Macroeconomics VIII: Equilibrium of Aggregate Supply and Demand

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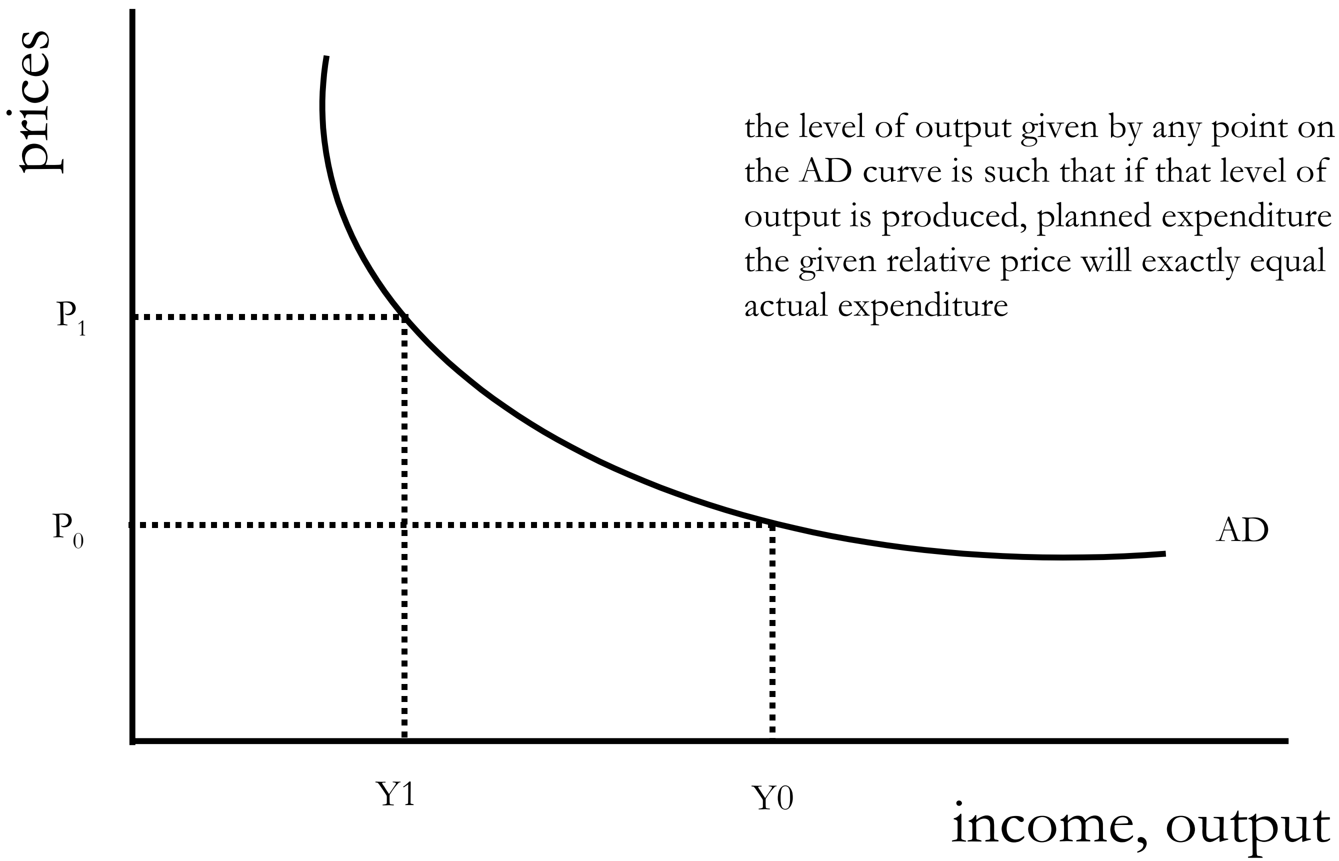
aggregate demand revisited

- Aggregate demand comprises four components:
  - consumption
  - investment
  - primary government spending (i.e. net of transfers)
  - net exports
- The level of income (both current and expected) is a major determinant of consumption, government spending and net exports.
- The real exchange rate is a major influence on net exports.
- The interest rate is also an influence on consumption and investment (with the latter being also dependent upon output expectations and 'animal spirits').

why does the AD curve slope down?

- Three reasons why the aggregate demand curve slopes downwards:
- The first is the Real Balance Effect. When prices rise unexpectedly, the real value of assets whose prices are fixed in nominal terms (such as some government bonds, money, and gold) falls. This leads to less consumer spending.
- The second is the real exchange rate. When prices rise unexpectedly, the real exchange rate appreciates (if the nominal exchange rate is fixed). This leads to an deterioration in the primary current account.
- The third is the Keynes effect. When prices rise unexpectedly, people need more money for day to day transactions and so try to switch their money balances from bonds and shares. This raises the interest rate and hence reduces interest-sensitive spending, such as investment.

the aggregate demand curve



the level of output given by any point on the AD curve is such that if that level of output is produced, planned expenditure at the given relative price will exactly equal actual expenditure

long-run aggregate supply revisited

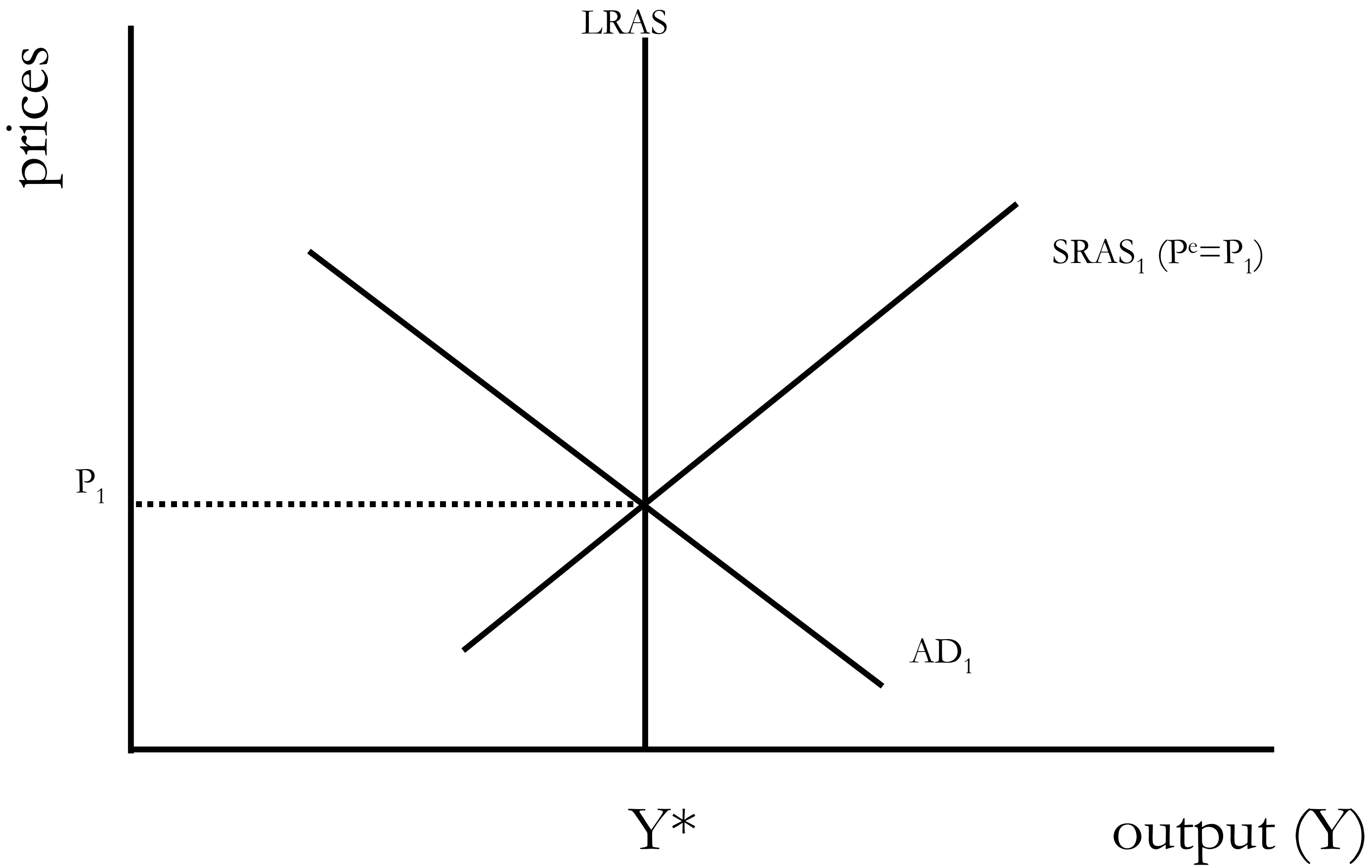
- We say that the labour market is in equilibrium when inflation is stable.
- At the equilibrium unemployment rate, there will be both voluntary unemployment (workers who do not wish to work at the current real wage) and involuntary unemployment (workers who would like to work but cannot find jobs at the current real wage).
- If there is a unique and stable level of equilibrium unemployment, then there is also a unique and stable equilibrium rate of output.
- In the long-run, the economy should return to its equilibrium rate of output, 'money is neutral'.

short-run aggregate supply revisited

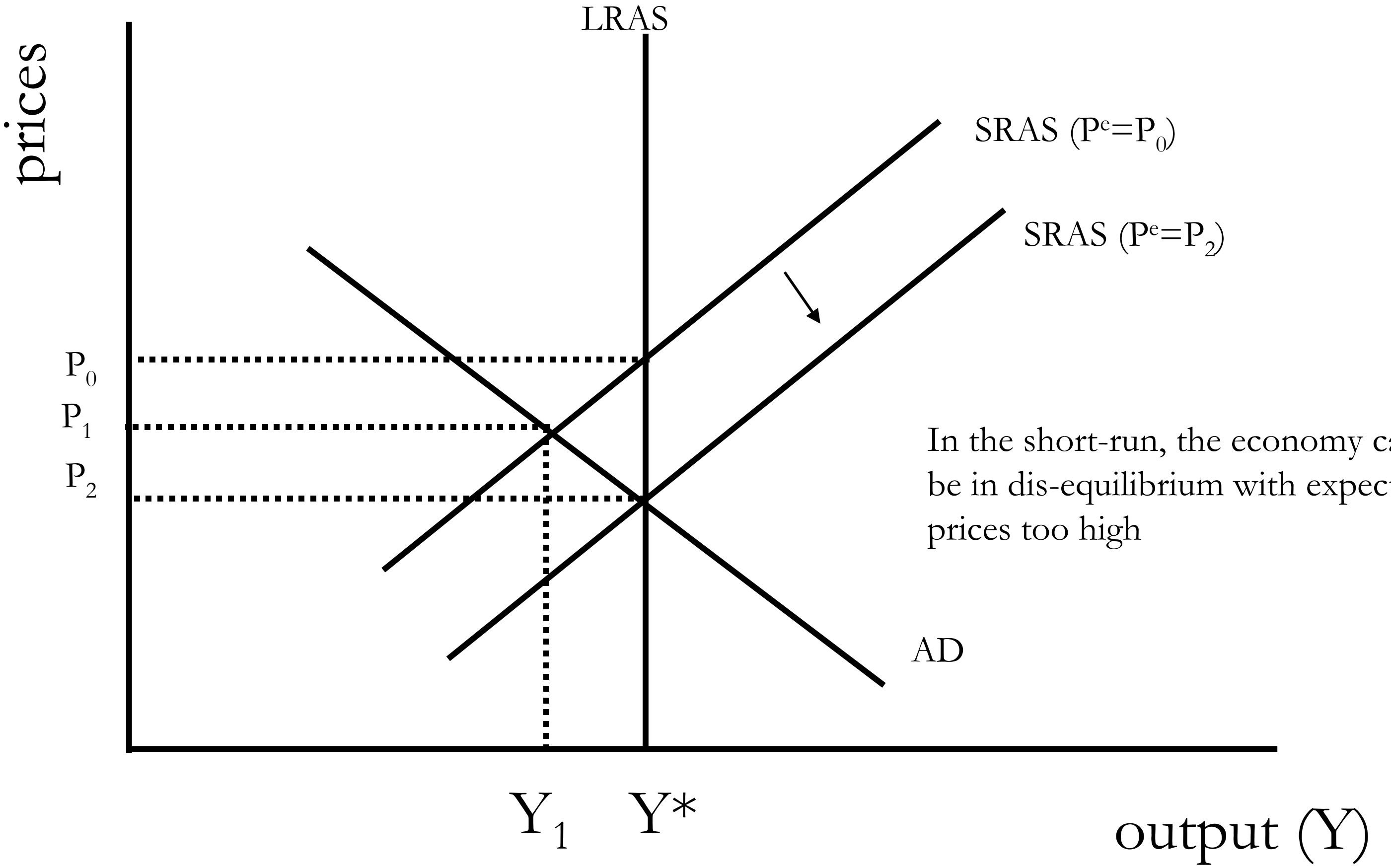
- In the short-run, there is no reason to expect actual output to equal its equilibrium rate.
- Here are four reasons why changes in nominal variables may lead to temporary changes in real output:
  - sticky-wages
  - worker-misperception
  - imperfect information
  - sticky-prices
- All of these lead to a 'surprise-supply' function.

$$Y = Y^* + \alpha\ (P - P^e)$$

AS-AD in long-run equilibrium



AS-AD in dis-equilibrium

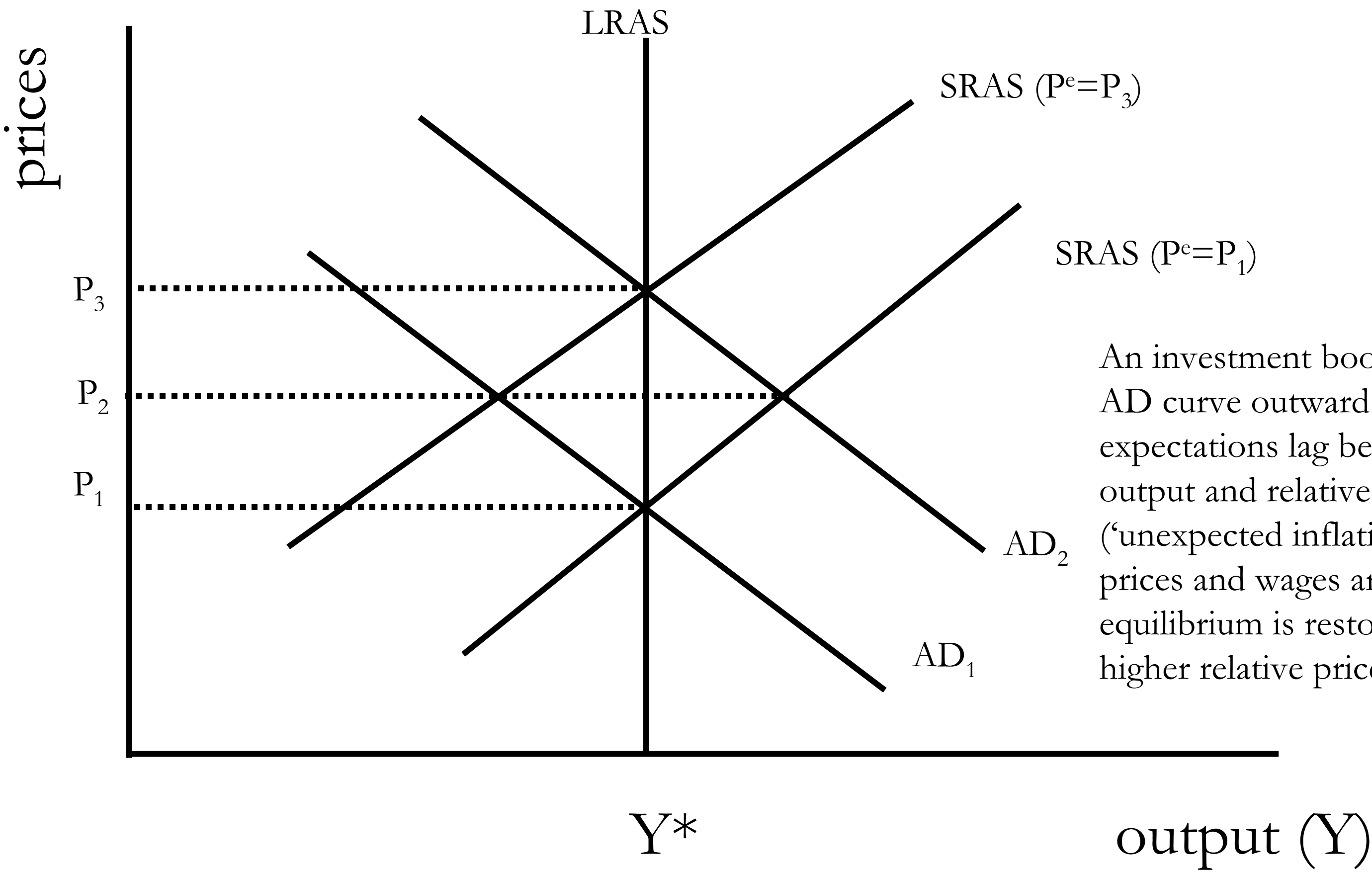


In the short-run, the economy can be in dis-equilibrium with expected prices too high

shocks to the economy

- Why might the economy get 'shocked' away from equilibrium?
- Aggregate demand shocks
  - an investment boom;
  - a pre-election government spending spree;
  - a sudden rise in the real exchange rate;
  - a consumer boom abroad;
  - a boom in the housing market;
  - an unexpected cut in interest rates;
  - a slump in share prices.
- Aggregate supply shocks
  - a sudden rise in oil prices;
  - the invention and diffusion of a new technology.

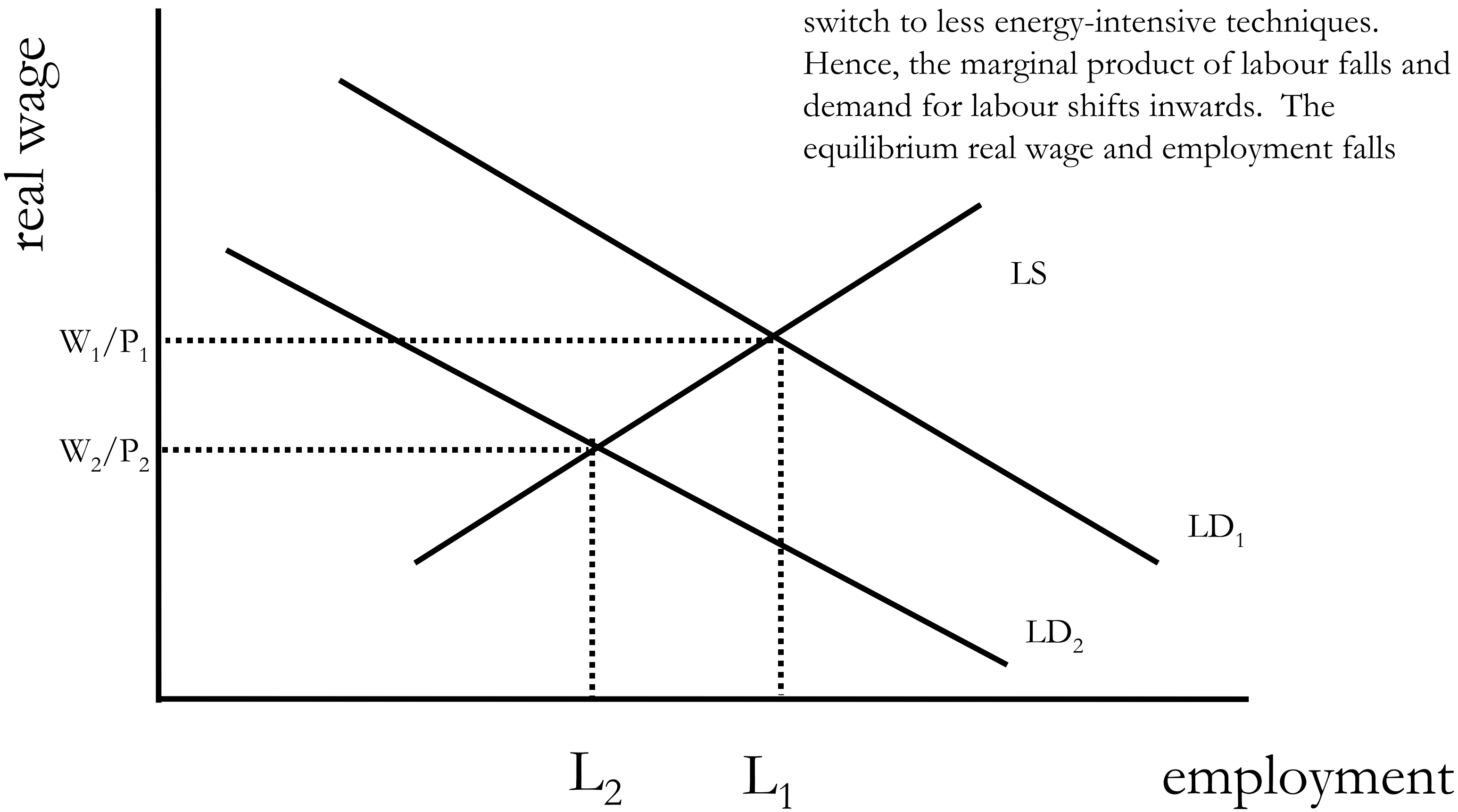
an investment boom



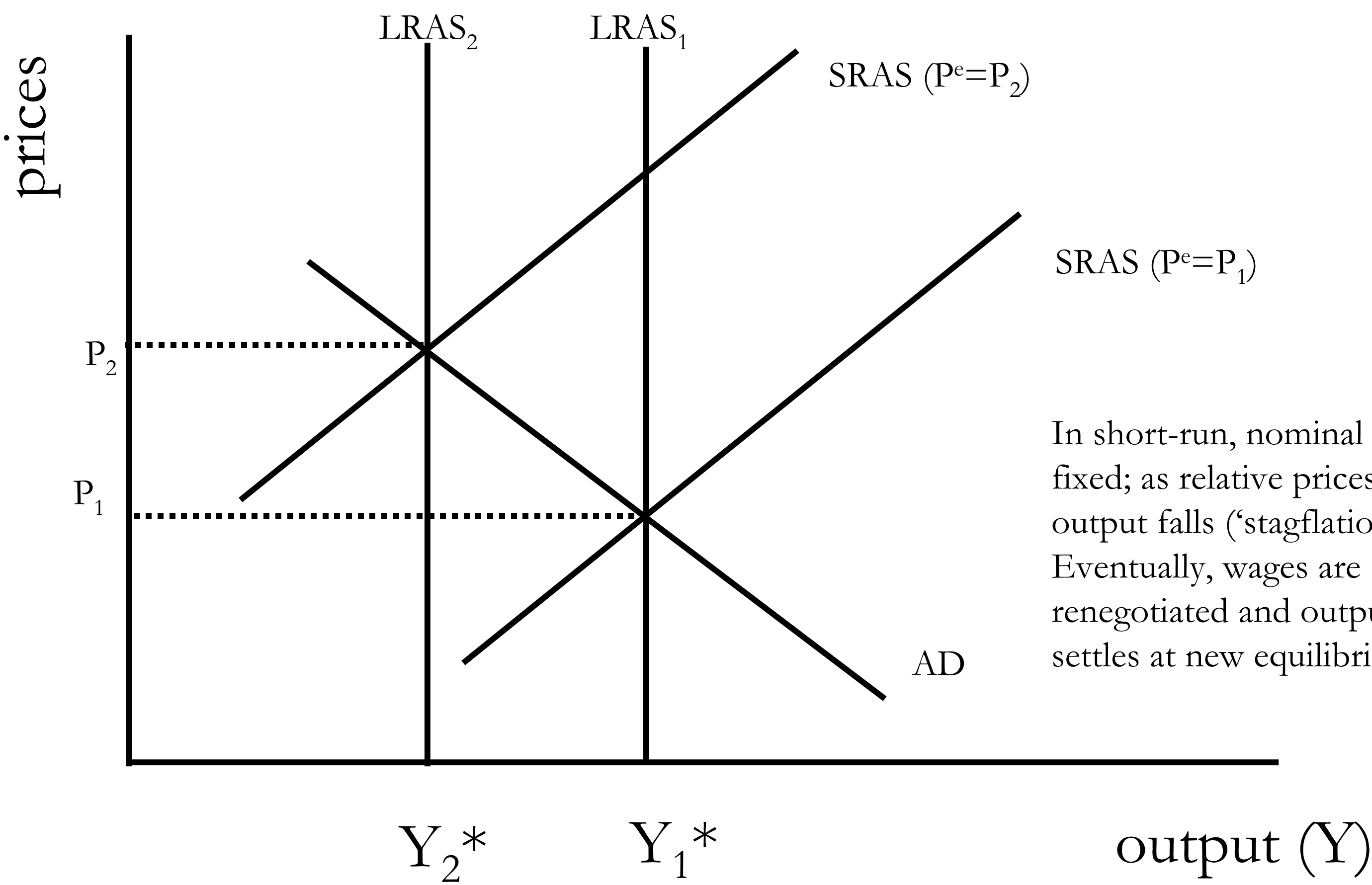
An investment boom shifts the AD curve outwards. At first, expectations lag behind events, so output and relative prices rise ('unexpected inflation'). Once prices and wages are renegotiated, equilibrium is restored with a higher relative price level.

an 'oil price shock' & labour

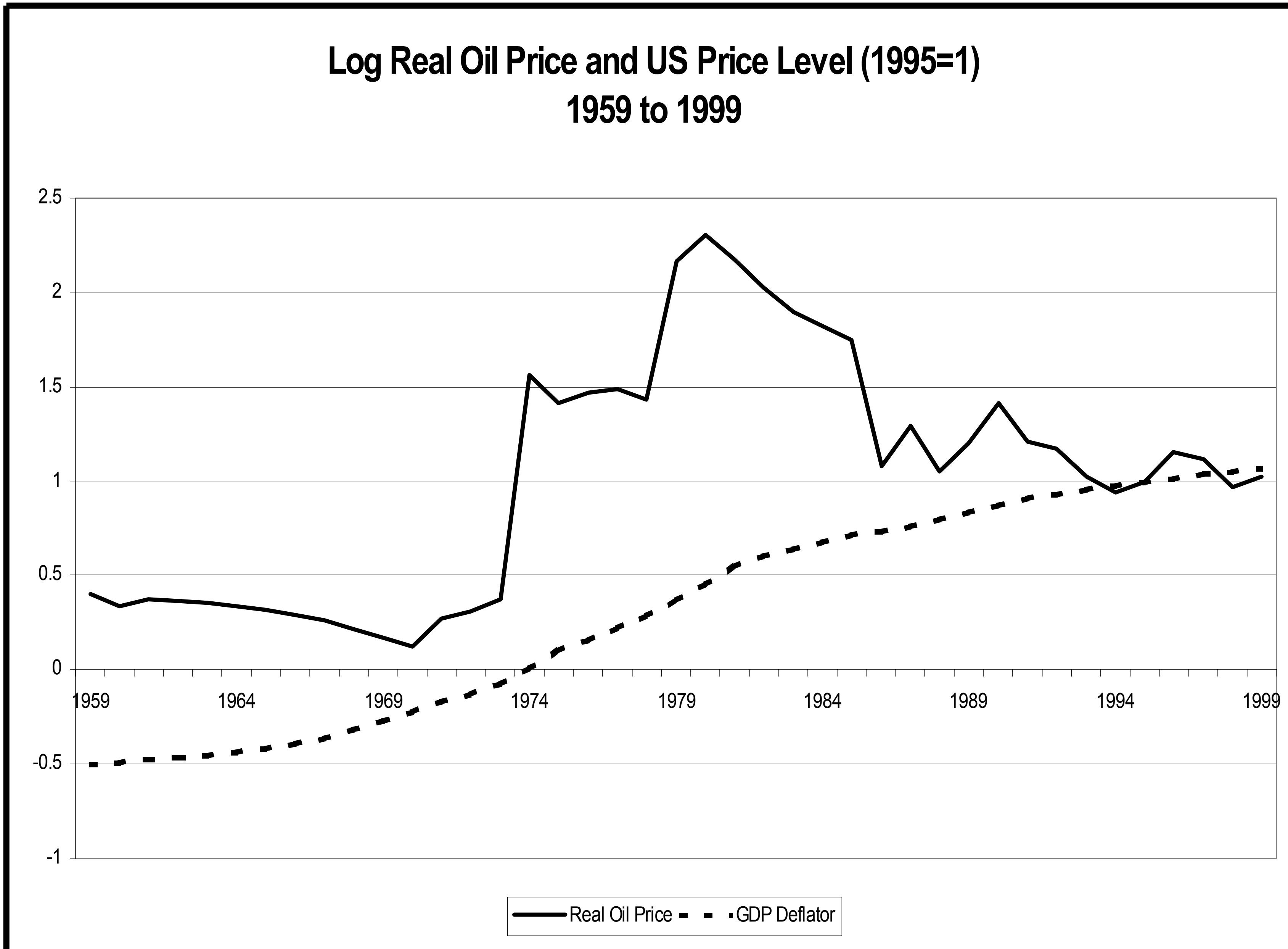
Labour productivity falls since production has to switch to less energy-intensive techniques. Hence, the marginal product of labour falls and demand for labour shifts inwards. The equilibrium real wage and employment falls



an ‘oil price shock’ and AS-AD



In short-run, nominal wages fixed; as relative prices rise, output falls (‘stagflation’). Eventually, wages are renegotiated and output settles at new equilibrium.


Log Real Oil Price and US Price Level (1995=1)
1959 to 1999
2.5
2
1.5
1
0.5
0
-0.5
-1
1959
1964
1969
1974
1979
1984
1989
1994
1999
Real Oil Price
GDP Deflator

fiscal policy

- 'If the Treasury were to fill old bottles with bank notes, bury them at suitable depths in disused coal mines which are then filled up with town rubbish, and leave them to private enterprise… to dig them up again, there need be no more unemployment. It would, indeed, be more sensible to build houses and the like, but if there are political and practical difficulties in the way of this, the above would be better than nothing' J.M. Keynes, 1936.
- Changes in the government's fiscal stance (that is, the difference between government spending and taxation) will shift the aggregate demand curve.
- If economy is at equilibrium output, increases in spending (or tax cuts) will lead to an inflationary boom, which eventually will lead only to higher prices.
- If economy is below equilibrium output, increases in spending (or tax cuts) will tend to raise output (as well as prices) and shift the economy back to equilibrium.

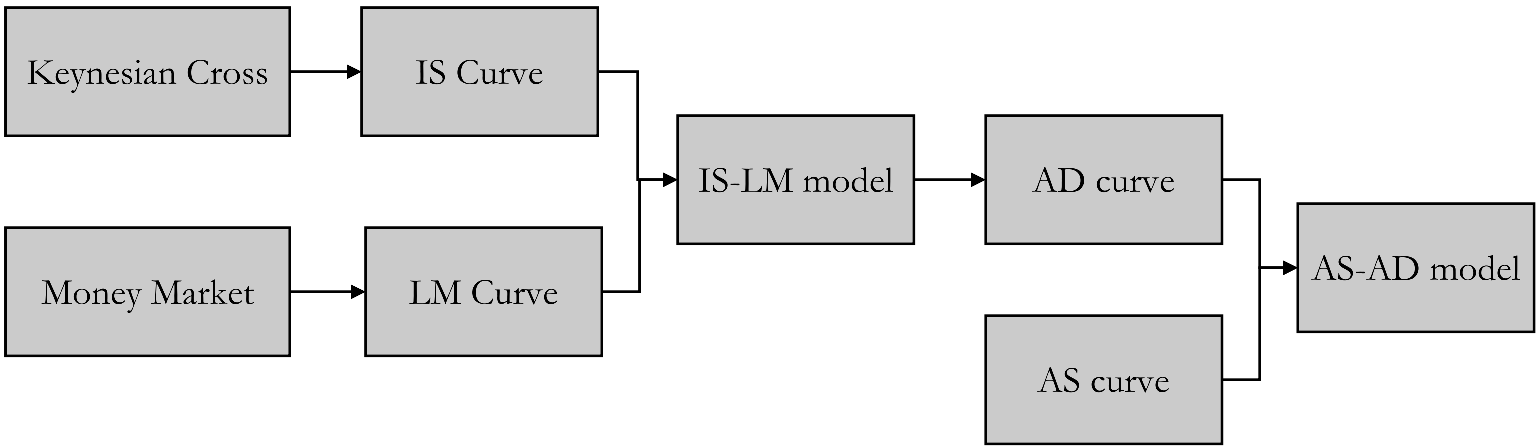
the limits to fiscal policy

- But there are problems with the use of fiscal policy:
  - Measurement of output: where are we? where are we going? how fast? will we know when we get there?
  - Lags in the fiscal policy process: implementation (recognition & administrative lags) and operational;
  - What kind of fiscal policy? Spending (on what?) or tax cuts (for whom?);
  - Will spending 'crowd-out' other spending, either directly or indirectly?
  - Will consumers pierce the veil? Will they attempt to offset the actions of the government (Ricardian Equivalence)?.

monetary policy

- 'Having regard to human nature and our institutions, it can only be a foolish person who would prefer a flexible wage policy to a flexible money policy, unless he can point to advantages from the former that are not obtainable from the latter' J.M.Keynes, 1936.
- Monetary policy can be implemented through either changes in the money supply or interest rate. A cut in the interest rate leads to a rise in the money supply.
- Changes in the interest rate will shift the aggregate demand curve.
- If economy is at equilibrium output, interest rate cuts will lead to an inflationary boom, which eventually will lead only to higher prices.
- If economy is below equilibrium output, interest rate cuts will tend to raise output (as well as prices) and shift the economy back towards equilibrium.

the theory of short-run fluctuations



summary

- "But this *long run* is a misleading guide to current affairs. In the *long run* we are all dead. Economists set themselves too easy, too useless a task if in tempestuous seasons they can only tell us that when the storm is long past the ocean is flat again." J.M. Keynes, 1936.