

Chapter 37 Money and interest rates

Answers to Knowledge checks

- 37.1** The savings account with a high street bank is more liquid because it can be accessed with very little bother, whereas a shareholding needs to be sold before it can be used to buy something.
- 37.2** The bank is able to make profits because it charges a higher rate of interest on its lending than it gives to its depositors.
- 37.3** The velocity of circulation is nominal income divided by money supply, so in this case it is $\text{£}3,600\text{m}/\text{£}720\text{m} = \text{£}5\text{m}$.
- 37.4** The real interest rate is the nominal rate minus the inflation rate, which in this case would be $31.2 - 40.9 = -9.7\%$. If you think that these figures are unrealistic, they are in fact approximately the actual data for Argentina in 2016.
- 37.5** If the demand for money is relatively inelastic and there is an increase in money supply, equilibrium will only be maintained by a relatively large fall in the interest rate. If you sketch a quick diagram you will see that this is the case.

Answers to Exercises and Case studies

Exercise 37.1

In the equation, M represents the money supply. A classical economist would assume that this was exogenous — that is, it is set by the monetary authorities.

V is the velocity of circulation — the speed at which money circulates in the economy. Under classical assumptions, this would be constant through time.

P is the aggregate price level. In the classical model this is determined by the other variables.

Y is level of real income, which in the classical world would be at its steady state level, so would not vary.

Taking these assumptions together, any change in money supply would be reflected in the price level, as neither V nor Y would vary.

In a modern economy, the money supply is not fully exogenous (determined by the monetary authorities), as the banking system can create credit. Furthermore, the quantity of money and credit in the economy cannot be precisely measured or monitored, because of the wide range of assets that are ‘near-money’.

Keynesians would argue that the velocity of circulation may be unstable, as the expectations of economic agents can vary and affect the position of the demand for money.

Keynesians would also argue that the level of real income can also vary over time, and that the macroeconomy could settle at an equilibrium below the full employment level (natural rate of output). However, the neoclassical economists would argue that the economy will return rapidly to equilibrium at the natural rate.

Exercise 37.2

When considering a monetary expansion with a Keynesian $LRAS$ curve, the position of the original equilibrium is crucial. If the economy begins at full employment, i.e. in the vertical section of the Keynesian $LRAS$ curve, then there is no difference from the Monetarist situation: the rightward shift in the AD curve just leads to an increase in the price level, and real output is unaffected.

Figure A37.1 shows that the situation may be different if the economy begins in an equilibrium position that is below full employment. Suppose that the economy begins in equilibrium with the aggregate demand curve AD_0 intersecting the upward sloping section of aggregate supply. Real output is at Y_0 and the price level is P_0 . A monetary expansion shifts aggregate demand to AD_1 , and the new equilibrium is with price level P_1 and real output at Y_1 . Although the monetary expansion has led to an increase in the price level, real output has also increased. The extent to which the impact is felt on the price level rather than real output depends crucially upon the slope of the AS curve. The flatter is AS, the stronger is the effect on real output and the weaker the effect on the price level.

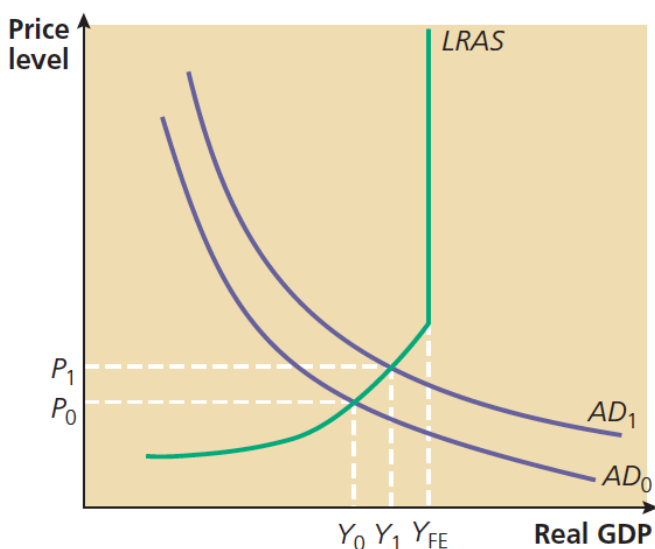


Figure A37.1 An increase in money supply with a Keynesian $LRAS$ curve

Exercise 37.3

The effect on the interest rate of an increase in money supply is shown in Figure A37.2. When money supply increases from MS_0 to MS_1 , the equilibrium rate of interest falls from r_0 to r_1 .

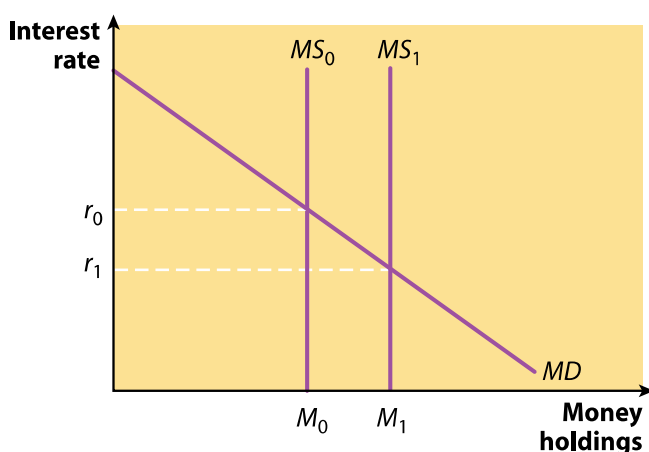


Figure A37.2 The effect of an increase in money supply

Case study 37.1

Loanable funds and government intervention

Consider Figure A37.3. The equilibrium in this market for loanable funds occurs with the rate of interest at r^* , at which point the amount of investment that firms wish to undertake is just matched by the amount of funds that savers are prepared to supply.

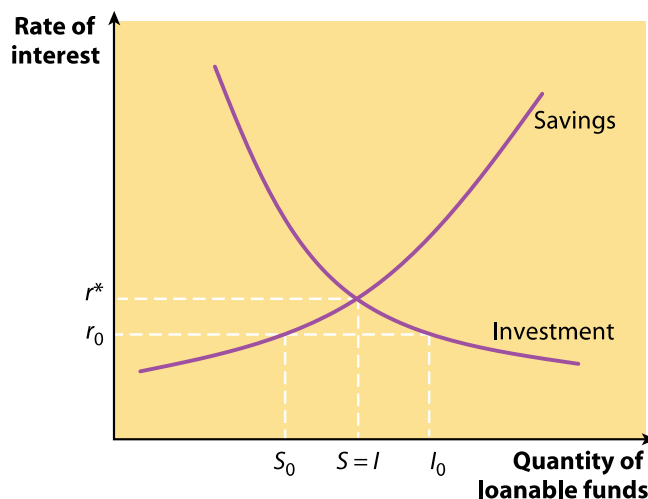


Figure A37.3 The market for loanable funds

Suppose that the government is keen to encourage investment, and realises that firms would be prepared to undertake more investment if the cost of borrowing were lower — say, at r_0 . This seems at first glance to be a potentially valid policy, because if the interest rate were to be set at r_0 , firms would indeed be prepared to invest up to I_0 . But will it work? No. The problem is that when the interest rate is so low, savers are only prepared to supply loanable funds up to S_0 , so that is the maximum amount that firms will be able to obtain for investment. The effect is therefore that there will be less investment with interest rates held at r_0 than if the market had been allowed to find its own equilibrium position. The policy has had the opposite effect than was intended.

The impact could be even worse than this, depending on how the available funds are allocated to borrowers. In the market equilibrium position, only projects with a rate of return of r^* or above would obtain funding. However, in a rationed (disequilibrium) market, it cannot be guaranteed that only the most productive projects will be funded, so the average efficiency of the investment that is undertaken could also be low. Indeed, one real possibility is that relatively rich individuals in the economy will be able to borrow funds in order to finance their purchases of consumer goods.

Answers to end-of-chapter questions

A Multiple-choice questions

- 1 c. A flow of wealth
- 2 a. Scarce
- 3 c. Prices multiplied by income equals money multiplied by velocity

B Knowledge and understanding questions

- 4 As money supply increases, the price level will also increase (or vice versa).

A full explanation of the relationship between money supply and price level	2 marks
A vague or partial explanation of the relationship between money supply and price level	1 mark

- 5** Narrow money (M0) is the notes and coins in circulation and as commercial banks' deposits at the Bank of England.

Broad money (M4) is narrow money plus sterling wholesale and retail deposits with monetary financial institutions such as banks and building societies.

The relationship is that broad money includes narrow money.

A full explanation of the relationship between narrow and broad money	2 marks
A vague or partial explanation of the relationship between narrow and broad money	1 mark

- 6** It is expected that the demand for money will be lower when the rate of interest is relatively high, as the opportunity cost of holding money is high. People will be more reluctant to forgo the rate of return that has to be sacrificed by holding money.

When the rate of interest is relatively low, this will be less of a concern, so the demand for money will be relatively high. This suggests that the money demand (*MD*) curve will be downward sloping.

An explanation of how interest rates may be determined using the theory of liquidity preference	up to 2 marks
A diagram showing how interest rates may be determined using the theory of liquidity preference	up to 4 marks

- 7** The rate of interest represents the cost of borrowing the funds needed in order to finance the investment. The higher the rate of interest, the less investment projects will be seen as being profitable. If the firm is intending to finance its investment from past profits, the interest rate is still pertinent, as it then represents the return that the firm could obtain by purchasing a financial asset instead of undertaking the investment.

An explanation of how interest rates may be determined using the theory of loanable funds	up to 2 marks
A diagram showing how interest rates may be determined using the theory of loanable funds	up to 4 marks

C Stimulus response question

- 8 a** Characteristics may include:

- Portability — contactless involves only a card or a portable electronic device
- Divisibility — contactless can pay any amount
- Acceptability — many shops accept contactless payment

- Durability — cards are reasonably durable and electronic devices even more so

Two characteristics explained	4 marks
One characteristic explained AND one characteristic identified	3 marks
One characteristic explained OR two characteristics identified	2 marks
One characteristic identified	1 mark

b Characteristics may include:

- Acceptability — some shops do not accept contactless and only ever for transactions below a ceiling imposed by the bank (for example £30)
- Scarcity — contactless payment can be forged with relative ease

Two characteristics explained	4 marks
One characteristic explained AND one characteristic identified	3 marks
One characteristic explained OR two characteristics identified	2 marks
One characteristic identified	1 mark