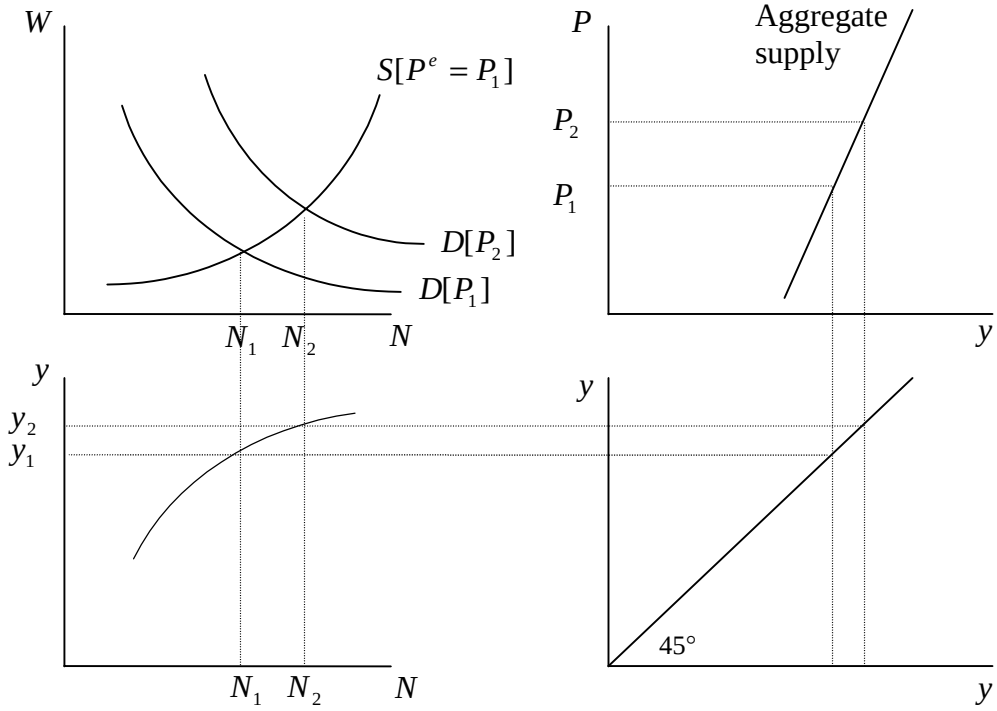
Macroeconomics: BSc Year One

The Monetarist Macroeconomic Model

The main aim of the Monetarist model is to explain why the classical model is wrong in certain areas, and which parts of it hold true. Monetarism accepts the classical view of aggregate demand, but moves towards the Natural Rate Hypothesis for aggregate supply. Monetarists believe the classical view of aggregate supply is more or less correct, but it assumes people operate in a world of perfect information, which is false. The model thus needs to be altered to take into account decisions made on incomplete information.

Looking first at the labour market, monetarists claim the price level is unknown at the time labour supply decisions are made, and we thus need to consider $\frac{W}{P^e}$ rather than $\frac{W}{P}$, where (as in previous notes) P^e is the expected level of prices. This implies that wages are demanded independently of the actual price level, and only if price expectations vary will wages change.

On the demand side of the labour market, firms will be well informed about the price of their own product, and so we assume no differences between P_i^e and P_i. We can then derive the AS curve.



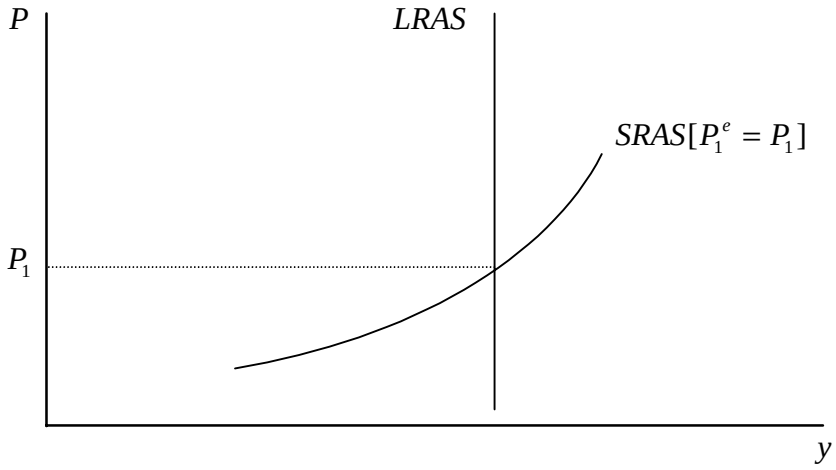
Firstly, assuming expectations are correct, as they will be in the long-run, we will get a curve exactly the same as the classical model; a straight vertical line. If, however, expectations of

price are constantly at P_1, the supply of labour curve will not shift and we find a new short-term curve, as shown above. We may explain this further; Firms will look at $\frac{W}{P}$, and when actual prices rise, the real wage falls. Firms will be more willing to employ more people, and will thus be willing to move up the labour supply curve. To workers, however, whose expectation of price remains fixed, they are getting a better wage. In effect, although the real wage has actually fallen, workers think it has gone up.

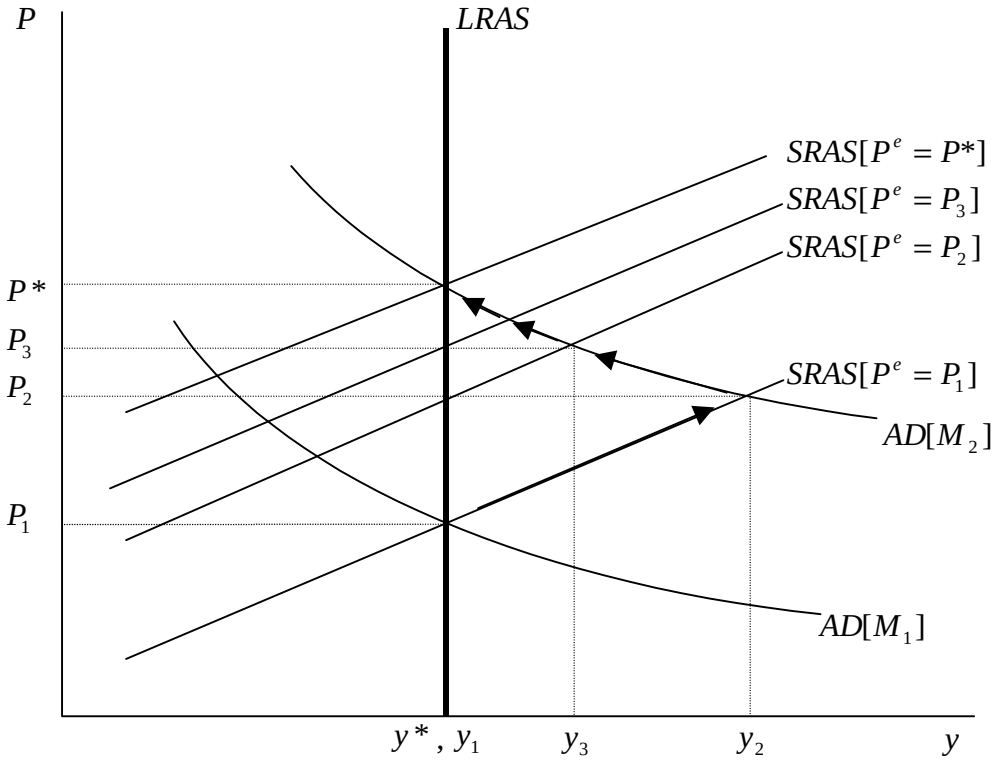
The opposite is also true; a fall in prices leads to a fall in demand for labour, and ultimately to a rise in real wages (although workers think wages have fallen).

Short- and Long-Run Supply

The supply curve we have determined can be labelled $SRAS[P_1^e = P_1]$ (Short Run Aggregate Supply, with the assumption that expectations are constant). The LRAS (Long Run Aggregate Supply) curve cuts the SRAS at the point when expectations are correct; there are an infinite number of SRAS curves.



Monetarists believe classicalists were right in the long term. Monetarism attempts to explain why the classical model was correct over a certain period of time in the following way.



A change in the quantity of money is unexpected, so it will not affect expected prices. The SRAS curve will therefore not move initially, and output will be higher at y_2. People are not stupid, however, so eventually the expected price level will rise to the current level, P_2. This change in expectation *will* shift the SRAS upwards.

We are now at the point where $SRAS[P^e = P_2]$ crosses the new aggregate demand curve. This is again not in equilibrium, with a price of P_3. The SRAS curve will once again shift up as expectations change, and in the long term, when expectations are finally correct, the level of output is the same as initially. This is the same result as predicted by the classical model.

The whole theory hinges on unexpected changes in the money supply. Predictable changes have virtually no effect on output, as the expected price level goes up almost immediately, but large 'shock' changes will have a considerable effect on short-term output.

The Monetarist View of Inflation

Monetarists believe the Keynesian ideal (which is to boost aggregate money demand in order to decrease unemployment) is wrong, for the reasons described above. Rises in aggregate demand have no effect but to increase prices in the long term.

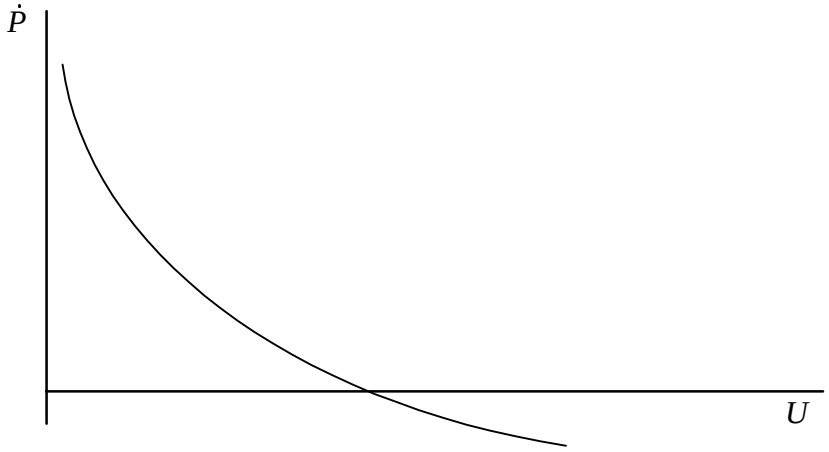
Prices may, in theory, exhibit some long-run stability. Imagine the government wants to expand output to y_2 in the diagram above, and so increases the money supply. People may expect prices to fall back to their initial level, and so won't ask for wage increases. Monetarists, however, believe this will never happen, and so the SRAS curve will rise until the economy is in equilibrium, and the expected price equals the actual price level. To continue at y_2, the government will have to increase the money supply again, and again, causing prices to rise each time. Assuming people only react to changes and never expect them, a higher level of output *is* created, at the cost of a constant level of inflation.

If, however, people do anticipate the rises in money supply and government policy (as a constant inflation will lead to), the intermediate stage will become redundant, and the SRAS curve will jump straight to the long run position, with no increase in output. To counter this, the government will need to shift aggregate demand (by using money supply) up by an amount higher than expected, and thus must steadily accelerate the growth of money to increase output by a constant amount. This leads to accelerating inflation, as can be seen in Britain in the 1960s and 1970s.

Further into the future, people start to expect accelerating inflation, and the policy is entirely unsustainable. Whilst following this policy, Britain encountered stagflation, high unemployment alongside high unemployment; this was an unexplained phenomenon, as high inflation was thought to be due to high demand, which implied low unemployment.

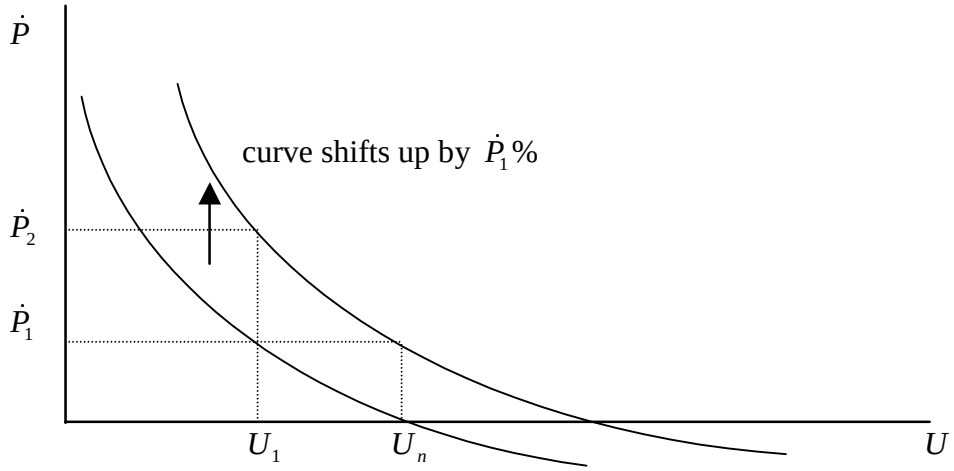
The Phillips Curve

A New Zealander, AW Phillips, collected UK data from the 1860s to the 1950s, and plotted unemployment against wage inflation (the actual graphs can be found at the end of this section). He found a very stable relationship, but almost as soon as he had published his work, the relationship broke down. Almost all the points added to the original diagram lay above the original curve, and Monetarists have tried to explain this using the natural rate hypothesis.



We start by assuming everyone expects zero inflation, and everyone is correct. The existence of a natural rate of output implies a natural rate of unemployment, U_n. If inflation is positive, output has risen, the monetary value of wages rises, and unemployment falls as the voluntarily unemployed join jobs. If inflation is negative, however, wages seem to be low, so unemployment is higher.

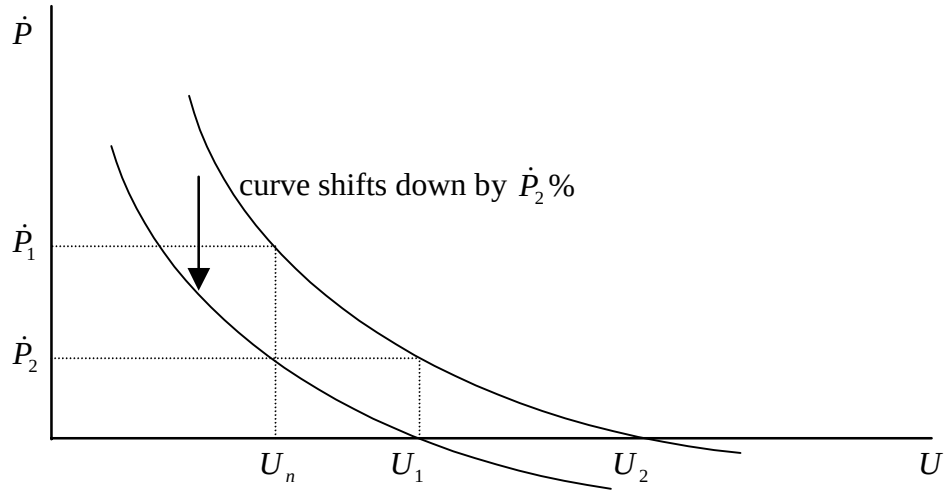
If the government tries to exploit this fact, however, the stability of the model disappears …



The government tries to increase inflation to $\dot{P}_1$, to decrease unemployment. People soon begin to expect this new level of inflation, though, and the unemployment rate rises back to the natural rate, but still at the higher rate of inflation. The Phillips Curve has thus shifted, and the government will need to set inflation at $\dot{P}_2$ (where $\dot{P}_2 = 2\dot{P}_1$) to continue with the lower unemployment at U_1. The process will then repeat ad infinitum.

This acceleration in inflation can be seen occurring in Britain until 1975, when the policy was abandoned, and the economy settled at an inflationary equilibrium position, vertically above U_n on a high Phillips Curve. The government, having realised the policy wasn't working,

then wished to lower the Phillips curve to its original level. Using Monetarist principles, it was theoretically possible to set any inflation level desired by manipulating monetary policy. The Monetarist solution to cure inflation was, predictably, the opposite of the method that caused the problem in the first place. A government could choose to completely eradicate inflation in one go, by setting the unemployment rate where inflation is equal to zero on the current Phillips Curve, but that level of unemployment, U_2, would be too high to tolerate. By choosing a gradual decline in inflation, however, the unemployment rate need not rise too much.



Setting unemployment at U_1, people gradually start to accept the rate of inflation $\dot{P}_1$ rather than $\dot{P}_2$, and the Phillips curve shifts down again. The government can repeat this process until inflation at the natural rate of unemployment is zero.

There is, however, likely to be a period of high unemployment while expectations are changing (it can be observed that expectations are more stubborn in a downwards direction, indicating pessimism in the economy). Keynesians argue that this unemployment is not necessary, and that if the government was to announce inflation was at zero, expectations would shift immediately, and the Phillips Curve would move to the curve at equilibrium, with zero inflation at the natural rate of unemployment. This, obviously, relies on citizens believing the government's word.

Historical Behaviour of Inflation

Inflation seems to be acting in different ways now than it did in the first part of the century, when it was always close to zero, or negative. The main reason for this is claimed to be the gold standard, a commitment by the government to exchange cash for gold on demand. This constrained monetary policy heavily, with money supply being roughly constant until 1931 (excluding the period during World War I), when the gold standard was abolished. During

the First World War the gold standard was temporarily disbanded, and directly after the war the government tried to contract money supply, leading (according to Monetarists) to negative inflation.