Building the IS-LM Model

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Today's Class

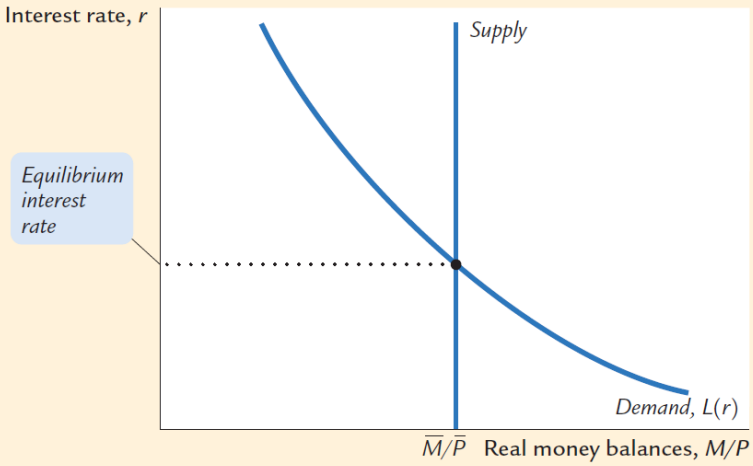
- Building the IS-LM model
  - Last week: the good market and the IS curve
  - Continue today: the money market and the LM curve
- Aggregate demand: applying the IS-LM model
  - Explaining fluctuations with the IS-LM model.
  - IS-LM as a theory of aggregate demand
  - The great depression

The Theory of Liquidity Preference

- Definition
  - In his classic work, The General Theory, Keynes offered an explanation of how the interest rate is determined in the short run.
  - It posits that the interest rate adjusts to balance the supply and demand for money.
- Develop this theory
  - The theory of liquidity preference assumes there is a fixed supply of real money balances: $(M/P)^s = \bar{M}/\bar{P}$.
  - The interest rate is the opportunity cost of holding money.
  - The demand for real money balances is : $(M/P)^d = L(r)$.
  - The supply and demand for real money balances determine what interest rate prevails in the economy.

The Theory of Liquidity Preference

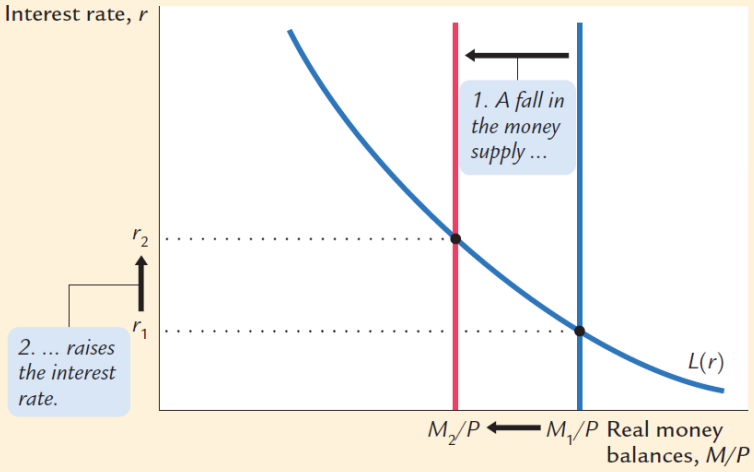
FIGURE 11-9



The Theory of Liquidity Preference The supply and demand for real money balances determine the interest rate. The supply curve for real money balances is vertical because the supply does not depend on the interest rate. The demand curve is downward sloping because a higher interest rate raises the cost of holding money and thus lowers the quantity demanded. At the equilibrium interest rate, the quantity of real money balances demanded equals the quantity supplied.

The Theory of Liquidity Preference

FIGURE 11-10



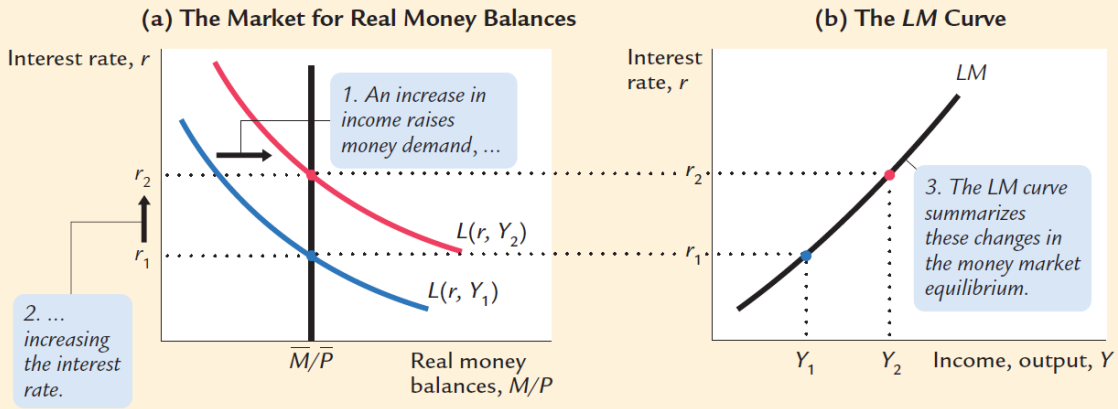
A Reduction in the Money Supply in the Theory of Liquidity Preference If the price level is fixed, a reduction in the money supply from M_1 to M_2 reduces the supply of real money balances. The equilibrium interest rate therefore rises from r_1 to r_2.

Income, Money Demand, and the LM Curve

- Question:
  - How does a change in the economy's level of income Y affect the market for real money balances
- Answer:
  - When income is high, expenditure is high, so people engage in more transactions that require the use of money.
  - Greater income implies greater money demand: $(M/P)^d = L(r, Y)$.
  - The quantity of real money balances demanded is negatively related to the interest rate and positively related to income.
- Example:
  - An increase in income shifts the money demand curve to the right.
  - The interest rate must rise to equilibrate the money market.
  - Higher income leads to a higher interest rate.

Income, Money Demand, and the LM Curve

FIGURE 11-11



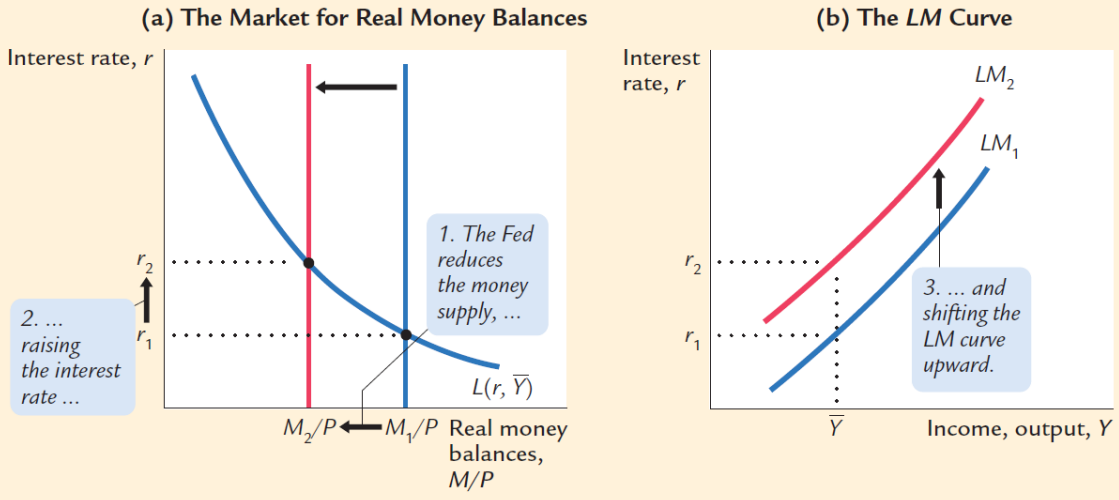
Deriving the *LM* Curve Panel (a) shows the market for real money balances: an increase in income from Y_1 to Y_2 raises the demand for money and thus raises the interest rate from r_1 to r_2. Panel (b) shows the *LM* curve summarizing this relationship between the interest rate and income: the higher the level of income, the higher the interest rate.

How Monetary Policy Shifts the LM Curve

- Example:
  - Suppose that the Fed decreases the money supply.
  - It causes the supply of real money balances to fall.
  - Holding constant the amount of income and thus the demand curve for real money balances.
  - A reduction in the supply of real money balances raises the interest rate that equilibrates the money market.
- Remark
  - The LM curve is drawn for a given supply of real money balances.
  - Decreases in the supply of real money balances shift the LM curve upward.
  - Increases in the supply of real money balances shift the LM curve downward.

Income, Money Demand, and the LM Curve

FIGURE 11-12



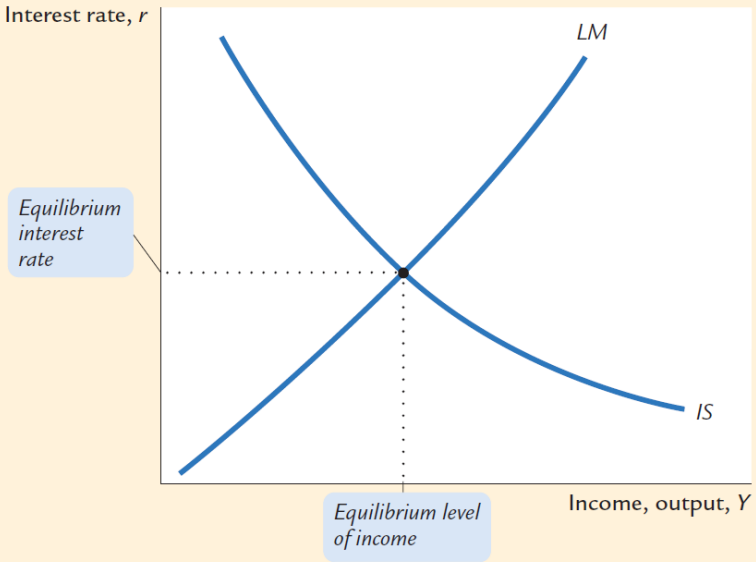
A Reduction in the Money Supply Shifts the *LM* Curve Upward Panel (a) shows that for any given level of income $\bar{Y}$, a reduction in the money supply raises the interest rate that equilibrates the money market. Therefore, the *LM* curve in panel (b) shifts upward.

The Short-Run Equilibrium

- The two equations of IS-LM model
  - IS curve: $Y = C(Y - T) + I(r) + G$
  - LM curve: $M/P = L(r, Y)$
  - The exogenous variables: fiscal policy G and T, monetary policy M, and the price level P.
  - The IS curve representing the goods market, and the LM curve representing the money market.
  - The IS curve and the LM curve meet at the equilibrium.
  - Actual expenditure equals planned expenditure, and the demand for real money balances equals the supply.

The Short-Run Equilibrium

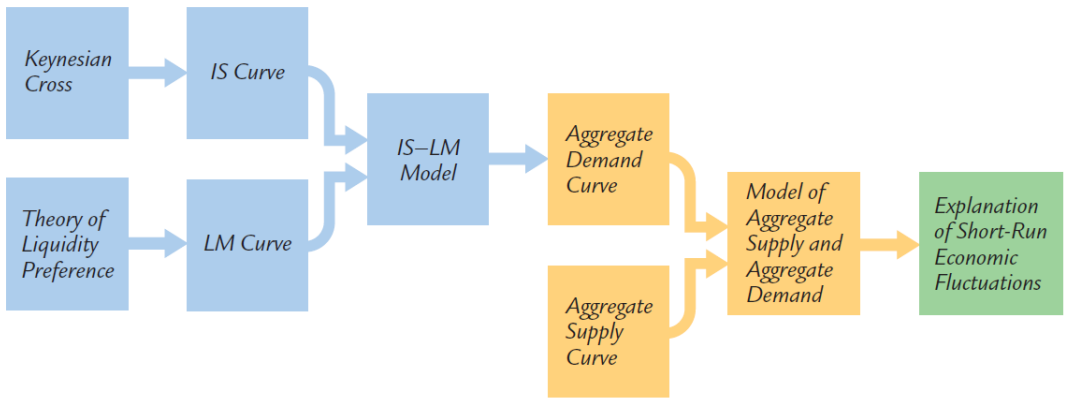
FIGURE 11-13



Equilibrium in the *IS–LM* Model The intersection of the *IS* and *LM* curves represents simultaneous equilibrium in the market for goods and services and in the market for real money balances for given values of government spending, taxes, the money supply, and the price level.

The Short-Run Equilibrium

FIGURE 11-14



The Theory of Short-Run Fluctuations This schematic diagram shows how the different pieces of the theory of short-run fluctuations fit together. The Keynesian cross explains the *IS* curve, and the theory of liquidity preference explains the *LM* curve. The *IS* and *LM* curves together yield the *IS–LM* model, which explains the aggregate demand curve. The aggregate demand curve is part of the model of aggregate supply and aggregate demand, which economists use to explain short-run fluctuations in economic activity.

Keynesian Economics

- Keynesian economics are the theories about how in the short run economic output is strongly influenced by aggregate demand.
  - Aggregate demand does not necessarily equal the productive capacity of the economy.
  - It is influenced by a host of factors and sometimes behaves erratically, affecting production, employment, and inflation.
  - They were first presented by the British economist John Maynard Keynes during the Great Depression in his 1936 book, The General Theory of Employment, Interest and Money.
  - Keynes contrasted his approach to the aggregate supply-focused classical economics that preceded his book.
  - Keynesian economics served as the standard economic model in the developed nations during the later part of the Great Depression, World War II, and the post-war economic expansion.

Keynesian Economics

- Historical context
  - Prior to the publication of Keynes, mainstream economic thought held that a state of general equilibrium existed in the economy.
  - Say's law: individuals produce so that they can either consume what they have manufactured or sell their output so that they can buy someone else's output.
  - Keynes argued that unemployment was a natural consequence especially in the instance of an economy undergoing contraction.
  - He saw the economy as unable to maintain itself at full employment and believed that it was necessary for the government to put under-utilized savings to work through government spending.
  - Government spending can be used to increase aggregate demand, thus increasing economic activity, reducing unemployment and deflation.

Keynesian Economics

- Keynes argued that the solution to the Great Depression was to stimulate the country through two approaches:
  - Monetary policy: a reduction in interest rates.
  - Fiscal policy: government investment in infrastructure.
  - If the interest rate is decreased, investments which were previously uneconomic become profitable, and large consumer sales which are normally financed through debt become more affordable.
  - Investment and consumption by government raises demand for businesses' products and for employment.
  - There are some situations in which a depressed economy would not quickly self-correct towards full employment and potential output, but could remain trapped indefinitely with both high unemployment and mothballed factories.

Today's Class II: Applying the IS-lM Model

- Applying the IS-LM model to analyze three issues.
  - Examine the potential causes of fluctuations in national income.
  - Discuss how the IS-LM model fits into the model of aggregate supply and aggregate demand.
  - Examine the Great Depression of the 1930s.

Today's Class II: Applying the IS-LM Model

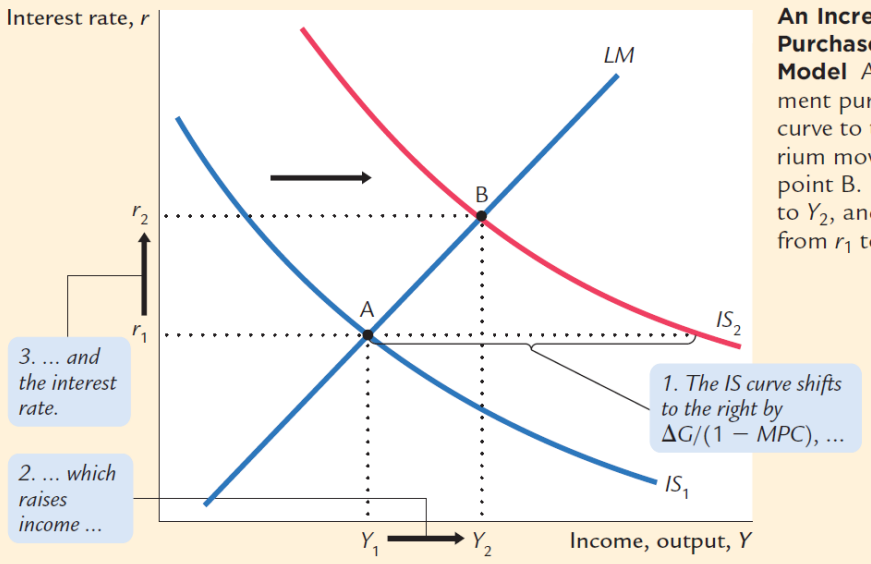
- Explaining fluctuations with the IS-LM model
- IS-LM as a theory of aggregate demand
- The great depresssion

Explaining Fluctuations With the IS-LM Model

- Change in government purchases
  - Consider an increase in government purchases of ΔG.
  - It raises the income at any given interest rate by $\Delta G/(1 - MPC)$.
  - The IS curve shifts to the right by this amount.
  - The increase in government purchases raises both income and the interest rate.
- Explanation
  - The economy's planned expenditure rises.
  - It stimulates the production of goods and services, which causes total income Y to rise.
  - Higher money demand causes the equilibrium interest rate to rise.
  - Firms cut back on their investment plans.
  - This partially offsets the expansionary effect of the increase in government purchases.

Explaining Fluctuations With the IS-LM Model

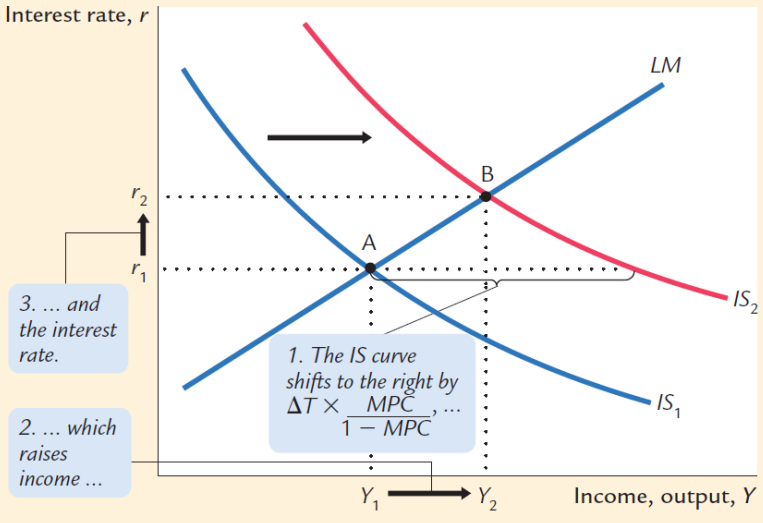
FIGURE 12-1



An Increase in Government Purchases in the *IS–LM* Model An increase in government purchases shifts the *IS* curve to the right. The equilibrium moves from point A to point B. Income rises from Y_1 to Y_2, and the interest rate rises from r_1 to r_2.

Explaining Fluctuations With the IS-LM Model

FIGURE 12-2



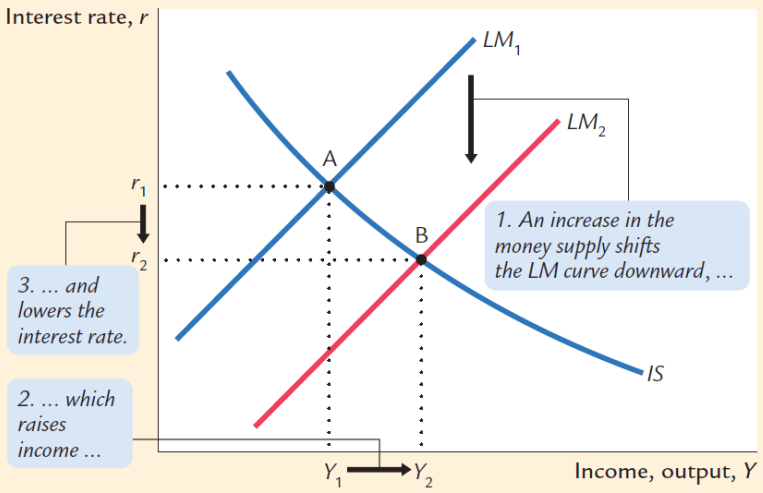
A Decrease in Taxes in the *IS–LM* Model A decrease in taxes shifts the *IS* curve to the right. The equilibrium moves from point A to point B. Income rises from Y_1 to Y_2, and the interest rate rises from r_1 to r_2.

Explaining Fluctuations With the IS-LM Model

- How monetary policy shifts the LM curve and changes the short-run equilibrium.
  - An increase in M leads to an increase in real money balances M/P.
  - An increase in real money balances leads to a lower interest rate.
  - The LM curve shifts downward.
- Explanation: monetary transmission mechanism
  - When Federal Reserve increases the supply of money, people have more money than they want.
  - They deposit this extra money in banks or use it to buy bonds.
  - The interest rate then falls until people are willing to hold all the extra money.
  - A lower interest rate stimulates planned investment, which increases planned expenditure, production, and income Y.

Explaining Fluctuations With the IS-LM Model

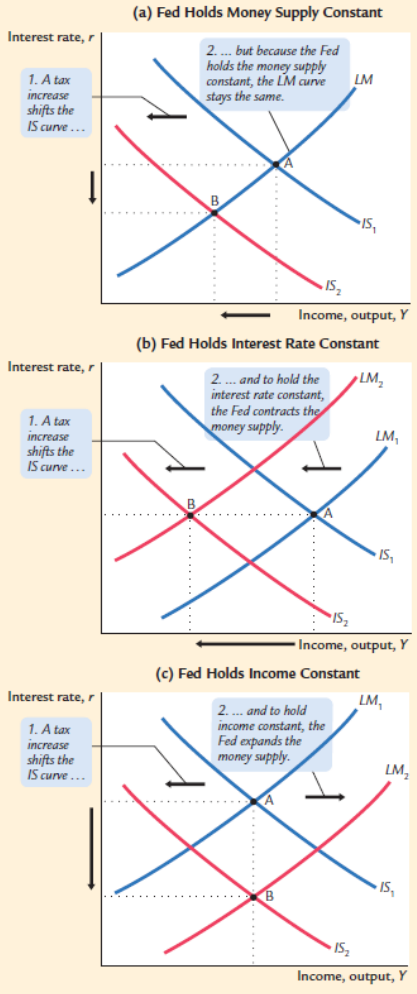
FIGURE 12-3



An Increase in the Money Supply in the *IS–LM* Model An increase in the money supply shifts the *LM* curve downward. The equilibrium moves from point A to point B. Income rises from Y_1 to Y_2, and the interest rate falls from r_1 to r_2.

Explaining Fluctuations With the IS-LM Model

FIGURE 12-4



The Response of the Economy to a Tax Increase How the economy responds to a tax increase depends on how the central bank responds. In panel (a) the Fed holds the money supply constant. In panel (b) the Fed holds the interest rate constant by reducing the money supply. In panel (c) the Fed holds the level of income constant by raising the money supply. In each case, the economy moves from point A to point B.

Explaining Fluctuations With the IS-LM Model

- Policy analysis with macroeconometric models
  - Macroeconometric model describes the economy quantitatively.
  - We use historical data to estimate parameters: the marginal propensity to consume, the sensitivity of investment to the interest rate, and the sensitivity of money demand to the interest rate.
  - We can simulate the effects of alternative policies.
- Shocks in the IS-LM model
  - Shocks to the IS curve are exogenous changes in the demand for goods and services.
  - Shocks to the LM curve arise from exogenous changes in the demand for money.
  - Policymakers can try to use the tools of monetary and fiscal policy to offset exogenous shocks.

Explaining Fluctuations With the IS-LM Model

TABLE 12-1

The Fiscal-Policy Multipliers in the DRI Model

Assumption About Monetary Policy	Value of Multipliers $\Delta Y/\Delta G$	$\Delta Y/\Delta T$
Nominal interest rate held constant	1.93	−1.19
Money supply held constant	0.60	−0.26

Note: This table gives the fiscal-policy multipliers for a sustained change in government purchases or in personal income taxes. These multipliers are for the fourth quarter after the policy change is made.
Source: Otto Eckstein, *The DRI Model of the U.S. Economy* (New York: McGraw-Hill, 1983), 169.

The U.S. Recession of 2001

- Observation
  - In 2001, the U.S. economy experienced a pronounced slowdown.
- Three notable shocks explain this event.
  - The first was a decline in the stock market.
  - The second shock was the terrorist attacks.
  - The third shock was a series of accounting scandals at some of the nation's most prominent corporations, including Enron and World-Com.
- Fiscal and monetary policymakers responded quickly.
  - Congress passed a major tax cut in 2001 and a second one in 2003.
  - The Federal Reserve pursued expansionary monetary policy
- Economic growth picked up in the second half of 2003.

Explaining Fluctuations With the IS-LM Model

- What is the Fed's policy instrument?
  - The Fed has used the federal funds rate-the interest rate that banks charge one another for overnight loans-as its short-term policy instrument.
- How does this work?
  - When the Federal Open Market Committee meets every six weeks to set monetary policy, it votes on a target for this interest rate that will apply until the next meeting.
  - The Fed's bond traders are told to conduct the open-market operations necessary to hit that target.
- Why has the Fed chosen to use an interest rate?
  - One possible answer is that shocks to the LM curve are more prevalent than shocks to the IS curve.

Today's Class II: Applying the IS-LM Model

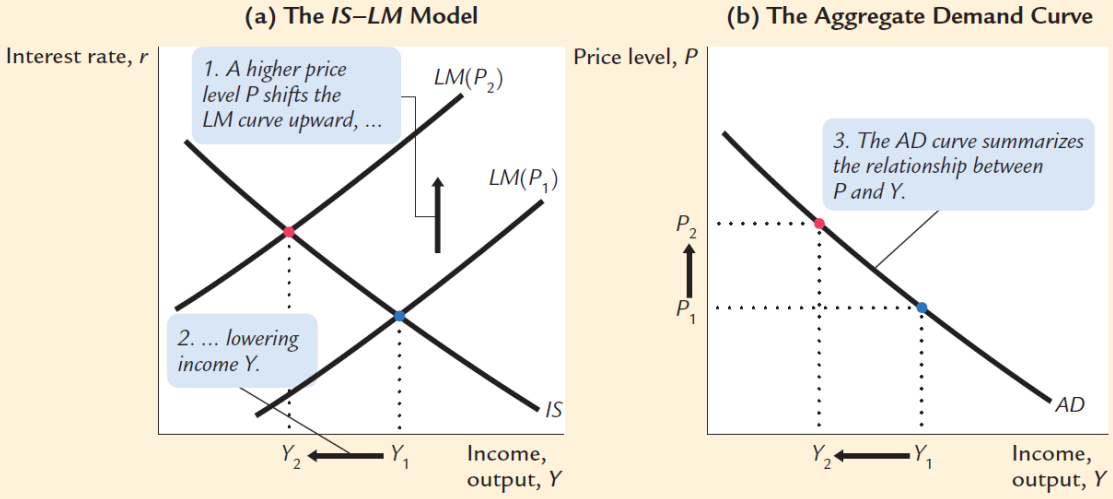
- IS-LM as a theory of aggregate demand
- The great depresssion

IS-LM as a Theory of Aggregate Demand

- From the IS-LM Model to the Aggregate Demand Curve
  - We now use the IS-LM model, rather than the quantity theory, to derive the aggregate demand curve.
  - We use the IS-LM model to show why national income falls as the price level rises first.
  - We than examine what causes the aggregate demand curve to shift.
- Summarize these results from the two steps above.
  - A change in income in the IS-LM model resulting from a price change represents a movement along the aggregate demand curve.
  - A change in income in the IS-LM model for a given price represents a shift in the aggregate demand curve.

IS-LM as a Theory of Aggregate Demand

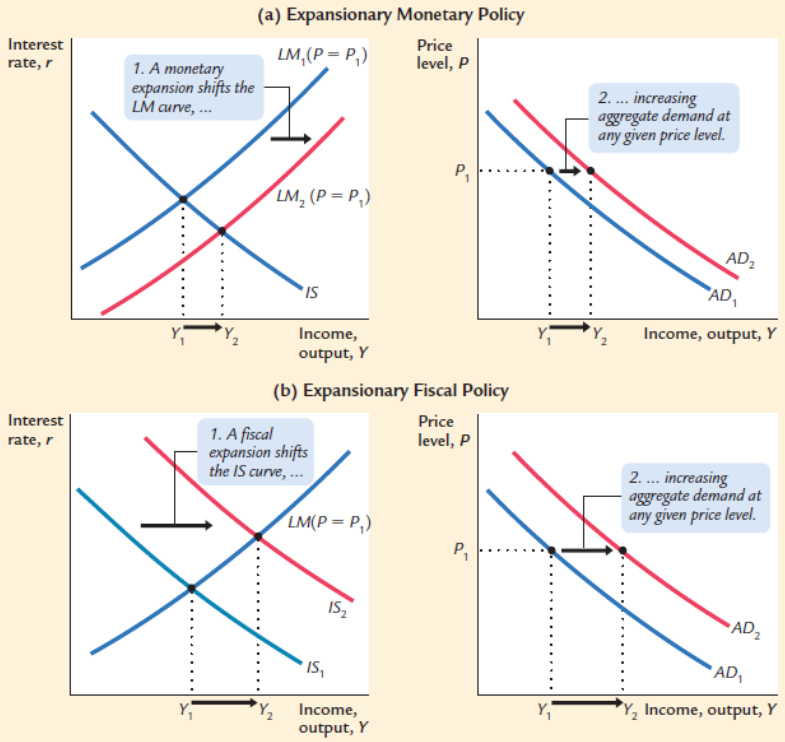
FIGURE 12-5



Deriving the Aggregate Demand Curve with the *IS–LM* Model Panel (a) shows the *IS–LM* model: an increase in the price level from P_1 to P_2 lowers real money balances and thus shifts the *LM* curve upward. The shift in the *LM* curve lowers income from Y_1 to Y_2. Panel (b) shows the aggregate demand curve summarizing this relationship between the price level and income: the higher the price level, the lower the level of income.

IS-LM as a Theory of Aggregate Demand

FIGURE 12-6



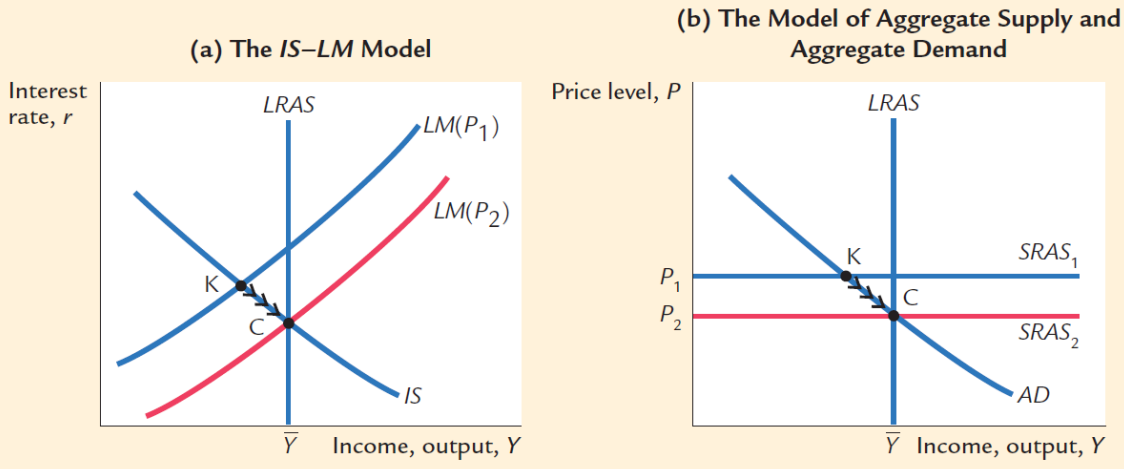
How Monetary and Fiscal Policies Shift the Aggregate Demand Curve Panel (a) shows a monetary expansion. For any given price level, an increase in the money supply raises real money balances, shifts the *LM* curve downward, and raises income. Hence, an increase in the money supply shifts the aggregate demand curve to the right. Panel (b) shows a fiscal expansion, such as an increase in government purchases or a decrease in taxes. The fiscal expansion shifts the *IS* curve to the right and, for any given price level, raises income. Hence, a fiscal expansion shifts the aggregate demand curve to the right.

The IS-LM Model in the Short Run and Long Run

- Use the IS-LM model to describe the economy in the long run
  - The three curves that are necessary: the IS curve, the LM curve, and the vertical line representing the natural level of output.
  - This long-run equilibrium is achieved in the IS-LM diagram by a shift in the LM curve.
- The key difference between the Keynesian and classical approaches to the determination of national income
  - They share the IS amd LM equations: $Y = C(Y - T) + I(r) + G$ and $M/P = L(r, Y)$.
  - The Keynesian assumption is that the price level is stuck $P = P_1$.
  - The classical assumption is that the price level is flexible $Y = \bar{Y}$.

The IS-LM Model in the Short Run and Long Run

FIGURE 12-7



The Short-Run and Long-Run Equilibria We can compare the short-run and long-run equilibria using either the *IS–LM* diagram in panel (a) or the aggregate supply–aggregate demand diagram in panel (b). In the short run, the price level is stuck at P_1. The short-run equilibrium of the economy is therefore point K. In the long run, the price level adjusts so that the economy is at the natural level of output. The long-run equilibrium is therefore point C.

Today's Class II: Applying the IS-LM Model

- The great depresssion

The Great Depression

TABLE 12-2

What Happened During the Great Depression?

Year	Unemployment Rate (1)	Real GNP (2)	Consumption (2)	Investment (2)	Government Purchases (2)
1929	3.2	203.6	139.6	40.4	22.0
1930	8.9	183.5	130.4	27.4	24.3
1931	16.3	169.5	126.1	16.8	25.4
1932	24.1	144.2	114.8	4.7	24.2
1933	25.2	141.5	112.8	5.3	23.3
1934	22.0	154.3	118.1	9.4	26.6
1935	20.3	169.5	125.5	18.0	27.0
1936	17.0	193.2	138.4	24.0	31.8
1937	14.3	203.2	143.1	29.9	30.8
1938	19.1	192.9	140.2	17.0	33.9
1939	17.2	209.4	148.2	24.7	35.2
1940	14.6	227.2	155.7	33.0	36.4

Source: *Historical Statistics of the United States, Colonial Times to 1970, Parts I and II* (Washington, DC: U.S. Department of Commerce, Bureau of Census, 1975).
Note: (1) The unemployment rate is series D9. (2) Real GNP, consumption, investment, and government purchases are series F3, F48, F52, and F66, and are measured in billions of 1958 dollars. (3) The interest rate is the prime Commercial Paper

The Great Depression

Year	Nominal Interest Rate (3)	Money Supply (4)	Price Level (5)	Inflation (6)	Real Money Balances (7)
1929	5.9	26.6	50.6	–	52.6
1930	3.6	25.8	49.3	−2.6	52.3
1931	2.6	24.1	44.8	−10.1	54.5
1932	2.7	21.1	40.2	−9.3	52.5
1933	1.7	19.9	39.3	−2.2	50.7
1934	1.0	21.9	42.2	7.4	51.8
1935	0.8	25.9	42.6	0.9	60.8
1936	0.8	29.6	42.7	0.2	62.9
1937	0.9	30.9	44.5	4.2	69.5
1938	0.8	30.5	43.9	−1.3	69.5
1939	0.6	34.2	43.2	−1.6	79.1
1940	0.6	39.7	43.9	1.6	90.3

rate, 4–6 months, series ×445. (4) The money supply is series ×414, currency plus demand deposits, measured in billions of dollars. (5) The price level is the GNP deflator (1958 = 100), series E1. (6) The inflation rate is the percentage change in the price level series. (7) Real money balances, calculated by dividing the money supply by the price level and multiplying by 100, are in billions of 1958 dollars.

The Great Depression

- The spending hypothesis: shocks to the IS curve
  - The cause of the decline may have been a contractionary shift in the IS curve.
  - It places primary blame for the Depression on an exogenous fall in spending on goods and services.
- Explain this decline in spending
  - A downward shift in the consumption function caused the contractionary shift in the IS curve.
  - The large drop in investment in housing.
  - Once the Depression began, several events occurred that could have reduced spending further.
  - The fiscal policy also contributed to the contractionary shift in the IS curve, raising tax and reducing government spending.

The Great Depression

- The money hypothesis: a shock to the LM curve
  - The money supply fell and the unemployment rate rose.
  - It places primary blame for the Depression on the Federal Reserve for allowing the money supply to fall by such a large amount.
  - It explains the Depression by a contractionary shift in the LM curve.
- The money hypothesis runs into two problems
  - The first problem is the behavior of real money balances, which rose slightly.
  - The second problem for the money hypothesis is the behavior of interest rates, which fell continuously from 1929 to 1933.

The Great Depression

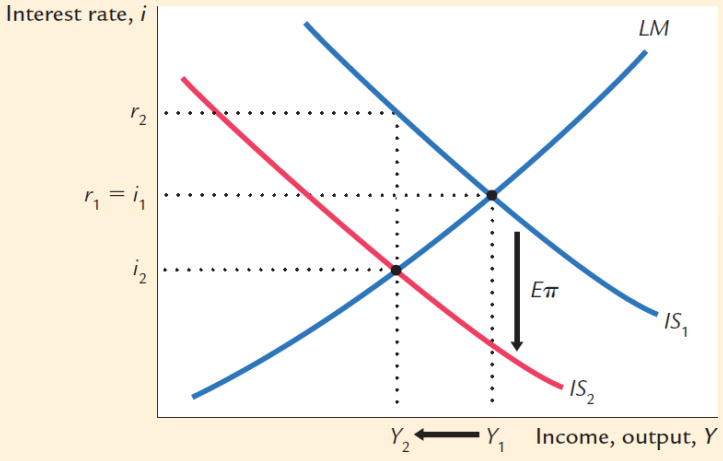
- The money hypothesis again: the effects of falling prices
  - The stabilizing effects of deflation: an increase in real money balances causes an expansionary shift in the LM curve, which leads to higher income.
  - Pigou effect: real money balances are part of households' wealth, and consumers should feel wealthier after price falling.
  - The destabilizing effects of deflation: the effects of expected and unexpected deflation.
  - The debt-deflation theory: an unexpected deflation enriches creditors and impoverishes debtors, and debtors reduce their spending by more than creditors raise theirs.

The Great Depression

- The money hypothesis again: the effects of falling prices, cont
  - Revisit the IS-LM model with expected inflation.
  - The IS curve depends on the real interest rate:
    $Y = C(Y - T) + I(i - E\pi) + G$.
  - The LM curve depends on the nominal one: $M/P = L(i, Y)$.
  - The real interest rate is higher at any given nominal interest rate.
  - This increase in the real interest rate depresses planned investment spending.
  - An expected deflation leads to a reduction in national income.

The Great Depression

FIGURE 12-8



Expected Deflation in the *IS–LM* Model An expected deflation (a negative value of $E\pi$) raises the real interest rate for any given nominal interest rate, and this depresses investment spending. The reduction in investment shifts the *IS* curve downward. The level of income falls from Y_1 to Y_2. The nominal interest rate falls from i_1 to i_2, and the real interest rate rises from r_1 to r_2.

New Deal

- Economic collapse (1929?1933)
  - From 1929 to 1933 manufacturing output decreased by one third.
  - Prices fell by 20%, causing deflation that made repaying debts much harder.
  - Unemployment in the U.S. increased from 4% to 25%.
  - Farm income had fallen by over 50% since 1929.
  - Additionally, one-third of all employed persons were downgraded to working part-time on much smaller paychecks.
  - Before the New Deal, there was no insurance on deposits at banks. When thousands of banks closed, depositors lost their savings.
  - At that time there was no national safety net, no public unemployment insurance, and no Social Security.

First New Deal (1933-1934)

- The First 100 Days (1933)
  - There were two budgets: the regular one, which he balanced, and the emergency one, which was needed to defeat the depression.
  - Banking reform: the Emergency Banking Act which provided for a system of reopening sound banks under Treasury supervision, with federal loans available if needed.
  - Monetary reform: the government suspended the gold standard and the dollar was allowed to float freely on foreign exchange markets with no guaranteed price in gold.
  - These measures enabled the Federal Reserve to increase the amount of money in circulation to the level the economy needed.
  - Public works: From 1933 to 1935 the Public Works Administration spent $3.3 billion with private companies.
  - Farm programs: the Agricultural Adjustment Administration aimed to raise prices for commodities through artificial scarcity.

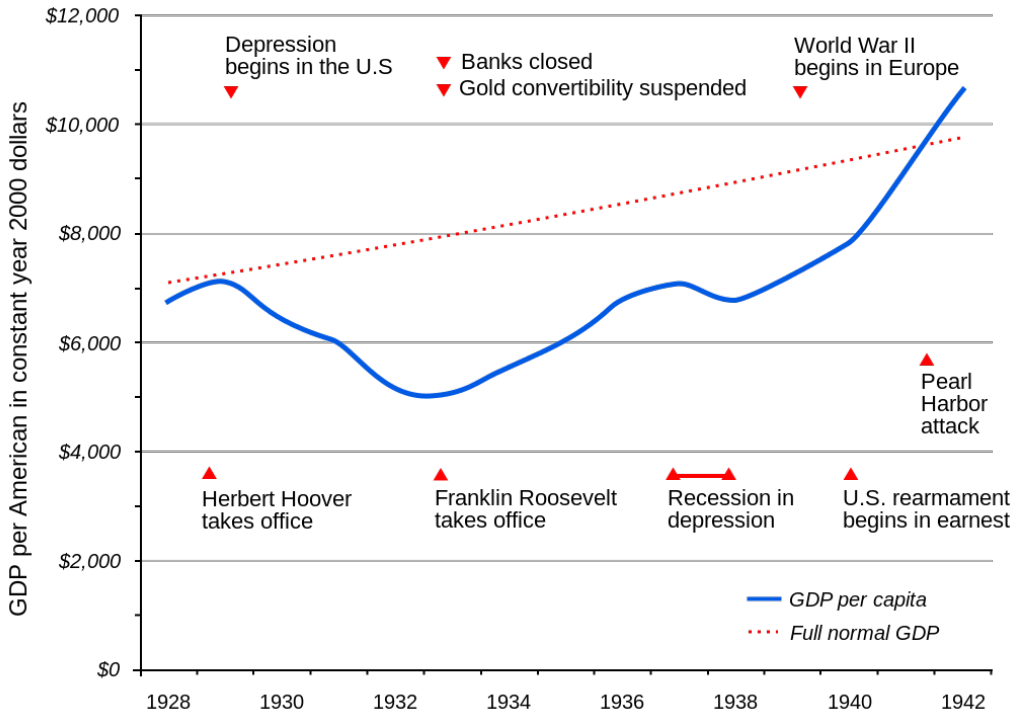
First New Deal (1933-1934)

- Recovery was achieved by 1937-except for unemployment, which remained stubbornly high until World War II began.
- National Recovery Administration "Blue Eagle" campaign
  - Competition had hurt many businesses and that with prices having fallen 20% and more, "deflation" exacerbated the burden of debt and would delay recovery.
  - The NRA brought together leaders in each industry to design specific sets of codes for that industry: anti-deflationary floors below which no company would lower prices or wages, and agreements on maintaining employment and production.
  - By the time NRA ended in May 1935, industrial production was 55% higher than in May 1933.
  - The NRA had introduced a minimum wage and an eight-hour workday, together with abolishing child labor.

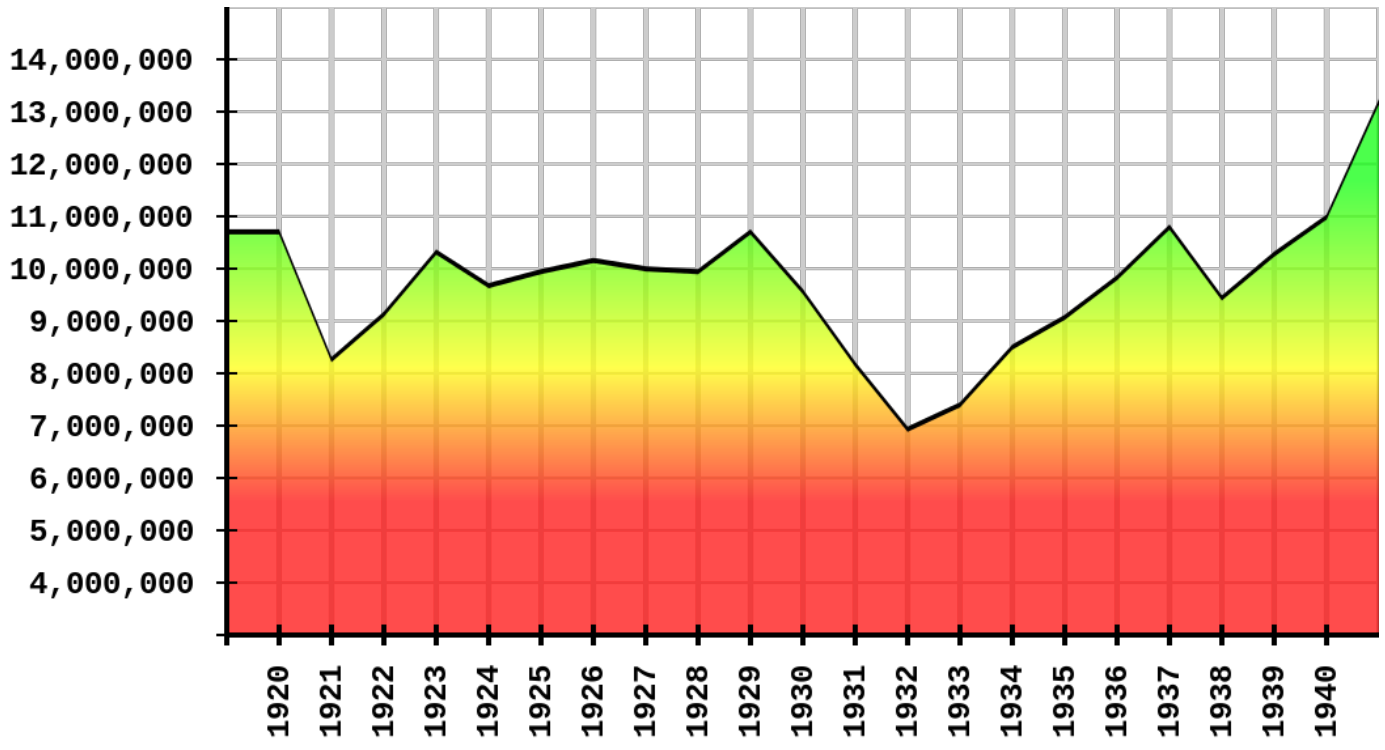
Second New Deal (1935-1938)

- In the spring of 1935, the Administration proposed or endorsed several more dramatic new initiatives.
  - The Social Security Act: a permanent system of universal retirement pensions, unemployment insurance, and welfare benefits for the handicapped and needy children in families without a father.
  - The National Labor Relations Act: it guaranteed workers the rights to collective bargaining through unions of their own choice.
  - The Works Progress Administration: it financed projects such as hospitals, schools and roads, and employed more than 8.5 million workers.
  - Tax policy: In 1935, Roosevelt called for a tax program called the Wealth Tax Act to redistribute wealth.
  - Unemployment jumped from 14.3% in 1937 to 19.0% in 1938, but the U.S. reached full employment after entering World War II in December 1941.

New Deal: GDP


$12,000
$10,000
$8,000
$6,000
$4,000
$2,000
$0
GDP per American in constant year 2000 dollars
1928
1930
1932
1934
1936
1938
1940
1942
Depression begins in the U.S
Banks closed
Gold convertibility suspended
World War II begins in Europe
Pearl Harbor attack
Herbert Hoover takes office
Franklin Roosevelt takes office
Recession in depression
U.S. rearmament begins in earnest
GDP per capita
Full normal GDP

New Deal: Manufacturing Employment



The Financial Crisis and Economic Downturn

- The story begins a few years earlier with a substantial boom in the housing market.
  - The Federal Reserve lowered interest rates to historically low levels in the aftermath of the recession of 2001.
  - Easy for subprime borrowers-those borrowers with higher risk of default based on their income and credit history-to get mortgages.
  - Securitization: the process by which one mortgage originator makes loans and then sells them to an investment bank, which in turn bundles them together into a variety of mortgage-backed securities and then sells them to a third financial institution.
  - The holders of these mortgage-backed securities failed to fully appreciate the risks.

The Financial Crisis and Economic Downturn

- Together, these forces drove up housing demand and prices.
  - The high price of housing, however, proved unsustainable.
  - First, a substantial rise in mortgage defaults and home foreclosures.
  - Second, large losses at the various financial institutions that owned mortgage-backed securities.
  - Third, a substantial rise in stock market volatility.
  - Fourth, a decline in consumer confidence.
- The U.S government responded vigorously.
  - First, the Fed cut its target for the federal funds rate from 5.25 percent to 0.
  - Second, Congress appropriated 700 billion to rescue the financial system.
  - Finally, Barack Obama support a major increase in government spending to expand aggregate demand.

Keynesian resurgence

- background
  - From the end of the Great Depression until the early 1970s, Keynesian economics provided the main inspiration for economic policy makers in Western industrialized countries.
  - The influence of Keynes's theories waned in the 1970s due to stagflation.
  - From then until 2008, economists believed that attempts at fiscal stimulus would be ineffective even in a recession, and such policies were only occasionally employed in developed countries.
  - From October 2008 onward, policy makers began announcing major stimulus packages, in hopes of heading off the possibility of a global depression.
  - In 2010, with a depression averted but unemployment in many countries still high, no further fiscal stimulus was introduced in any country.

Keynesian resurgence

- On Keynesian resurgence
  - The Keynesian view receiving most attention has been fiscal stimulus, applied by numerous states as a response to the Great Recession.
  - In late 2008 and 2009 fiscal stimulus packages were widely launched, with packages in G20 countries averaging at about 2% of GDP, with a ratio of public spending to tax cuts of about 2:1.
  - Keynes placed great importance on avoiding large trade deficits or surpluses, but following the Keynesian displacement, an influential view in the West was that governments need not be concerned.
  - During 2009 and 2010 capital controls once again was as an acceptable part of a government's macroeconomic policy toolkit.
  - In the practical spheres of banking and finance, there have been warnings against overreliance on mathematical models, which have been held up as one of the contributing causes of the crises.

Keynesian resurgence

- Among policy makers
  - The first nation to announce a substantial fiscal stimulus was Great Britain, with Chancellor Alistair Darling referring to Keynes as he unveiled plans for fiscal stimuli.
  - Darling's stimulus announcement was swiftly followed by a similar declaration from China, and over the next few weeks and months from European countries, the U.S. and other countries.
  - In a speech on 8 January 2009, President Elect Barack Obama unveiled a plan for extensive domestic spending to combat recession.
  - In a speech in March 2009, Zhou Xiaochuan proposed a gradual move towards adopting IMF special drawing rights (SDRs) as a centrally managed global reserve currency.

Keynesian resurgence

- Efficacy
  - Keynesian stimuli were rapidly followed by "revivals of growth in one country after another, roughly in proportion to the size of the various stimulus plans."
  - China was one of the first nations to launch a substantial fiscal stimulus package, estimated at $586 billion spread over two years.
  - There are rises in commodity prices, a 13% rise in the Chinese stock market over 10 days, and a big increase in lending.
  - In June 2009, the Organisation for Economic Co-operation and Development (OECD) reported improvements in global economic outlook, with an overall growth forecast for 2010.
  - In August 2010, a report from the non-partisan Congressional Budget Office found the US stimulus to have boosted growth by as much as 4.5%.

Keynesian resurgence

- 2010 and later
  - By mid-2010, the earlier global consensus for ongoing Keynesian stimulus had fractured, mirroring the "dissensus" that had emerged among prominent economists.
  - In July 2010, Jean-Claude Trichet, president of the ECB, stated that it was time for all industrial nations to stop stimulating and start tightening.
  - By November 2011, efforts to pass Obama's American Jobs Act had been rejected by the US Congress.
  - By mid-2012, with the ongoing Euro crisis and persistent high unemployment in the US, there had been renewed consideration of stimulus policies by European and American policy makers.
  - In January 2013, Japan's recently elected conservative government announced a ten trillion yen Keynesian stimulus package.