

## SECTION 6: Inflation, Unemployment, & Stabilization Policies

### Need to Know

#### FISCAL POLICY

Budget balance—savings by government—is defined by:  $S_{\text{Government}} = T - G - TR$

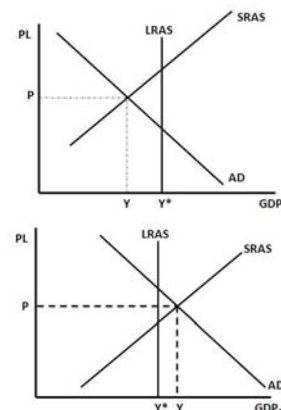
- Expansionary policies reduce budget balance
- Contractionary policies increase budget balance
- **G (government spending) has a greater impact than T (taxes) or Transfers**

#### Recessionary Gap

- Expansionary fiscal policy is in order:
- Cut taxes.
- Increase transfers.
- Increase government spending.
  - will cause the budget balance to decrease. This means either a smaller surplus or a bigger deficit.

#### Inflationary Gap.

- Contractionary fiscal policy is in order:
- Increase taxes.
- Decrease transfers.
- Decrease government spending



**Implicit liabilities** are spending promises made by governments that are effectively a debt despite the fact that they are not included in the usual debt statistics. (Social Security, Medicare, Medicaid)

#### MONETARY POLICY

##### Expansionary Monetary Policy chain of events

- The Fed observes that the economy is in a recessionary gap.
- The Fed increases the money supply.
- The interest rate falls.
- Investment and consumption increase.
- AD shifts to the right.
- Real GDP increases, unemployment rate decreases, the aggregate price level rises.

##### Contractionary Monetary Policy chain of events

- The Fed observes that the economy is in an inflationary gap.
- The Fed decreases the money supply.
- The interest rate rises.
- Investment and consumption decrease.
- AD shifts to the left.
- Real GDP decreases, unemployment rate increases, the aggregate price level falls.

The **TAYLOR RULE** for monetary policy is a rule for setting the federal funds rate that takes into account both the inflation rate and the output gap.

$$\text{Federal funds rate} = 1 + (1.5 \text{ inflation rate}) + (0.5 \text{ output gap})$$

Example: inflation is 3% and real GDP is 4% below potential GDP

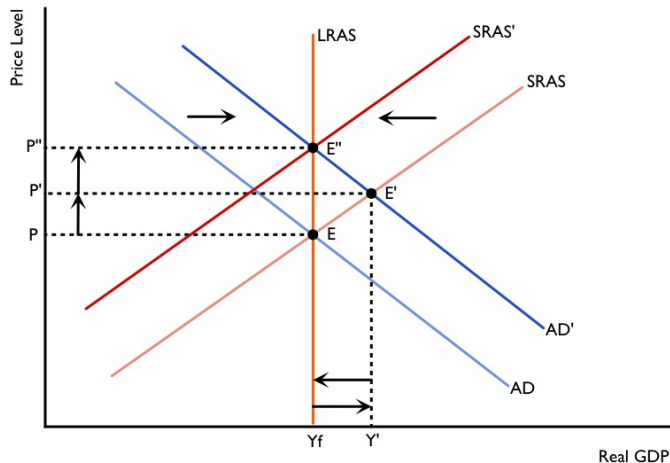
$$\text{FFR} = 1 + (1.5 \cdot 3) - (.5 \cdot 4) = 1 + 4.5 - 2 = 3.5 \%$$

Taylor rule adjusts monetary policy in response to past inflation, but inflation targeting is based on a forecast of future inflation.

Advocates of inflation targeting argue that it has two key advantages:

- **Transparency:** Economic uncertainty is reduced because the public knows the objective of an inflation - targeting central bank.
- **Accountability:** The central bank's success can be judged by seeing how closely actual inflation rates have matched the inflation target, making central bankers accountable.

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### Short-Run and Long-Run Effects of an Increase in the Money Supply

Increases in the money supply initially lead to an increase in output, but in the long run increased nominal wages reduce SRAS and lead only to an increased price level.

**Monetary Neutrality:** changes in the money supply have no real effects on the economy. In the long run, the only effect of an increase in the money supply is to

raise the aggregate price level by an equal percentage. **Economists argue that money is neutral in the long run.**

**Real Value Of The Money Supply** - the amount of goods and services it can buy

### The Classical Model of Money and Prices

The classical model presumes that the adjustment from the first long-run equilibrium point to the second is automatic and instantaneous.

$$\% \Delta M = \% \Delta PL$$

The Treasury pays interest on debt owned by the Federal Reserve—but the Fed, by law, hands the interest payments it receives on government debt back to the Treasury, keeping only enough to fund its own operations.

Revenue generated by the government's right to print money as **Seignorage** (Real seignorage =  $\Delta MS/P$ )

**Inflation Tax** - inflation erodes the purchasing power of their money holdings (inflation rate X nominal MS)

Moderate Inflation and Disinflation: two possible changes in AD/AS model:

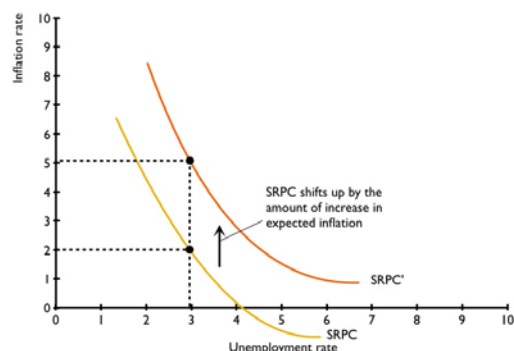
- **Cost-push inflation:** caused by a decrease in SRAS (economy-wide increase in the price of resources)
- **Demand-pull inflation:** caused by an increase in AD (economic growth that is coupled with either expansionary fiscal or monetary policy)

### THE OUTPUT GAP AND THE UNEMPLOYMENT RATE

- If the output gap is positive (inflationary), the economy is producing above potential output and unemployment should be low.
- If the output gap is negative (recessionary), the economy is producing below potential output and unemployment should be high
  - Actual Output = Potential Output  $\therefore$  Actual Unemployment = Natural Rate of Unemployment
  - Actual Output > Potential Output  $\therefore$  Actual Unemployment < Natural Rate of Unemployment
  - Actual Output < Potential Output  $\therefore$  Actual Unemployment > Natural Rate of Unemployment

### Inflation Expectations and the Short-Run Phillips Curve

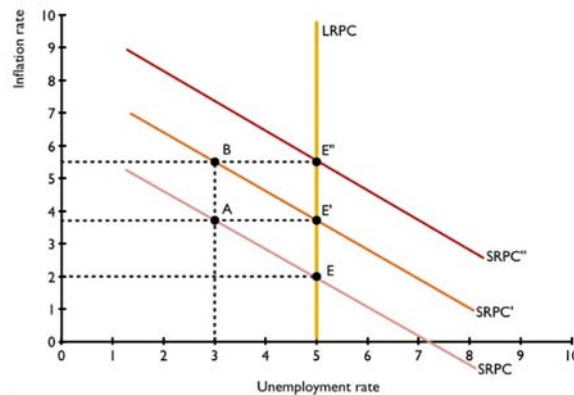
- Higher inflation expectations shift the SRPC upward. At any level of unemployment, inflation will be that much higher.
- Lower inflation expectations shift the SRPC downward.



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### Long-Run Phillip's Curve

- Keeping the unemployment rate below the **NAIRU** leads to ever-accelerating inflation and cannot be maintained.
- The **non-accelerating rate of unemployment (NAIRU)** often represents an equilibrium between the state of the economy and the labor market.
- Most macroeconomists believe that there is a NAIRU and that there is no long-run trade-off between unemployment and inflation.



#### A. Debt Deflation:

Due to the falling price level, a dollar in the future has a higher real value than a dollar today. So **lenders, who are owed money, gain under deflation** because the real value of borrowers' payments increases. **Borrowers lose** because the real burden of their debt rises.

#### B. Effects of Expected Deflation:

Nominal rate = real rate + expected inflation

Interest rates cannot fall below 0%, there is a zero bound. So deflation creates a situation where lenders receive nominal interest rates that approach zero. Lending will stop, monetary policy becomes completely ineffective. The Fed can't lower the interest rate lower than 0%!! This kind of deflation can cause an economy to languish for a very long time, referred to as the liquidity trap.

### ALTERNATIVE VIEWS of ECON

#### The Classical Model:

- Prices are flexible.
- The aggregate supply curve is vertical even in the short run.
- An increase in the money supply leads, other things equal, to a proportional rise in the aggregate price level.
- An increase in the money supply does not increase aggregate output.
  - Key result is that increases in the money supply lead to inflation, and that's all.

#### Keynesian Economics:

- Short-run shifts in aggregate demand do affect aggregate output and the price level because there is an upward sloping aggregate supply curve. Rather than minor and temporary shifts, these short-run shifts are important.
- The AD curve can shift because of several factors including "animal spirits" or business confidence, and that these were the main cause of business cycles. Classical economists emphasized the role of changes in the money supply in shifting the aggregate demand curve, paying little attention to other factors.
- It legitimized macroeconomic policy activism—the use of monetary and fiscal policy to smooth out the business cycle.
  - In the Long-Run we'll all be dead

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**Milton Friedman** led a movement that sought to eliminate macroeconomic policy activism while maintaining the importance of monetary policy.

- **Monetarism** asserted that GDP will grow steadily if the money supply grows steadily.
- The Quantity Theory of Money emerges to justify the slow steady growth of the money supply.
- **$MV = PY$**  (If we assume that  $V$ , the velocity of money, is constant then a slow increase in  $M$  will increase  $PY$  or nominal GDP)
- In the latter half of the 20<sup>th</sup> century, economists continued to develop and modify versions of classical and Keynesian economic models.
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**New Classical Macroeconomics**

A. Rational Expectations (John Muth in 1961) is the view that individuals and firms make decisions optimally, using all available information.

- According to the original version of the natural rate hypothesis, a government attempt to trade off higher inflation for lower unemployment would work in the short run but would eventually fail because higher inflation would get built into expectations.

New Keynesians that **price stickiness** does exist in the economy and that inflation is not always quick to rise, even if expectations are for higher prices.

**B. Real Business Cycles**

- In the 1980s a number of economists argued that slowdowns in productivity growth, which they attributed to pauses in technological progress, are the main cause of recessions.
- Real business cycle theory claims that fluctuations in the rate of growth of total factor productivity cause the business cycle.
- Believing that the aggregate supply curve is vertical, real business cycle theorists attribute the source of business cycles to shifts of the aggregate supply curve.
  - A recession occurs when a slowdown in productivity growth shifts the aggregate supply curve leftward.
  - A recovery occurs when a pickup in productivity growth shifts the aggregate supply curve rightward.

table 36.1				
Five Key Questions About Macroeconomic Policy				
	Classical macroeconomics	Keynesian macroeconomics	Monetarism	Modern consensus
Is expansionary monetary policy helpful in fighting recessions?	No	Not very	Yes	Yes, except in special circumstances
Is expansionary fiscal policy effective in fighting recessions?	No	Yes	No	Yes
Can monetary and/or fiscal policy reduce unemployment in the long run?	No	Yes	No	No
Should fiscal policy be used in a discretionary way?	No	Yes	No	No, except in special circumstances
Should monetary policy be used in a discretionary way?	No	Yes	No	Still in dispute