

## UNIT II

### THE KEYNESIAN APPROACH:

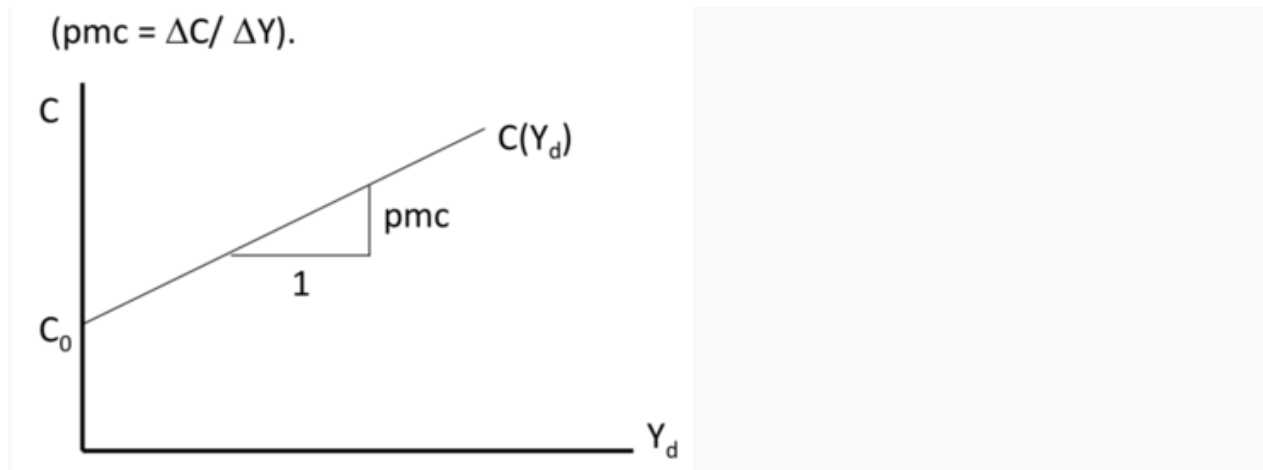
As we have seen in the previous chapters, in the long run, we have assumed that prices are perfectly flexible. The level of output of an economy was therefore determined by the technology of production and the availability of the factors of production: labour, capital, and so on. Thus, neither monetary policy (changes in the money supply) nor fiscal policy (changes in government spending) could affect the long-term level of output of an economy, given the full employment of all factors of production.

Conventional economics therefore focuses on this long-term level of output and leaves very little room for an active monetary and/or fiscal policy. According to this approach, if the level of production away from full employment is not reached, the economic system has, on its own, the necessary forces to achieve its long-term equilibrium again without external intervention. But...



The level of consumption expenditure depends directly on income, or, more exactly, on disposable income,  $Y - T$ , where  $T$  indicates the taxes levied by the state ( $\Rightarrow$  here they are exogenous). Under the linear function assumption, the aggregate consumption function is therefore :

where  $C_0$  is the level of "incompressible" consumption, i.e. below which one cannot survive and  $pmc$  indicates the marginal propensity to consume = the share of income that is used to finance consumption and that is not saved (



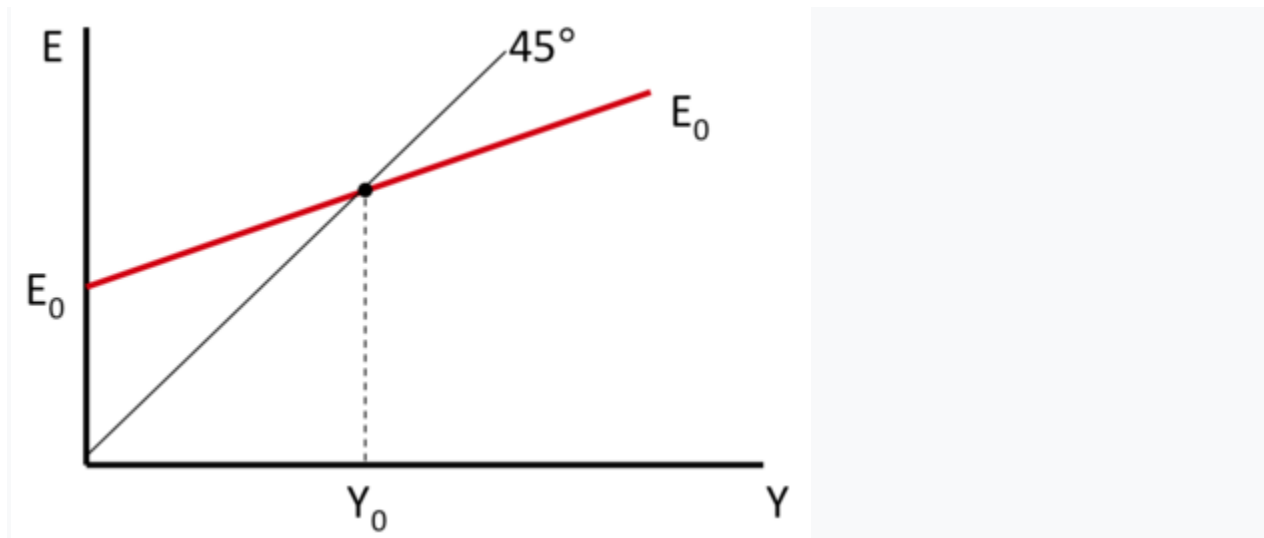
Slope of function If, for example, ( $=60\%$ ), this means that 60% of an increase in income is allocated to consumption and 40% is saved (and  $p_{ms} =$  marginal propensity to save = 40%).

### Equilibrium

Since consumption is an increasing function of income, , it follows that  $E$  is also an increasing function of  $Y$ .

Concerning the other components of total expenditure, we will here assume that investment does not depend on  $Y$ . Moreover, for the moment, we will also

disregard the fact that is positively dependent on income level; public spending decisions are the responsibility of the government and are also made here as exogenous, as are exports, which are dependent on foreign income.



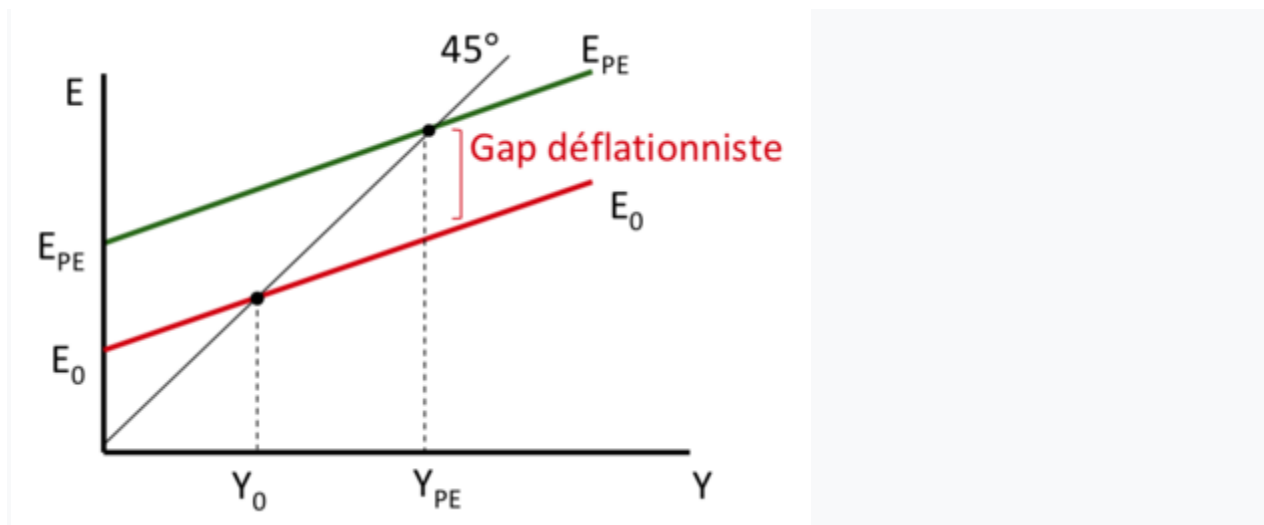
The economy is in equilibrium when total demand is equal to national income  $Y \Rightarrow$  when the line representing total planned expenditure crosses the line at  $45^\circ$  (= actual expenditure).

Being full employment income, two cases can occur in the short term ...

Gaps

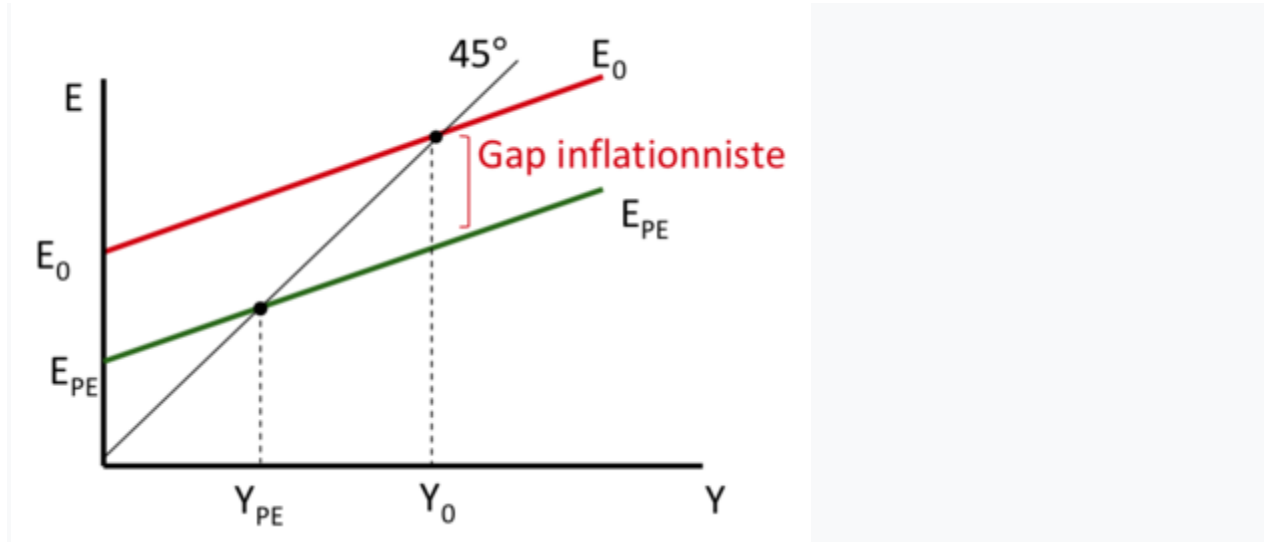
### Deflationary Gap

Income is less than full employment income ( $\Rightarrow$  unemployment) and the total expenditure it would take to reach is greater than the actual expenditure.



### Inflationary Gap

Income is higher than full employment income ( $\Rightarrow$  inflationary pressures) and the total expenditure it would take to reach  $Y_0$  is smaller than the actual expenditure.



### Budgetary policy and the Keynesian multiplier

The government can influence the components of demand through monetary and fiscal policies (see below + following chapters) in order to bring the market equilibrium closer to full employment income.

When the government changes its spending, for every franc more (less) spent, total expenditure increases (decreases) by more than one franc. This is known as the multiplier effect.

The Keynesian multiplier says that

The greater the  $cpm$ , the greater the multiplier. If, on the other hand, the  $cpm$  is equal to 1, then the multiplier is equal to 1 and there is no amplification effect.

The Keynesian multiplier

If  $Y$  increases,  $E$  increases, which will increase  $Y$ , which will increase  $E$ , which will increase  $Y$ , and so on...

Initial expenditure variation =      First change in consumption =      Second change in consumption =      Third variation in consumption =

### **Keynesian multiplier:**

The multiplier effect also works with any other component of income. For example, if      increases because RoW is in a boom (and  $Y^* \uparrow$ ), the increase of      will be greater than the initial increase of      . And it also applies to a decrease in the level of spending (a decrease of      will have an amplified impact on      ).

Under the assumptions made so far, income is either consumed or saved by households =>      => the multiplier can also be written as      .

Saving is not the only "leakage" in the income stream. If  $M$  is a function of      (which is the case), the multiplier will actually be smaller (part of the expenditure is on goods produced abroad) =>      , where      is the marginal propensity to import.

### Keynesian multiplier and tax system

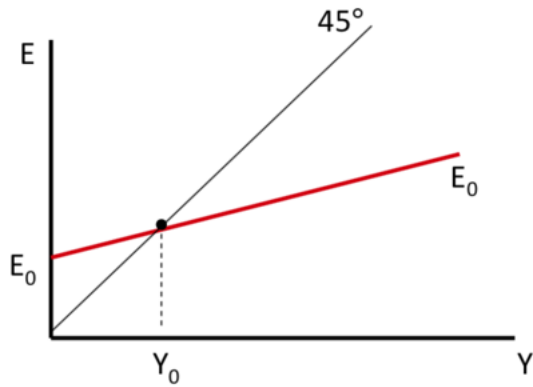
Finally, note that in case of proportional income taxation (      , where      indicates the tax rate, then      ). In this case the Keynesian multiplier changes and, disregarding imports, becomes:

Of course, if the share of revenue raised by the government in the form of taxes increases, the multiplier effect weakens.

### Expenditure Function Slope

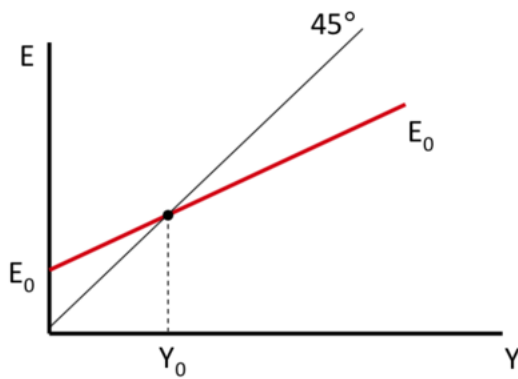
The slope of the expenditure function reflects the strength of the multiplier. The lower the multiplier (small pmc or high pms), the lower the slope of the expenditure function.

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Low multiplier.

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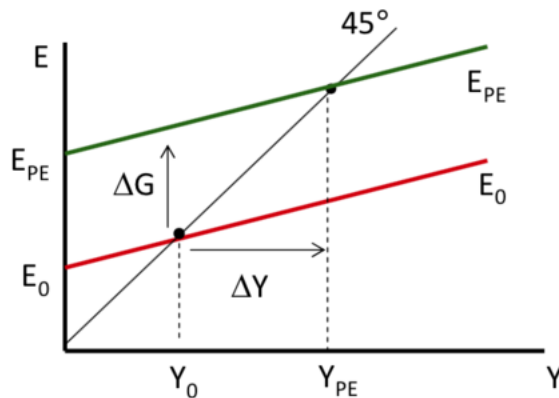


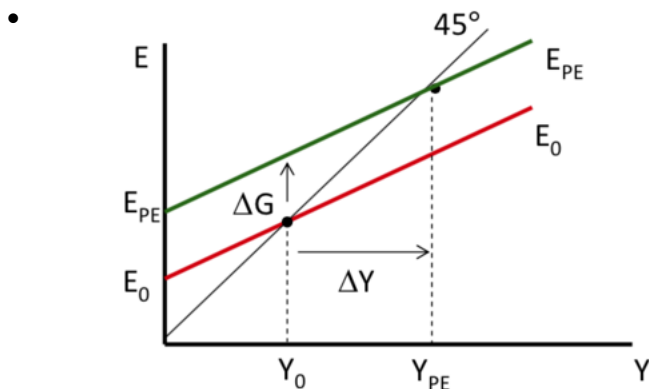
High multiplier.

Impact of a  $\Delta G$

The lower the slope of the expenditure function (= low multiplier), the greater the change in public expenditure needed to bring about a certain desired change in income. N.B. Nevertheless, in both cases,

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The liquidity preference theory

Money supply and demand

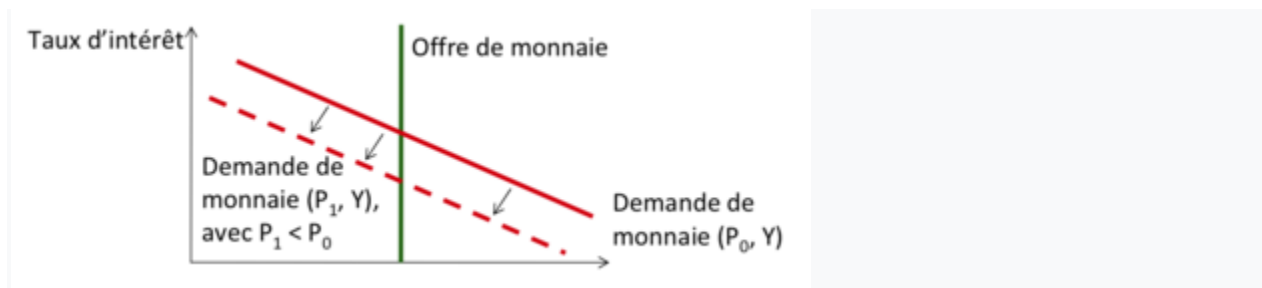
In Chapter 7 we analysed in detail the means used by the Central Bank (CB) to intervene in the money market. Despite the fact that the control exercised by the CB is far from perfect, we will make the hypothesis that the quantity of money offered in the economy is fixed at the level decided by the CB => exogenous supply (vertical  $M_s$ ).

In chapter 8 we saw that the demand for money depends positively on the general price level (when prices increase, more money is needed to settle transactions) and the level of production (when production increases, transactions also increase and more money is needed to settle payments), and negatively on the interest rate (when  $r$  increases, other forms of wealth holding become more interesting) => .

Still in chapter 8 we had drawn the money demand curve as a function of  $r$  (or  $P$ , given the interest rate  $r$ , knowing that if  $P$  falls (increases) it is the whole money demand function that moves up (down).

Preference for liquidity

In a short-term dispute prices are relatively rigid. It then makes more sense to draw the money demand curve as a function of the interest rate, given the price level  $P$  → decreasing relationship → monetary theory of liquidity preference.



This relationship allows us to see very clearly that, given the supply of money, when the general price level falls, the demand for money in turn falls and causes a reduction in the interest rate. The same effect on the interest rate is observed if the supply of money increases.

What interest rate?

Economists distinguish between nominal and real interest rates, the former being the normally announced rate and the latter the inflation-adjusted rate.

What is the interest rate determined in the money market? The answer is: both.

By the way, when we are in a short-term dispute, inflation expectations are constant (hp of sticky prices). Consequently, any change in the nominal interest rate translates into an identical change in the real interest rate. It is

therefore indifferent to put or on the vertical axis of the graph representing the money market (depending on the sources, one can find both).

In the short term, prices do not adjust quickly. It is therefore another variable (the interest rate) that ensures equilibrium in the money market in the event of a shock.

The IS-LM model

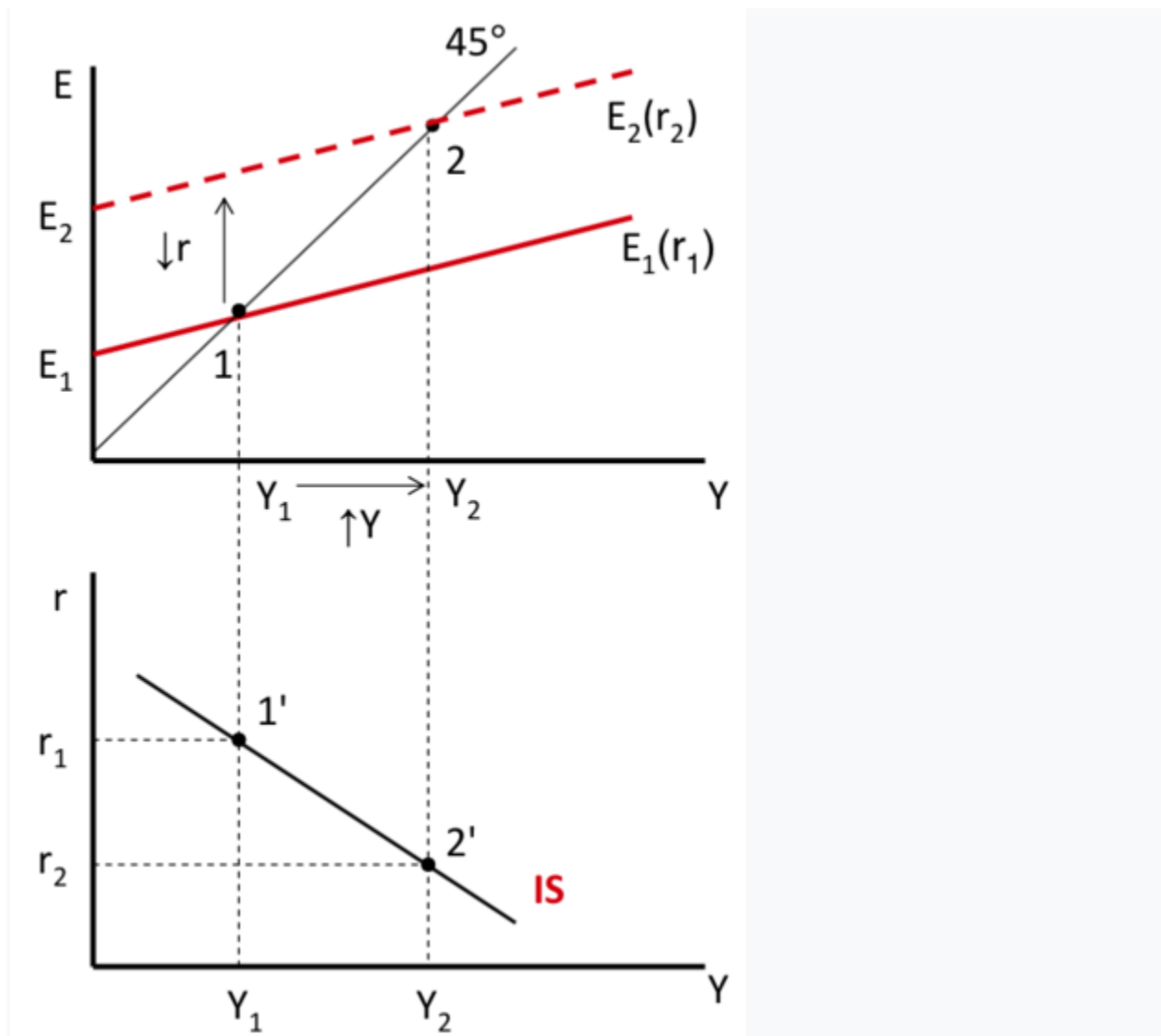
The IS-LM model proposed by John Hicks is used to determine the simultaneous equilibrium in the goods and services (B&S) and money markets. Specifically, the IS-LM model allows us to find the combinations of income and interest rates that guarantee the general equilibrium of the economy. In addition, this model will also allow us to analyse the balance impacts of fiscal and monetary policy interventions.



The IS curve ( I for investment and S for savings) summarizes all the combinations of income and interest rates that ensure equilibrium on the B&S  
 → market inverse relationship between Y and the interest rate. See next page.

The LM curve ( L for liquidity and M for currency) summarizes all the combinations of income and interest rates that ensure equilibrium on the currency market → direct relation between Y and the interest rate. See below.

The IS curve[[edit](#)|[edit source](#)]



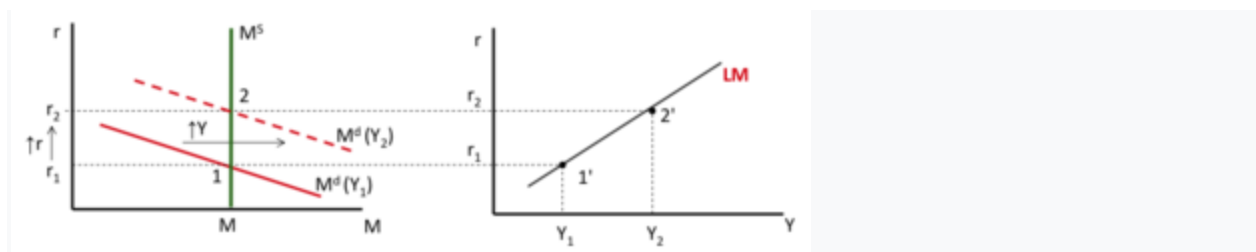
Initial equilibrium: 1 and 1' → fall in  $r$  → interest-sensitive components of total expenditure (C and I) increase → shift of E upwards → new equilibrium: 2 and 2'.

Linking the points 1' and 2' in the bottom graph gives the IS curve = set of equilibria on the B&S market associated with different income and interest rate levels.

The slope of the IS curve reflects the responsiveness of C and I to changes in  $r$ .

Any increase (decrease) in an exogenous component of the expenditure, as well as G and X, causes the IS curve to shift to the right (left).

The LM curve [\[edit|edit source\]](#)



Starting equilibrium: 1 and 1' → increase of  $Y$  → moving upwards → being fixed, new equilibrium: 2 and 2'.

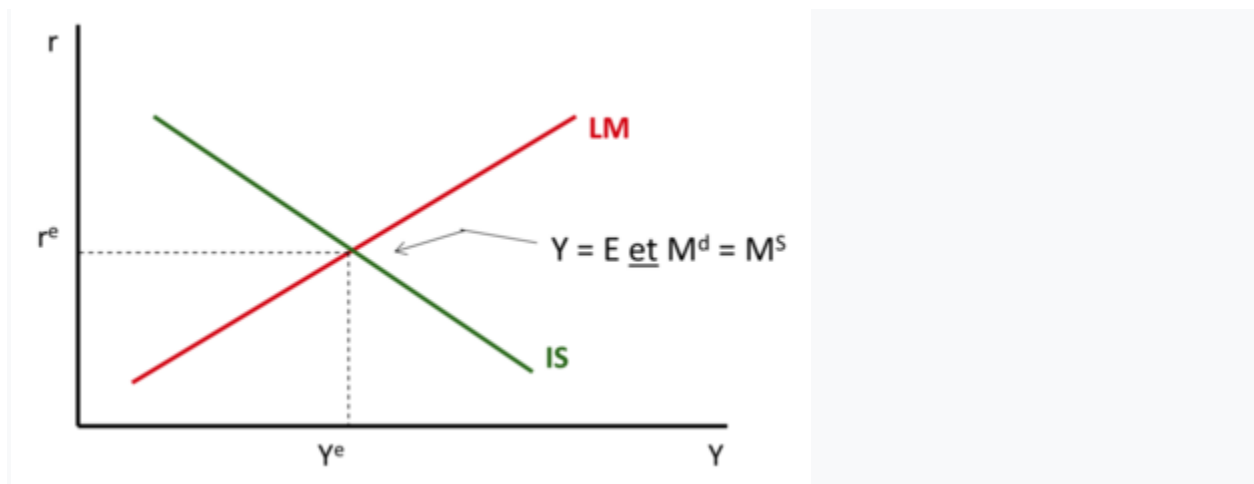
By connecting points 1' and 2' in the graph on the right, we obtain the LM curve = all combinations of income and equilibrium interest rates on the money market.

The slope of the LM curve reflects the sensitivity of to changes in  $Y$ .

Any increase (decrease) in the money supply causes the LM curve to move down (up).

The general equilibrium

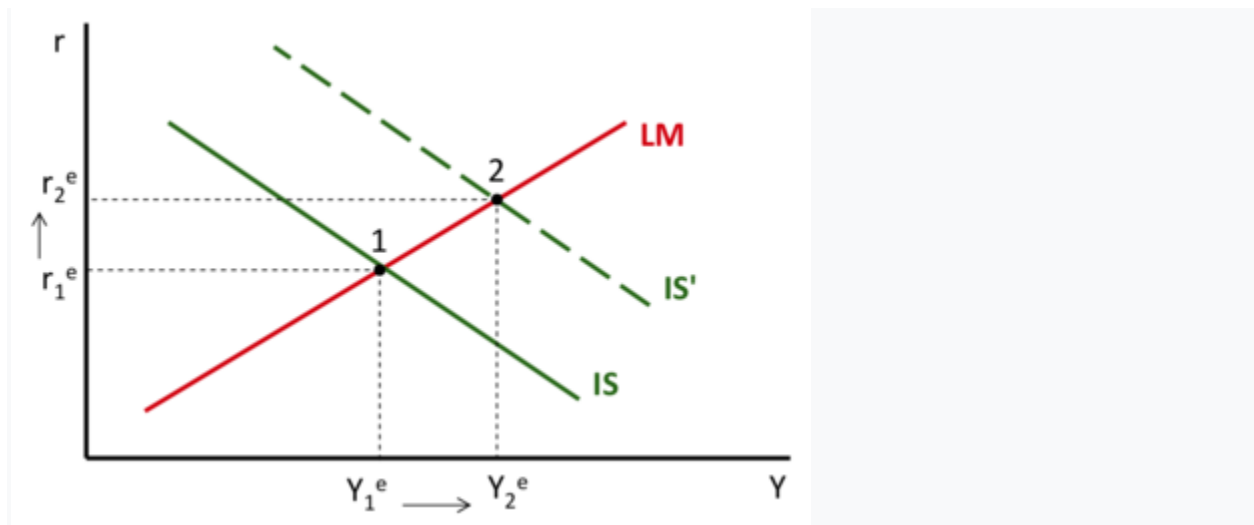
The simultaneous equilibrium of the G&S market and the money market occurs at the intersection of the IS curve and the LM curve :



### Budgetary policy[[edit](#)][[edit source](#)]

Government decides to increase public spending to stimulate the economy (for an analysis of fiscal policy, see also Chapter 13):  $G \uparrow \rightarrow$  shifting  $SI$  to the right  $\rightarrow Y \uparrow$  and  $r \uparrow$  (new balance in point 2)

Intuition: the increase in income caused by increased public spending increases the demand for money, which, at money supply parity, leads to an increase in  $r$ .

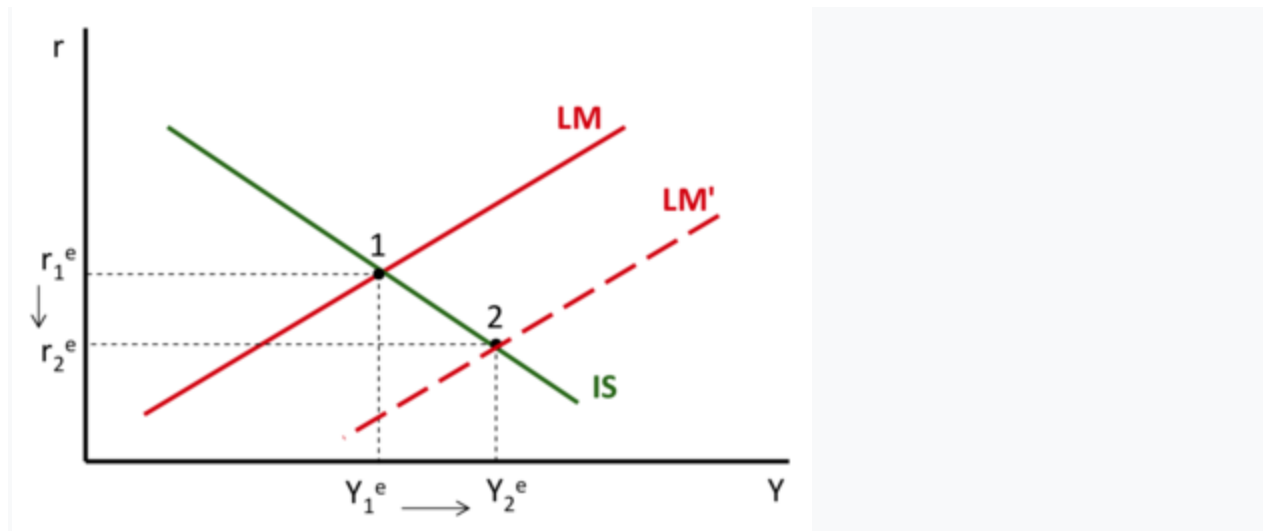


NB: we would have had the same type of result if, instead of increasing spending, the government had reduced taxes.

## Monetary policy[edit|edit source]

BC decides to increase the money supply (for an analysis of monetary policy, see also chapter 13):  $\uparrow \rightarrow$  shift of the LM to the right  $\rightarrow r \downarrow$  and  $Y \uparrow$  (new balance at point 2)

Intuition: the increase in the supply of money leads to a fall in the interest rate, which stimulates consumer and investment spending and therefore increases  $Y$ .



## Aggregate Supply And Demand

Aggregate Supply And Demand provide a macroeconomic view of the country's total demand and supply curves.

## Aggregate Demand

Aggregate demand (AD) is the total demand for final goods and services in a given economy at a given time and price level.

## Aggregate Demand Formula

Aggregate Demand is the total of Consumption, Investment, Government Spending and Net Exports (Exports-Imports).  $\text{Aggregate Demand} = C + I + G + (X - M)$ . It shows the relationship between Real GNP and the Price Level.

## Factors that Affect Aggregate Demand

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#### 1. Net Export Effect

When domestic prices increase, then demand for imports increases (since domestic goods become relatively expensive) and demand for export decreases.

#### 2. Real Balances

When inflation increases, real spending decreases as the value of money decreases. This change in inflation shifts Aggregate Demand to the left/decreases.

#### 3. Interest Rate Effect

Real Interest is the nominal interest rate adjusted to the inflation rate. When inflation increases, nominal interest rates increase to maintain real interest rates. Lower real interest rates will lower the costs of major products such as cars, large appliances, and houses; they will increase business capital project spending because long-term costs of investment projects are reduced.

#### 4. Inflation Expectations

If consumers expect inflation to go up in the future, they will tend to buy now causing aggregate demand to increase or shift to the right.

## Aggregate Supply

While, the Aggregate Supply is the total of all final goods and services which firms plan to produce. during a specific time period. It is the total amount of goods and services that firms are willing to sell at a given price level in an economy. There are two views on Long Run Aggregate Supply, the Monetarist view and the Keynesian view. The curve is upward sloping in the short run and vertical, or close to vertical, in the long run.

Investment, technology changes that result in productivity improvements and positive institutional changes can increase short-run and long-run aggregate supply. Some factors can only affect Aggregate Supply in the short run.

## **Factors that Affect Aggregate Supply**

### **1. Supply Shocks**

Adverse supply shocks shift AS to the left, i.e., a decrease in the AS curve. Usually, a huge rise in oil prices can cause a supply shock. Natural catastrophes or hikes in taxes can also shift AS to the left. It is either a leftward shift in the short run AS curve (the one on the left) or by the leftward shift in the vertical long-run AS curve. However, the long run AS curve is best suited for natural disasters or setbacks in the economy, such as corrupt governments.

### **2. Resource Price Changes**

Changes in the short run resource prices can alter the Short Run Aggregate Supply curve. Unless the price changes reflect differences in long-term supply, the Long Run Aggregate Supply is not affected.

### **3. Changes in Expectations for Inflation**

If suppliers expect goods to sell at much higher prices in the future, they will be less willing to sell in the current period. As a result, the Short Run Aggregate Supply will shift to the left.

### **4. Capacity Increase**

A rightward or an increase in AS implies an increase in the productive capacity of the economy. You can think of this as an outward shift in the production possibility curve. An increase in the quality and quantity of the factors of production or technological advancements or any increase in productivity can cause an outward shift.

Governments can influence AS through Supply Side policies and improvements in health and education services. This result can be better imagined by an increase in the Long Run AS. An increase in natural resources can also shift the AS curve to the right.

**Monetarist Long-Run Average Supply** : Monetarists assume that in the long run there is no unemployment and that the people who want to work, work

and the 'unemployed' are viewed as voluntarily unemployed. This assumption leads to the concept of 'Full Employment' where all factors of production are fully and efficiently employed.

### Natural Rate of Unemployment

The 'natural rate of unemployment' is the rate of unemployment at equilibrium, at this rate wages are in equilibrium, and aggregate demand and aggregate supply are also in balance. If the demand for labor decreases, then wages will fall and labor employed falls. This logic follows that at the given wage rate, those who want to work will work.

### Monetarist Labor Market

#### Monetarist Long Run Average Supply

#### Monetarist Long Run Average Supply

#### Keynesian Long Run Average Supply

On the other hand, Keynesians believe that unemployment is involuntary, and is caused by tight fiscal policy and monetary policy. If demand for labor goes down, the effect isn't the same as the Monetarist view. Wages are "sticky" downwards, meaning that wages can't fall as much because of minimum wage laws, trade union pressure, and because of the cost of hiring and firing workers.

### Keynesian Labor Market

#### Keynesian Labor Market

#### Keynesian Long-Run Average Supply

#### Keynesian Long-Run Average Supply

AB – Recession

BC – Unemployment + Inflation

CD – At Full Employment, only inflation now

#### Decrease in Short-Run Aggregate Supply

#### Decrease in Short-Run Aggregate Supply

Decrease in Long Run Aggregate Supply

Decrease in Long Run Aggregate Supply

Increase in Short-Run Aggregate Supply

Increase in Short-Run Aggregate Supply

Increase in Long Run Aggregate Supply

Increase in Long Run Aggregate Supply Aggregate Supply And Demand

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- 1 Net Export Effect
- 2 Real Balances
- 3 Interest Rate Effect
- 4 Inflation Expectations

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### **DIFFERENCES BETWEEN CLASSICAL & KEYNESIAN:**

#### Difference # 1. Assumption of Full Employment:

Classical theorists always assumed full employment of labour and other resources.

To them, full employment was a normal situation and unemployment was an abnormal situation.

According to Classicals, even if there is less than full employment in the economy, there is always a tendency towards full employment.

By the term full employment of the available resources, the classical economists meant that 'there is no involuntary unemployment'. If there is unemployment in the economy, classicists felt that it was due to the existence of monopoly in industry and governmental interference with the free play of the forces of competition in the market or it may be due to the imperfections of the market owing to immobility of the factors of production.

If these limitations could somehow be eliminated, full employment, according to classical economists, would always exist. Hence, the best way to ensure full employment for the Government was to pursue the policy of 'laissez faire' capitalism under which free competitive market forces were allowed to have full and free play.

#### Difference # 2. Emphasis on the Study of Allocation of Resources Only:

The existence of 'full employment' being a normal situation in the classical scheme, it followed that factors of production are always fully employed and

there is no further scope for additional employment of resources in new industries. The choice, according to classicals, was not between employment and unemployment but between employment here and employment there, i.e., increase in production in one direction could be achieved only at the cost of some decrease in another direction in the economy.

In other words, classicals felt there could not be any significant misallocation of resources as the price mechanism, acting as an 'invisible hand' would achieve the best, the most efficient allocation of resources. Since the optimum allocation of a given quantity of resources was the main subject-matter of classical economics, it was but natural that they did not discuss the problem of national output, income or employment.

With their assumption of full employment, there obviously could not be any change in the real national income of the community through additional employment of resources. What could possibly be done, given, the composition and volume of the real national income, was a more efficient allocation of the given resources.

As such, they remained concerned with the special case of full employment and not with the general factors that determine employment at any time. In brief, the well-known theory of value, distribution and production formed the 'core' of classical economics. That unemployment of resources could also persist to pose a problem did not occur to them at all.

Difference # 3. Policy of 'Laissez Faire':

Classicals had great faith in the philosophy of laissez-faire capitalism, which meant 'leave alone' or 'let alone' in business matters. Laissez-faire capitalism would not tolerate any kind of intervention by the Government in business matters; they rather considered it a positive hindrance in the free working of the market economy.

Classicals believed in Laissez-faire capitalism as it was the traditional model of study from the very beginning. Classical had great faith in price mechanism, profit-motive, free and perfect competition and the self-adjusting nature of the system. They felt that if the system is allowed to work freely without any encroachments on the part of the state, it has potentialities to overcome the maladjustments in the economic system, if there are any.

Difference # 4. Wage-Cut Policy as a Cure for Unemployed Resources:

Classicals further believed that involuntary unemployment could be easily cured by cutting wages down through office and perfect competition which always exists in the labour market. They argued that so long as labour does not demand more than what it is 'worth' or more than its marginal productivity, there is no possibility of persistent unemployment in the economy.

Classicals believed that employment is determined by the wage bargains between the workers and employers, therefore, wage-cuts will reduce unemployment; such a policy if pursued vigorously can restore full employment as well. Basing their reasoning on the existence of free and perfect competition in the product and labour markets, classicals argued that the unemployed workers will cut down wages leading to a fall in prices, which, in turn, will encourage demand giving a fillip to sales.

As a result of all this, more will be produced as more is demanded and employment would increase because workers are employed at lower wages to increase production. Wage-cuts, thus occupied a central place in the classical scheme of reasoning for automatic functioning of the capitalist economy at full employment.

#### Difference # 5. Assumption of Neutral Money:

Classicals did not give much importance to money treating it only as a medium of exchange its role as a store of value was not considered. To them, money facilitated the transactions of goods but had no effect on income, output and employment. They considered it as a 'veil' which hides real things goods and services. In other words, they assumed that people have one motive for holding money, i.e. the transaction motive.

Classicals completely ignored the precautionary and speculative motives for holding money. In short, they never recognised that money could also influence the level of income, output and employment. In contrast to this view, Keynes considered money on as an active force that influences total output.

#### Difference # 6. Interest Rate as the Equilibrating Mechanism between Saving and Investment:

Classicals would give the pride of place to the rate of interest as the equalizer of saving and investment at full employment of resources. The implied assumption was that both saving and investment are highly sensitive to changes in the rate of interest.

The belief was firmly rooted that saving and investment can be equal only at full employment, and that 'under employment equilibrium' is a disequilibrium situation which would not last long in an atmosphere of wage price flexibility under the pressure of competition.