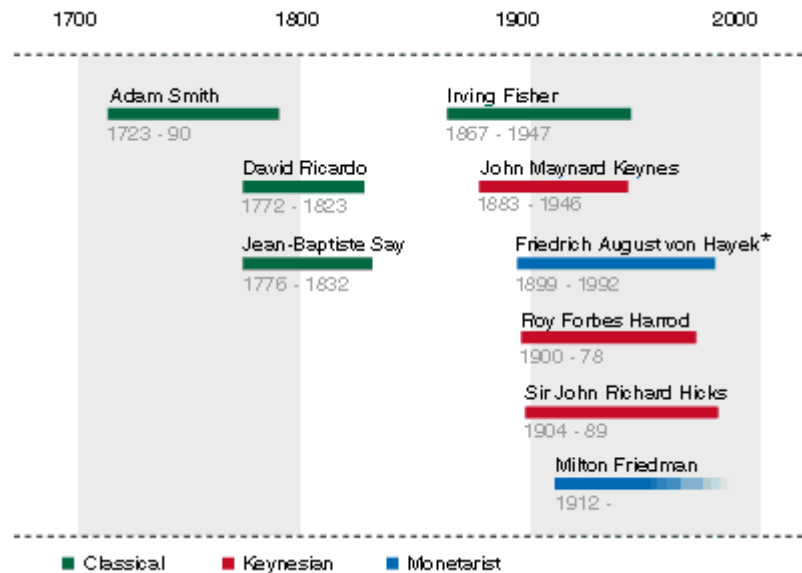


Timeline of Famous Economists

Below is a timeline of famous economists organized by their date of birth. Beside each of them is a label that classifies them as (Neo-) Classical, Monetarist or Keynesian. Clicking on the label will take you to some more information about that group of economists, and clicking on the economists themselves will take you to some information about the work they did and the policies they recommended.



* Hayek is often associated with Monetarists because of the nature of his views on money supply, but he disagreed with Friedman over many aspects of macroeconomics and methodology. We have classified him as a Monetarist here for simplicity.

Economic Theory

This room in the Library gives you details about the various different areas of economic theory. As economies have developed over time, so economic theory has developed as well to try to explain changing circumstances. In the 19th century and the beginning of the 20th century **Classical** theory held the balance of power in economic circles, but it began to lose it at the time of the Great Depression of the 1930s. Classical theory had difficulty in explaining why the depression kept getting worse, and an economist called [John Maynard Keynes](#) began to develop alternative ideas.

This marked the birth of **Keynesian** economics and most post-war governments managed the economy using Keynesian policies up until the beginning of the 1970s. Then Keynesian theory ran into trouble as unemployment and inflation began to rise together - a phenomenon known as *stagflation* 📉. At this point another economist stepped in - [Milton Friedman](#). He was known as a **Monetarist**, and along with a number of other Monetarist economists at Chicago University did a lot of work trying to explain what caused inflation.

However, the Conservative government of the 1980s gradually became disillusioned with Monetarism and then returned to a modern variation of classical economic management - **Neo-Classical** economics. Like Classical economics, it stresses the role of free markets in delivering the best possible level of economic growth.

For more details on each of these areas, use the links in the side panel or below:

- [Classical / Neo-Classical theory](#)

- [Keynesian theory](#)
- [Monetarist theory](#)

(Neo-)Classical Theory - Introduction

The term 'Classical' refers to work done by a group of economists in the 18th and 19th centuries. Much of this work was developing theories about the way markets and market economies work. Much of this work has subsequently been updated by modern economists and they are generally termed neo-classical economists, the word neo meaning 'new'.

In this section we look more generally at the work of Classical economists. Follow the links below or at the foot of the page to find out more detail about what they believed in and the policies they proposed.

- [Beliefs](#)
- [Theories](#)
- [AS & AD](#)
- [Policies](#)
- [Virtual Economy policies](#)

(Neo-)Classical Theory - Beliefs

Classical economists were not renowned for being a happy, optimistic bunch of economists (in terms of their economic thinking!). Some believed that population growth would be too rapid for the resources available (*Malthus* was a particular exponent of this view). If this wasn't enough to depress the rate of long-term growth (and the rest of the population along with it!) then *diminishing returns* 📉 would cause further problems for growth.

They believed that the government should not intervene to try to correct this as it would only make things worse and so the only way to encourage growth was to allow free trade and free markets. This approach is known as a '*laissez-faire*' approach 📉. Essentially this approach places total reliance on markets, and anything that prevent markets clearing properly should be done away with.

Much of [Adam Smith's](#) early work was on this theme, and he introduced the notion of an *invisible hand* 📈 that guided economic activity and led to the optimum equilibrium. Many people see him as the founding father of modern economics.

The Victorian period of rapid expansion worldwide seemed to cheer the Classical economists up a little and they became a bit more optimistic, but still maintained their total faith in the role of markets. For some more detail on their theories, policies and Classical aggregate supply and demand analysis, follow the links below.

(Neo-)Classical Theory - Theories

Classical theories revolved mainly around the role of markets in the economy. If markets worked freely and nothing prevented their rapid clearing then the economy would prosper. Any imperfections in the market that prevented this process should be dealt with by government. The main roles of government are therefore to ensure the free workings of markets using '*supply-side policies*' 📈 and to ensure a *balanced budget* 📈. The main theories used to justify this view were:

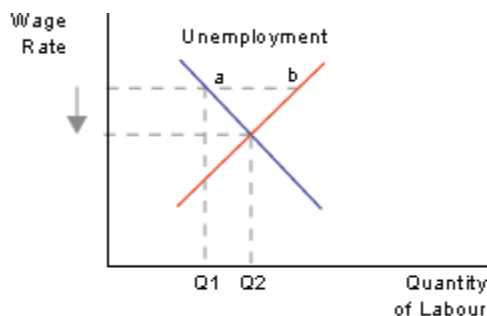
- Free market theory
- Say's Law
- Quantity Theory of Money

Free market theory

The Classical economists assumed that if the economy was left to itself, then it would tend to *full employment equilibrium*. This would happen if the labour market worked properly. If there was any unemployment, then the following would happen:

unemployment (a surplus of labour) → fall in wages → increased demand for labour → equilibrium restored at full employment

This can be shown on a diagram of the labour market. Wages are initially too high and there is unemployment of *ab*. This causes wage rates to fall and employment increases as a result from *Q1* to *Q2*. Any unemployment left in the economy would be purely *voluntary unemployment* - people who have *chosen* not to work at the going wage rate.



The same would also be true in the 'market for loanable funds'. If there was any discrepancy between *savings* and *investment* the equilibrium would change in the market. This would again require a free market and flexible prices. In this market the price is the *rate of interest*. Say, for example, investment increased, then the following process would occur to restore equilibrium:

increase in investment → increased demand for money → increased rate of interest → increased savings as borrowers are attracted by higher rates of interest → equilibrium is restored

Say's Law

Say's Law is imaginatively named after an economist called Say. [Jean Baptiste Say](#) was an economist of the early nineteenth century. His law says (excuse the pun!) that:

'Supply creates its own demand.'

This once again provides a justification for the Classical view that the economy will tend to full employment. This is because, according to this law, any increase in output of goods and services (**supply**) will lead to an increase in expenditure to buy those goods and services (**demand**). There will not be any shortage of demand and there will always be jobs for all workers - **full employment**. If there was any unemployment it would simply be temporary as the pattern of demand shifted. However, equilibrium would soon be restored by the same process as shown above.

Quantity Theory of Money

The classical economists view of inflation revolved around the Quantity Theory of Money, and this theory was in turn derived from the *Fisher Equation of Exchange*. This equation says that:

$$MV = PT$$

where:

M is the amount of money in circulation

V is the velocity of circulation of that money

P is the average price level and

T is the number of transactions taking place

Classical economists suggested that V would be relatively stable and T would (as we have seen above) always tend to full employment. Therefore they came to the conclusion that:

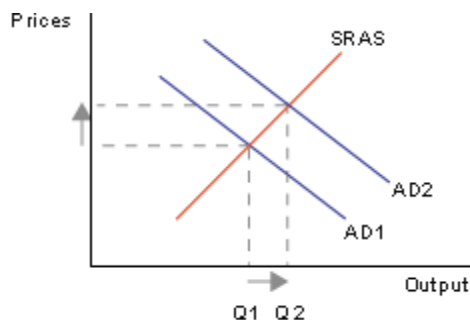
$$\uparrow M \rightarrow P \uparrow$$

In other words, increases in the money supply would lead to inflation. The message was simple: control the money supply to control inflation.

(Neo-)Classical Theory - AS & AD

We have seen that Classical economists had complete faith in markets. They believed that the economy would always settle - **automatically** - at the *full employment equilibrium* in the long-run. However, they did acknowledge that there might be a slightly different reaction in the short run as the economy adjusted to its new long-run equilibrium. We can illustrate these changes with AS & AD analysis:

Short-run

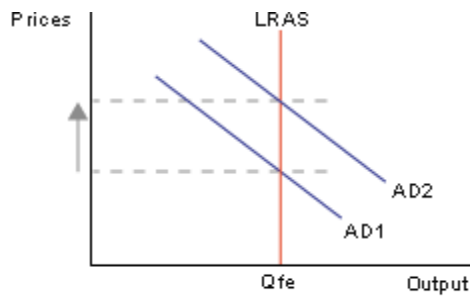


Any increase in *aggregate demand* in the short-run will lead to an increase in output (Q1 to Q2), but will also lead to prices increasing. This will happen as firms suffer from *diminishing returns* and are forced to increase the prices of their product to cover the higher level of costs. Increases in aggregate demand may come about for a variety of reasons including:

- Increases in the money supply
- Lower levels of taxation
- Increased government expenditure

Long-run

In the long-run, however, the situation will be different. The economy will have tended towards full employment on its own, and so any further increases in demand will simply be **inflationary**. The shape of the *long-run aggregate supply curve* will therefore be vertical:



The long-run aggregate supply curve is vertical at the full employment level of output (Q_{fe}), and any increase in aggregate demand leads to prices increasing, but **no** increase in output.

(Neo-)Classical Theory - Policies

So, Classical economists are of the view that the economy is self-adjusting. We can therefore sum up their policy recommendations in a variation on a well-known phrase (you may well have heard it from your teacher or lecturer in its original form!):

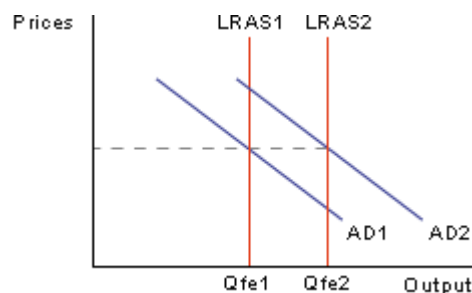
'Don't just do something, sit there!'

Of course, taking this too literally would be unfair on Classical economists, but it would be true to say that because the economy tends to full-employment, there is no need to actively intervene in the economy. In fact intervention may simply be **destabilising** and **inflationary**. The key to long-term stable growth is therefore:

- Ensure free markets with no imperfections (through *supply-side policies* 🇬🇧)
- Control the growth of the money supply to ensure low inflation

Supply-side policies

Supply-side policies can be used to reduce market imperfections. This should have the effect of increasing the capacity of the economy to produce (in other words the *long-run aggregate supply* 🇬🇧). If the level of aggregate supply increases then *Say's Law* 🇬🇧 (the work of [Jean Baptiste Say](#)) predicts that demand will also increase. This will be the only non-inflationary way to get increases in output.



Using supply-side policies has increased the level of output from Q_{fe1} to Q_{fe2} , but the price level has remained stable. Supply-side policies as we have said are ones that reduce market imperfections. They may include:

- Improving education & training to make the work-force more occupationally mobile

- Reducing the level of benefits to increase the incentive for people to work
- Reducing taxation to encourage enterprise and encourage hard work
- Policies to make people more geographically mobile (scrapping rent controls, simplifying house buying to speed it up,)
- Reducing the power of trade unions to allow wages to be more flexible
- Getting rid of any capital controls
- Removing unnecessary regulations

Money supply policies

The other area that Classical economists felt was important was to control monetary growth. In this way (as predicted by the *Quantity Theory of Money* 📖) they would be able to maintain low inflation. Policies might include:

- Open-market operations 📖
- Funding 📖
- Monetary-base control 📖
- Interest rate control

Keynesians - Introduction

Keynesian economists are, not surprisingly, so named because they are advocates of the work of John Maynard Keynes (if only all economics was that easy!). Much of his work took place at the time of the Great Depression in the 1930s, and perhaps his best known work was the '*General Theory of Employment, Interest & Money*' which was published in 1936.

In this section we look more generally at the work of Keynesian economists. Follow the links below or at the foot of the page to find out more detail about what they believed in and the policies they proposed.

Keynesians - Beliefs

Keynes didn't agree with the [Classical economists](#)!! In fact the easiest way to look at Keynesian theory is to see the arguments he gave for Classical theory being wrong. In essence Keynes argued that markets would not automatically lead to *full-employment equilibrium* 📖, but in fact the economy could settle in equilibrium at any level of unemployment. This meant that Classical policies of non-intervention would not work. The economy would need prodding if it was to head in the right direction, and this meant active intervention by the government to manage the level of demand. Follow the links in the navigation bar at the foot of the page or in the side panel to find out more detail on the sort of policies this may involve.

Keynesian beliefs can be illustrated in terms of the *circular flow of income* 📖. If there was disequilibrium between leakages and injections, then classical economists believed that prices would adjust to restore the equilibrium. Keynes, however, believed that the level of output (in other words National Income) would adjust. Say, for example, that there was for some reason an increase in injections (perhaps an increase in government expenditure). This would mean an imbalance between leakages and injections. As a result of the extra *aggregate demand* 📖 firms would employ more people. This would mean more income in the economy some of which would be spent and some saved (or paid in tax). The extra spending would prompt the firms in the economy to produce even more, which leads to even more employment and therefore even more income. This process would go on, and on, and on, and on until it stopped! It would eventually stop because each time income increased, the level of leakages (savings, tax and imports) also increased. Once leakages and injections were equal again, equilibrium was restored. This process is called the *Multiplier effect* 📖.

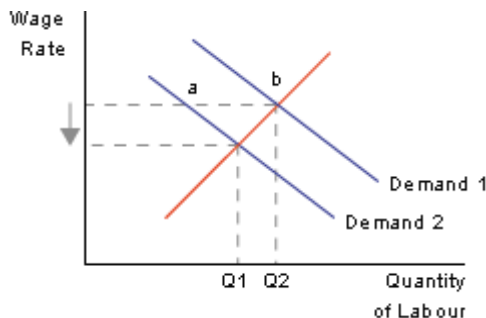
Keynesians - Theories

[Keynes](#) argued that relying on markets to get to full employment was not a good idea. He believed that the economy could settle at any equilibrium and that there would not be automatic changes in markets to correct this situation. The main Keynesian theories used to justify this view were:

- The labour market
- The market for loanable funds (*money market*)
- The Multiplier
- Keynesian inflation theory

The labour market

Keynes didn't have the same confidence in the labour market as Classical economists. He argued that wages would be 'sticky downwards'. In other words workers would not be happy about taking wage cuts and would resist this. This would mean that wages would not necessarily fall enough to clear the market and unemployment would linger. We can see this in the diagram below:



When the demand for labour falls from D1 to D2 (maybe due to the onset of a recession), the wage rate *should* fall, so that the market clears. However, Keynes argued that because wages were sticky downwards, this would not happen and unemployment of **ab** would persist. This unemployment he termed *demand deficient unemployment* 📺.

The market for loanable funds (money market)

Classical economists were of the view that savings would need to be increased to provide more funds for investment. Keynes disputed this assumption - once again because he had less faith in markets as the economics 'miracle cure'. He argued that any increase in savings would mean that people spent less. This would mean a decrease in *aggregate demand* 📺. This would just make things worse and firms would be even less inclined to invest because they would find the demand for their products decreasing. He felt that investment depended much more on business expectations.

The Multiplier

Any increase in *aggregate demand* 📺 in the economy would result, according to [Keynes](#), in an even bigger increase in National Income. This process came about because any increase in demand would lead to more people being employed. If more people were employed, then they would spend the extra earnings. This in turn led to even more spending, which led to even more employment which led to even more income which then led to even more spending which then led to The length of time this process went on for would depend on how much of the extra income was spent each time. If the initial recipients of the extra income saved it all, then the process would stop very quickly as no-one else would

get their hands on the extra income. However, if they spent it all the knock-on effects of the extra spending would carry on for some time.

Therefore the higher the level of leakages, the lower the Multiplier would be. The precise formula for calculating the multiplier is:

$$\text{Multiplier} = \frac{1}{1 - \text{Marginal propensity to consume}}$$

Keynesian view of inflation

The key to the [classical](#) view of inflation was the *Quantity Theory of Money* [\[3\]](#). This theory revolved around the *Fisher Equation of Exchange* [\[3\]](#):

$$MV = PT$$

where:

M is the amount of money in circulation

V is the velocity of circulation of that money

P is the average price level and

T is the number of transactions taking place

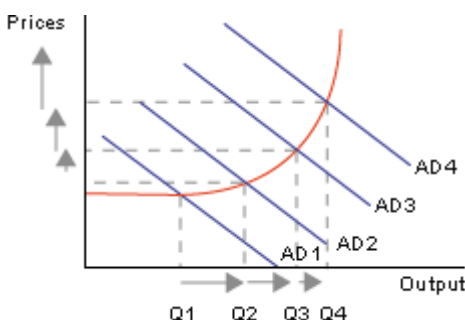
Keynes once again rejected this theory (you may be getting the idea that he didn't agree much with classical economics!!). He argued that increases in the money supply would not inevitably lead to increases in inflation. Increasing M may instead lead to a decrease in V . In other words the average speed of circulation of money would fall because there was more of it about.

Alternatively, the increase in M may lead to an increased in T (number of transactions), because as we have seen Keynes disputes the assumption that the economy will find its own equilibrium. It may be in a position where there is insufficient demand for *full-employment equilibrium* [\[3\]](#), and in that case increasing the money supply will fund extra demand and move the economy closer to full employment.

Keynesians tend to argue that inflation is more likely to be *cost-push inflation* [\[3\]](#) or from excess levels of demand. This is usually termed *demand-pull inflation* [\[3\]](#).

Keynesians - AS & AD

Keynes didn't distinguish between the short-run and the long-run as Classical economists tend to. He argued that the economy could settle at any equilibrium level of income at any time, and it was the government job to use appropriate [policies](#) to ensure that this equilibrium was a good one for the economy. This can be illustrated on an aggregate supply and demand diagram:



The economy could settle at any of the 4 equilibria shown (Q1 - Q4). Clearly Q1 is not a very desirable equilibrium as the level of output is very low and there would be high levels of unemployment. Nevertheless this situation could, according to [Keynes](#), persist in the long-term unless the government did something to stimulate the economy. This something would have to be some sort of *reflationary policy*, which boosted the level of aggregate demand (see the next section on [policies](#) for more details on the type of policies that could be used). As aggregate demand grows so does the level of output, but as the economy nears full employment the dark spectre of inflation emerges - in other words the price level starts to increase! This inflation is due to an excess level of demand and so is called *demand-pull inflation*. At the same time there will be increased pressure on the labour market as nearly everyone has a job, and so wages will begin to rise as firms have to offer more to get the people they want. This in turn will cause costs to increase, and result in *cost-push inflation*.

Keynesians - Policies

The other sections about Keynesians show that they believe that the economy can settle at any equilibrium. This means that they recommend that the government gets actively involved in the economy to manage the level of demand. You will then be stunned to learn that these policies are known as *demand-management policies*.

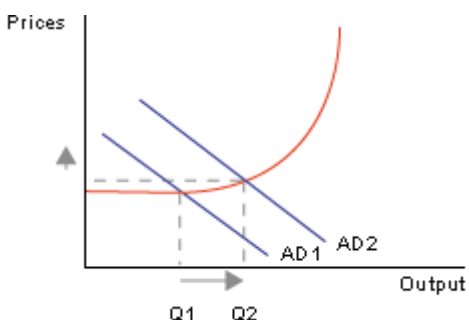
Demand management means adjusting the level of demand to try to ensure that the economy arrives at full employment equilibrium. If there is a shortfall in demand, such as in a recession (a *deflationary gap*), then the government will need to *reflate* the economy. If there is an excess of demand, such as in a boom, then the government will need to *deflate* the economy.

Reflationary policies

Reflationary policies to boost the level of economic activity might include:

- Increasing the level of government expenditure
- Cutting taxation (either direct or indirect) to encourage spending
- Cutting interest rates to discourage saving and encourage spending
- Allowing some money supply growth

The first two policies would be considered *expansionary fiscal policies*, while the second two are *expansionary monetary policies*. The impact of them should be to increase aggregate demand and therefore the level of output. The diagram below shows this:



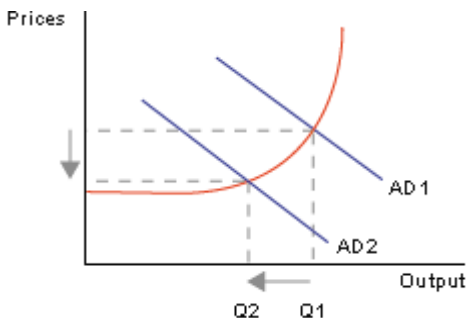
The reflationary policies have boosted the level of output from Q1 to Q2. The impact on the price level has been small, though if demand increased any more it may well be inflationary.

Deflationary policies

Deflationary policies to dampen down the level of economic activity might include:

- Reducing the level of government expenditure
- Increasing taxation (either direct or indirect) to discourage spending
- Increasing interest rates to encourage saving and discourage spending
- Reducing money supply growth

The first two policies would be considered *contractionary fiscal policies*, while the second two are *contractionary monetary policies*. The impact of them should be to reduce aggregate demand and therefore the level of output. The diagram below shows this:



The initial level of *aggregate demand* was inflationary - prices were increasing rapidly. However, the deflationary policies have reduced demand to AD2 and thus reduced the level of inflation.

Monetarists - Introduction

Monetarists are a group of economists so named because of their preoccupation with **money** and its effects. The most famous Monetarist is Milton Friedman who developed much of the Monetarist theory we learn.

Monetarism is very closely allied with the [classical](#) school of thought. It is essentially an extension of classical theory which was developed in the 1960s and 1970s to try to explain a new economic phenomenon - *stagflation*. Stagflation was an expression coined to try to explain two simultaneous economic problems - *stagnation* and *inflation*. It could perhaps have been called 'inflanation' but that sounds more like a medical problem than an economic one.

Much of the Monetarists' work revolved around the role of expectations in determining inflation, and a key part of their theory was the development of the *expectations-augmented Phillips Curve*. For more details on this and other areas of monetarism, try the links below or at the foot of the page or in the side panel.

Monetarists - Beliefs

In their work Monetarists draw a lot on [Classical economics](#). They re-evaluated the *Quantity Theory of Money* and argued that increases in the money supply would cause inflation. This view was backed up by a substantial body of empirical evidence. They would therefore argue that to reduce inflation, the growth in the money supply needs to be controlled.

Monetarists vary in their precise beliefs on expectations. Some believe that expectations adjust so quickly that any policy change will immediately be taken into account by people, and there will therefore be no short-term adjustment. This school of Monetarism is known as 'rational expectations'. More moderate Monetarists accept that there may be an adjustment period, and so policy changes may have temporary or short-term effects on the level of output.

Perhaps one of the best known quotes from [Friedman's](#) work is that:

"Inflation is always and everywhere a monetary phenomenon"



This quote is perhaps the best indication of the reason why Monetarists are called **Monetarists**!

Monetarists - Theories

Much of the Monetarists' theory is a development of earlier [Classical](#) theoretical work. Their main contribution is in updating many of these ideas to fit them into a more modern context. The two key areas of Monetarist work that we will look at are:

- Quantity Theory of Money
- Expectations-augmented Phillips Curve

Quantity Theory of Money

The *Quantity Theory of Money*  was a bit of Classical theory based around the [Fisher Equation of Exchange](#) . This equation stated that:

$$MV = PT$$

where:

M is the amount of money in circulation

V is the velocity of circulation of that money

P is the average price level and



T is the number of transactions taking place

Classical economists suggested that *V* would be relatively stable and *T* would (as we have seen above) would always tend to full employment. Friedman developed this and tested it further, coming to the conclusion that *V* and *T* were both independently determined in the long-run. The conclusion from this was that:

$$\uparrow M \rightarrow P \uparrow$$

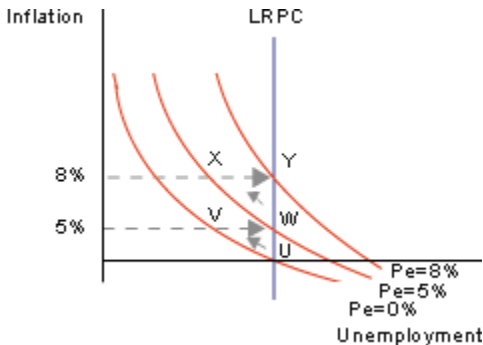
If the money supply grew faster than the underlying growth rate of output there would be inflation. Inflation would be bad for the economy because of the uncertainty it created. This uncertainty could limit spending and also limit the level of investment. Higher inflation may also damage our international competitiveness. Who will want to buy UK goods when our prices are going up faster than theirs?

Expectations-augmented Phillips Curve

The *Phillips Curve*  showed a trade-off between unemployment and inflation. However, the problem that emerged with it in the 1970s was its total inability to explain unemployment and inflation going up together - *stagflation* . According to the Phillips curve they weren't supposed to do that, but throughout the 1970s they did. [Friedman](#) then put his mind to whether the Phillips Curve could be adapted to show

why stagflation was occurring, and the explanation he came up with was to include the role of expectations in the Phillips Curve - hence the name 'expectations-augmented' Phillips Curve. Once again the supreme logic of economics comes to the fore!

Friedman argued that there were a series of different Phillips Curves for each level of **expected** inflation. If people expected inflation to occur then they would anticipate and expect a correspondingly higher wage rise. Friedman was therefore assuming no '*money illusion*' - people would anticipate inflation and account for it. We therefore got the situation shown below:



Say the economy starts at point **U**, and the government decides that it want to lower the level of unemployment because it is too high. It therefore decides to boost demand by 5%. The increase in demand for goods and services will fairly soon begin to lead to inflation, and so any increase in employment will quickly be wiped out as people realise that there hasn't been a *real* increase in demand. So having moved along the Phillips Curve from **U** to **V**, the firms now begin to lay people off once again and unemployment moves back to **W**. Next time around the firms and consumers are ready for this, and anticipate the inflation. If the government insist on trying again the economy will do the same thing (**W** to **X** to **Y**), but this time at a higher level of inflation.

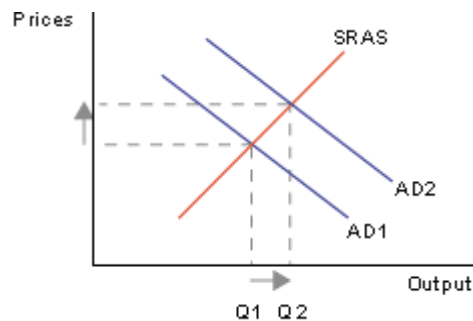
Any attempt to reduce unemployment below the level at **U** will simply be inflationary. For this reason the rate **U** is often known as the *natural rate of unemployment*.

Monetarists - AS & AD

Moderate Monetarists would argue, as [Classical economists](#) do, that the economy may behave slightly differently in the short run from in the long run.

Short run

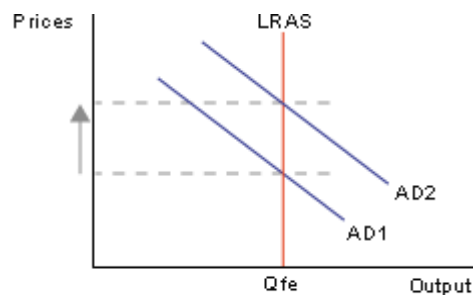
In the short run any increase in the money supply may lead to an increase in aggregate demand. This may, in turn, lead to more employment, but before long people's expectations will catch up and as we saw with the *expectations augmented Phillips Curve* the effects of the boost will only be short-lived. Inflation picks up and wipes out any short-term gains. The following diagram shows this:



Output grows a bit, but inflation is pushed up and once the inflation is in the system people will begin to anticipate it.

Long-run

In the long run, any attempts to reduce unemployment below its *natural rate* will result in inflation. This means that there is no long-run trade-off between unemployment and inflation, and the *long-run aggregate supply curve* will be vertical.



Monetarists - Policies

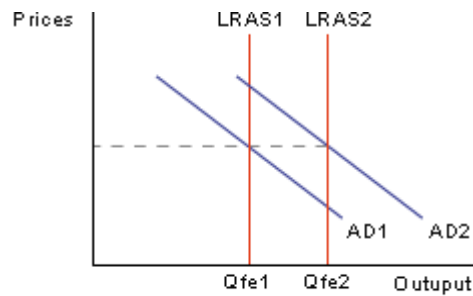
Since the work of Monetarists is mainly limited to their view of inflation, their policy recommendations are pretty much on inflation only as well. They tend to believe that if you control inflation as the main priority, then this will create stability and the economy will be able to grow at its optimum rate.

The key policy is therefore control of the money supply to control inflation. The government should certainly not intervene to try to reduce unemployment as the economy will automatically tend to the *natural rate of unemployment*. The only way to change the natural rate is through the use of *supply-side policies*.

All of this makes Monetarists' policy recommendations pretty similar to those of the [classical](#) economists.

Supply-side policies

Supply-side policies can be used to reduce market imperfections. This should have the effect of increasing the capacity of the economy to produce (in other words the *long-run aggregate supply*). They should therefore reduce the natural rate of unemployment. This will be the only non-inflationary way to get increases in output.



Using supply-side policies has increased the level of output from Q_{fe1} to Q_{fe2} , but the price level has remained stable. Supply-side policies as we have said are ones that reduce market imperfections. They may include:

- Improving education & training to make the work-force more occupationally mobile
- Policies to make people more geographically mobile (scrapping rent controls, simplifying house buying to speed it up,)
- Reducing the power of trade unions to allow wages to be more flexible
- Getting rid of any capital controls
- Removing unnecessary regulations

Money supply policies

The real key to Monetarist policy though is the control of monetary growth. In this way (as predicted by the *Quantity Theory of Money* 📄) the Monetarists would be able to maintain low inflation. Policies might include:

- *Open-market operations* 📄
- *Funding* 📄
- *Monetary-base control* 📄
- Interest rate control