP > potential output**
  - **In the long run,**
    - **firms and resource owners adjust to the unexpectedly high price level**
  - **SRAS will shift back until it intersects AD at potential output, with increasing the price level**

Expansionary Gap

Let short-run price level exceeds the price level on which long-term contracts are based
➔ output exceeds potential GDP.

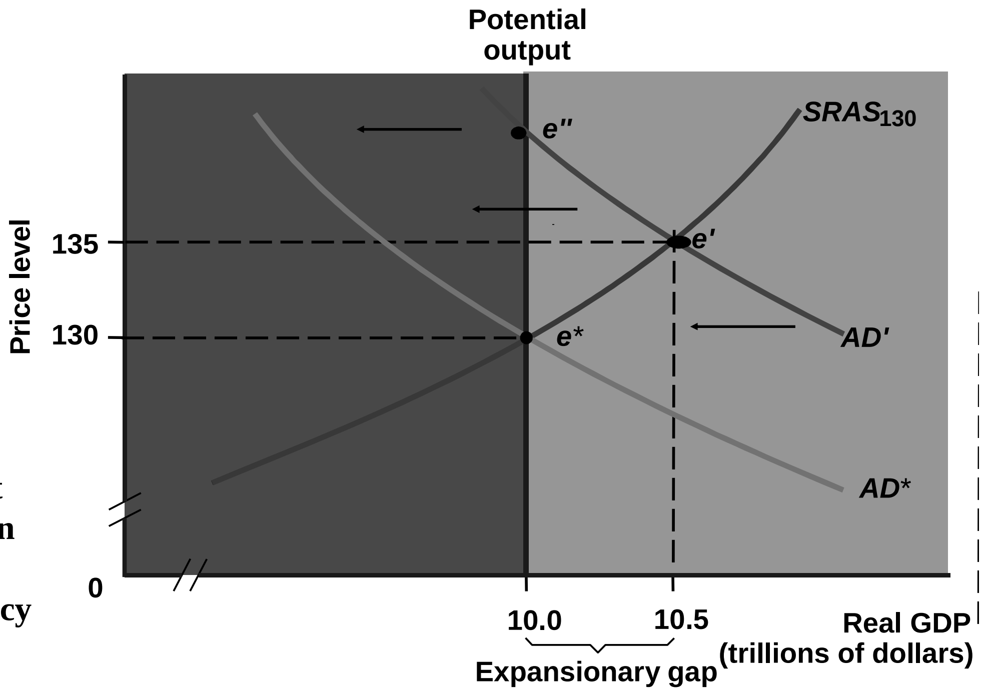
The SRAS130 intersects with AD' yields price level of 135.



Short-run output is $10.5 trillion ➔ an expansionary gap of $0.5 trillion

Expansionary Gap

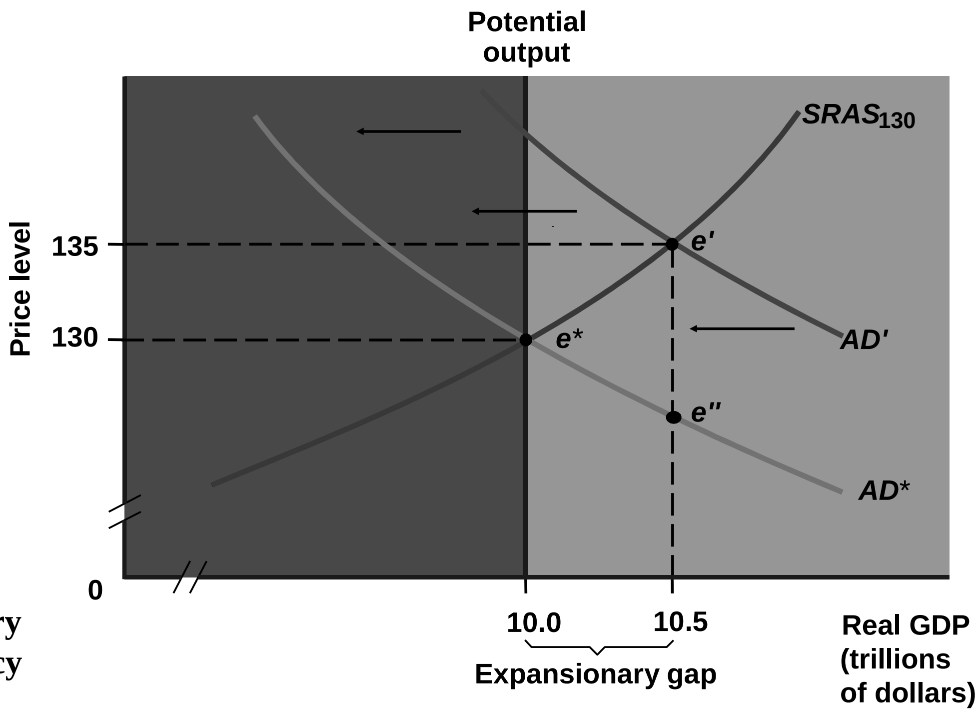
This gap will be closed by left shift of SRAS: Potential output at a higher price level: e"



By reducing government purchases, increasing net taxes, the government can implement a contractionary fiscal policy to reduce aggregate demand.

Expansionary Gap

Shift from AD to AD*, a new equilibrium at point *e**
➔ Return to potential output.



Closing an expansionary gap through fiscal policy results in a lower price level .

Problems with Fiscal Policy

- Precise expansionary and contractionary fiscal policies are difficult to achieve,
- Properly executed by following assumptions:
  - Spending multiplier is predicted accurately
  - Aggregate demand is shifted by the right amount
  - The potential output is accurately gauged
  - Various government entities can coordinate their fiscal efforts
  - SRAS is known and remains constant

Multiplier and Time Horizon

- SRAS slopes upward

  ➔ Shift in AD changes both price level and the output

  ➔ Simple multiplier overstates the change of the output.

- The exact change depends on the slope of the SRAS,
  - Depends on how sharply production costs increase as output expands

Multiplier and Time Horizon

- **The steeper the SRAS**
  - **Less impact on output**
  - **More impact on the price level**

- **If the economy is already producing its potential,**
  - **In the long run, any fiscal policy stimulating demand will increase the price level but will not affect output ➔ spending multiplier is zero**

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Evolution of Fiscal Policy

- **Before the Great Depression, public policy was shaped by the views of *classical economists.***
  - **Free markets were the best way to achieve national economic prosperity**
  - **Natural market forces, like changes in prices, wages, and interest rates, would correct the problems of inflation and unemployment**
  - **No need for government intervention**

Great Depression and World War II

- **Keynesian theory were developed to address the problem of unemployment arising from the Great Depression**

- **Keynes's main quarrel:**
  - **Prices and wages did not appear flexible enough to ensure the full employment**
  - **Natural forces would not return to full employment in a timely fashion**
  - **Business expectations might become so bleak**
    - **Very low interest rates would not spur firms to invest all that consumers save**

Great Depression and World War II

- **Three developments bolstered the use of discretionary fiscal policy**
  - **The influence of Keynes's *General Theory***
    - **Natural forces would not necessarily close a contractionary gap**
    - **Government should increase aggregate demand to boost output and employment**
  - **The demands of World War II greatly increased production and eliminated cyclical unemployment**

Great Depression and World War II

- **The Employment Act of 1946, which gave the federal government responsibility for promoting full employment and price stability**

- **These factors led policy makers grew the idea that the objective of fiscal policy**
  - **no longer to balance the budget**
  - **but to promote full employment with price stability even if deficits occurred in the process**

Automatic Stabilizers

- Automatic stabilizers smooth fluctuations in disposable income
  - boosting aggregate demand during recession
  - dampening aggregate demand during expansion
- Two good examples of automatic stabilizers
  - Progressive income tax
  - Unemployment compensation

Progressive Income Tax

- The progressive income tax relieves inflationary pressures
  - output increases above its potential during an economic expansion
- Conversely, when the economy is in a recession,
  - real GDP declines but taxes decline faster,
  - Disposable income does not fall as much as real GDP

    ➔ It alleviates declines in aggregate demand

Unemployment Insurance

- **During an expansion,**
  - **unemployment insurance taxes flow from the income into the insurance fund**
    - **moderating aggregate demand**
- **During a recession,**
  - **Payments from the insurance fund to unemployed**
    - **Increasing disposable income and consumption**

From the Golden Age to Stagflation

- **John F. Kennedy stimulate business investment, consumption, and employment by proposing a tax cut**
  - **Federal budget deficit**
- ***Discretionary fiscal policy is a type of demand-management policy***
  - ***Increase /decrease aggregate demand to smooth fluctuations***

From the Golden Age to Stagflation

- **1970s stagflation ➔**
  - **Decrease in aggregate supply**
    - **Higher inflation**
    - **Higher unemployment**

- **Demand-management policies were ill**
  - **Increase in aggregate demand**
    - **worsen inflation,**
  - **Decrease in aggregate demand**
    - **worsen unemployment**

Problems with Fiscal Policy

- **Other concerns to the effectiveness of discretionary fiscal policy**
  - **Hard to estimate the natural unemployment rate**
  - **The time lags involved in implementing fiscal policy**
  - **The distinction between current and permanent income**
  - **Possible feedback effects of fiscal policy on aggregate supply**

Explain them as follows:

Natural Rate of Unemployment

- **The unemployment rate when the economy produce potential GDP is *natural rate of unemployment***
- **Before adopting discretionary fiscal policies, public officials must correctly estimate this natural rate**
- **Otherwise → see next slide**

Discretionary Fiscal Policy Overshoots

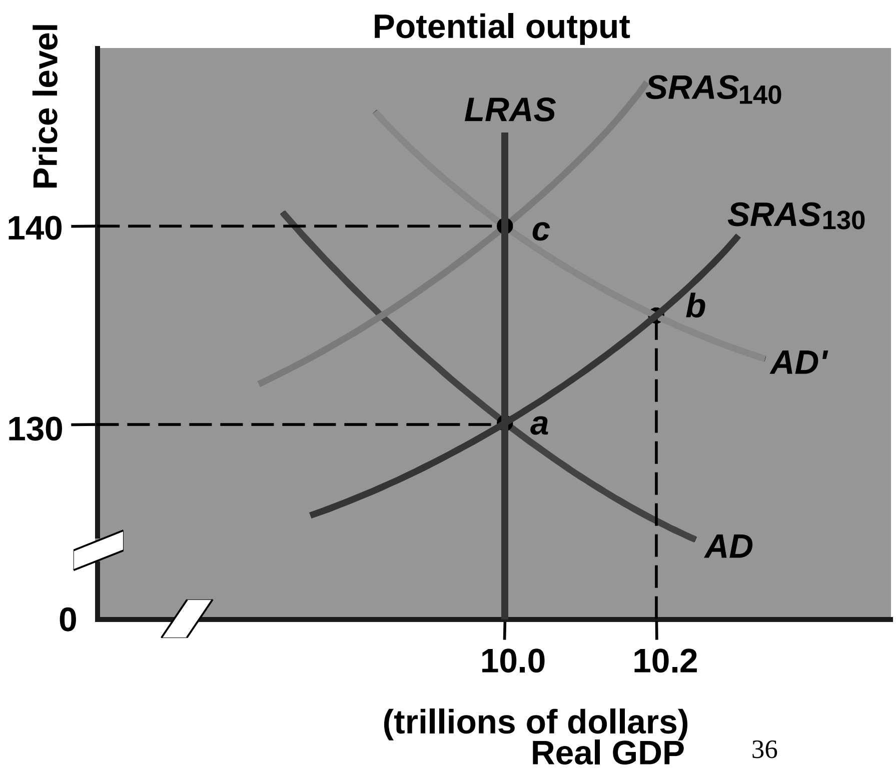
Let potential output: $10.0 trillion
Natural unemployment rate: 5%.

If officials mistakenly believe the natural unemployment rate is 4%

Attempt to increase output

Shift AD to AD'.
In the short run, this policy expands output and reduces unemployment.

Shift in aggregate demand creates an expansionary gap,
Pushes up nominal resource prices in the long run
→SRAS130 to SRAS140
→Prices increase and output declines.



Lags in Fiscal Policy

- The time required approving and implementing fiscal legislation may hamper its effectiveness

- A recession is not usually identified until six months after it begins,
  - Recessions
    - average of 11 months,
  - A narrow window for discretionary fiscal policy

Permanent Income

- The original belief
  - tax changes could increase or decrease disposable income
  - Bring about desired change in consumption

- A more recent view
  - People base their consumption decisions
    - not merely on changes in current income
    - but on changes in their permanent income

- Permanent income
  - Income a person expects to receive on average over the long run

- Changes in taxes that are regarded as temporary will not stimulate consumption

Feedback Effects

- Fiscal policy may unintentionally affect aggregate supply

- Ex: Let the government
  - increases unemployment benefits
  - finances transfer payments with higher taxes on current workers.

- If the marginal propensity to consume is the same for both groups,
  - Reduction in spending by current workers offset the increase in spending by transfer recipients

Feedback Effects

- Thus, no change in aggregate demand or on equilibrium real GDP

- But what of possible effects of these changes on the labor supply?

- The unemployed have less incentive to find work

- Workers who find their after-tax wage reduced by the higher tax rates may be less willing to work

- The supply of labor could decrease
  - Aggregate supply would decline
  - Economy's potential GDP would decline

Budget Deficits of the 1980s and 1990s

- The Reagan tax rate cut
  - Low tax rates would make people more willing to work and to invest
  - Because they could keep more
- Lower taxes, would increase
  - Supply of labor and other resources
  - Increasing aggregate supply and the economy's potential GDP

Supply Side Economics

- Enough additional real GDP would be generated by the tax cuts that total tax revenue would actually increase
- Taking 1981 to 1988 in US
  - Tax cut: 1981
  - Before it took effect, a recession hit the economy
  - employment climbed by 15 million
  - real GDP per capita increased by 2.5% per year
  - A continued expansion during the 1980s, the longest peacetime expansion

Supply Side Economics

- **However, government revenues did not expand to offset the tax cuts and increased government spending**
  - **Between 1981 and 1988,**
    - **Federal outlays grew an average of 7.1%**
    - **Federal revenues averaged a 6.3%**
    - **The deficits accumulated relative to GDP**
      - **33% in 1981**
      - **64% in 1992**

Political Business Cycles

- **William Nordhaus developed a theory of *political business cycles*,**
  - **Incumbent presidents use expansionary policies to stimulate the economy, often only temporarily, during an election year**
  - **Increase their changes of reelection by pursuing policies that stimulate real GDP and reduce unemployment**

Homework

- 12, 16