10 A self-fulfilling prophecy whereby people believe that a bank will be unable to pay and, in the stampede to get their money, thereby ensure that the bank cannot pay.

11 Notes and coin in circulation plus bankers' operational deposits with the Bank of England.

12 The value of the total stock of money, the medium of exchange, in circulation.

13 The speed and certainty with which an asset can be converted into money.

14 The ratio of reserves to deposits.

Exercises

1 Eight individuals in a barter economy have and want the following goods:
Alice has some haddock but would like some apples;
Barry has some gin but fancies blackcurrant jam;
Carol is in possession of doughnuts but wants coconuts;
Daniel has obtained some jellied eels but really wants doughnuts;
Eleanor has some figs but would prefer jellied eels;
Felix fancies figs but has only blackcurrant jam;
Gloria has coconuts but yearns for gin;
Henry has apples but would like haddock.
(a) Can you work out a series of transactions which would satisfy all concerned?
(b) Can you now understand how money is so helpful in making the world go round?

2 Identify each of the following items as legal, token, commodity, or IOU money – or, indeed, as not-money:
(a) Gold.
(b) £1 coin.
(c) Cigarettes.
(d) Cheque for £100.
(e) Petrol.
(f) Camera accepted in part-exchange.
(g) A building society deposit.
(h) Pigs, turkeys, and cocoa nuts.

This exercise shows how the banks can create money through their loan policy. For simplicity, assume that there is a single commercial bank, which aims to hold 10 per cent of its deposits as cash. The public is assumed to have a fixed demand for cash of £10 million. We begin in equilibrium with the following situation:

Commercial bank balance sheet (£m)

Liabilities		Assets		Cash ratio	Public cash holdings	Money stock
Deposits	100	Cash	10			
		Loans	90			
	100		100	10%	10	110

Consider the sequence of events that follows if the central bank autonomously supplies an extra £10 million cash which finds its way into the pockets of Joe Public:
(a) How will Joe Public react? (Remember the fixed demand for cash.)
(b) How does this affect the cash ratio of the commercial bank?
(c) How will the commercial bank react to this 'disequilibrium'?
(d) How much cash does Joe Public now hold?
(e) What will Joe Public do with the excess cash?
(f) How does this affect the commercial bank's behaviour?
(g) At what point will the system settle down again, with both bank and public back in equilibrium?
(h) How does money stock alter as this process unfolds?

Note: if this sequence of questions does not make any sense to you, you are recommended to tackle them again in conjunction with the commentary provided in the 'Answers and Comments' section.

4 Which of the following characteristics are necessary for an asset to function as money?
(a) Backed by a precious metal.
(b) Authorized as legal tender by the monetary authorities.
(c) Generally acceptable as a medium of exchange.
(d) Having value in future transactions.

5 The commercial banks in an economy choose to hold 5 per cent of deposits in the form of cash reserves. The general public chooses to hold an amount of notes and coin in circulation equal to one-quarter of its bank deposits. The stock of high-powered money in the economy is £12 million.
(a) Calculate the value of the money multiplier.
(b) What is the size of the money stock if both public and banks are holding their desired amounts of cash?
(c) Suppose the banks now decide that they need to hold only 4 per cent of deposits as cash. Calculate the value of the money multiplier.
(d) What is now the size of 'equilibrium' money stock?
(e) Suppose that the banks again choose to hold 5 per cent of deposits as cash, but the public increases its cash holdings to 30 per cent of its bank deposits. Now what is the value of the money multiplier?
(f) What is now the size of 'equilibrium' money stock?

(g) Does this analysis provide any clues to how the monetary authorities might try to influence the size of the money stock?

6 Suppose that the clearing banks maintain a minimum cash ratio of 12_ per cent.
   (a) If an individual bank receives a cash deposit of £1000, what additional deposits would the bank feel able to create?
   (b) What difference would it have made if the cash ratio had been only 10 per cent?
   (c) Under what circumstances might a bank choose to hold a higher cash ratio than is required by government regulations?

7 Which of the following would be regarded as an asset to a customer of a commercial bank?
   (a) A current account bank deposit.
   (b) A special deposit.
   (c) Trade bills held by the bank as reserve assets.
   (d) The bank's deposits at the Bank of England.
   (e) An overdraft.
   (f) Loans advanced by the commercial bank in US$.

8 In Table 22-1 are listed a number of components of the monetary aggregates in the UK, as at October 1999. These data were taken from the Bank of England's web site at http://www.bankofengland.co.uk/mfsd/ Calculate M0, M2, and M4.

9 Assess the liquidity and likely return of each of the following financial assets:
   (a) Cash.
   (b) Equities.
   (c) Bonds.
   (d) Bills.
   (e) Industrial shares.
   (f) Perpetuities.

Table 22-1 Some components of UK monetary aggregates

	£ million
Wholesale deposits	252,189
Notes and coin in circulation outside the Bank of England	29,192
Cash in circulation	23,521
Banks' retail deposits	409,345
Building society retail shares and deposits	109,052
Bankers' operational deposits with the Banking Department	186

True/False

1 Dogs' teeth have been used as money.
2 Trading is expensive in a barter economy.
3 Money in current accounts in banks is legal tender.
4 Financial panics are rare in present-day Britain because of the actions of the Bank of England.
5 If the goldsmiths insisted that all transactions were backed by equal amounts of gold in the vaults, then their actions could not cause growth in the money supply.
6 Banks are the only financial intermediaries.
7 The clearing system represents one way in which society reduces the costs of making transactions.
8 The more liquid an asset, the higher the return received.
9 The modern fractional reserve banking system is an intrinsic part of the process of money creation.
10 The monetary base is the quantity of notes and coin in circulation with the non-bank private sector.
11 The more cash that the public wishes to hold, the higher is money supply.
12 Building society deposits are so liquid that they ought to be included in the definition of money.

Economics in Action

Smile. Now Beenz Means More Than Just Virtual Cash

(Adapted from The Scotsman, 10 January 2000)

From the perspective of driving its mantra into the hearts and wallets of the mainstream, the problem with electronic commerce is that it is so gosh-darned esoteric. Credit cards may work well enough, but they have also generated enough security myths, blunders and genuine fears to render their use downright scary. Likewise, the various forms of e-cash might be particularly safe for small online transactions, but as long as you can't spend it at the shops down the road, it is never going to feel like currency of real value.

Following a joint announcement from web currency creator beenz.com and electronic transaction specialist Mondex International, however, this problem may have been solved. The companies are developing a smartcard capable of carrying beenz, a suite of complementary e-commerce services and good old-fashioned cash that promises to embrace the home PC, mobile phone, digital television and shopping mall with ease. 'At some point, people are finally going to realize there are no such things as online commerce or offline commerce – there is only commerce,' says Charles Cohen, founder and chief technology officer of beenz.com. 'Any distinction that has been made between the two is manifestly false; it's just that, until now, there has been no clear bridge between website and high street.' The products to be included on the card are complementary but distinct. Mondex, functioning in Scotland by means of a pilot scheme involving Edinburgh University, the Bank of Scotland and local retailers, is essentially cash stored in electronic form on cards that can be credited at a variety