

Money connects transactions across time

Money commonly serves as a medium of exchange, a unit of account and a store of purchasing power. These functions can be imperfect: purchasing power may change, and acceptance varies. Money is not identical to wealth or income. Every amount and rate in this lesson is illustrative, not a current quotation or personal financial recommendation.

Worked example: nominal versus real purchasing power

An illustrative income rises from £500 to £530 while a relevant price index rises from 100 to 108. Nominal income increases by 6%. Expressed in initial-period purchasing power, the new income is $£530/1.08$, approximately £490.74. Real purchasing power falls by about 1.85%, despite the higher number of pounds.

Inflation is a rate of price-level change

Inflation is an increase in a specified general price index over a period. Lower positive inflation means prices rise more slowly, not that the price level falls. Deflation is a decline in that index. Individual relative prices can move differently from the overall index, reflecting changes in demand, supply or quality.

Worked example: compound growth

A hypothetical £1,000 balance grows at 5% per year, with interest retained and no fees or taxes. After one year it is £1,050. After two, it is $£1,050 \times 1.05 = £1,102.50$. The general formula is $\text{future value} = \text{present value} \times (1 + \text{rate})^{\text{number of periods}}$.

Match the rate to the period

A one-per-cent monthly growth rate compounds by multiplying by 1.01 each month. Over twelve months, the factor is 1.01 raised to twelve, approximately 1.126825: effective annual growth of 12.6825%. Multiplying the monthly rate by twelve gives 12%, which omits growth on earlier months' additions. Always check the compounding convention.

Discounting translates future amounts into present equivalents

At a stated discount rate r , a payment received t periods later has present value equal to future payment divided by $(1 + r)$ raised to t . Discounting reverses compounding. At 5% annually, £1,102.50 received in two years has a present value of £1,000 under the same illustrative assumptions.

Worked example: compare a dated project

An illustrative project costs £400 today and returns £220 after one year and £230 after two. At a 10% annual discount rate, present values are £200 and approximately £190.08. Net present value is $£200 + £190.08 - £400 =$ minus £9.92. Under these assumptions, it falls short of the stated alternative return.

Nominal and real returns must be distinguished

If a hypothetical nominal balance grows by 8% while the relevant price level rises by 5%, the exact real growth is $1.08/1.05 - 1$, approximately 2.86%. Subtracting inflation from the nominal rate gives an approximation of 3%. The exact formula compares growth factors, and actual inflation may differ from what was expected.

Expected value is not a certain outcome

With stated probabilities, expected value is the sum of each outcome multiplied by its probability. An illustrative choice yielding £80 with probability 0.6 and minus £40 with probability 0.4 has expected value £32. Neither possible outcome is £32. Risk attitudes, affordability of losses and confidence in the probabilities still matter.

Several exposures can share the same risk

Spreading resources across different activities can reduce exposure to some independent or imperfectly related risks. It does not remove all risk. If outcomes respond to the same underlying shock, apparent variety may offer little protection. Liquidity needs and the consequences of a bad outcome can matter as much as the average expected return.

Bank lending changes balance sheets

In a simplified bank loan, lending £1,000 creates a £1,000 loan asset for the bank and a £1,000 deposit liability when the borrower's account is credited. The borrower receives a deposit asset and a matching debt. This does not create £1,000 of net wealth for the borrower or give banks unlimited lending capacity.

Liquidity differs from solvency

Liquidity concerns meeting payments when due. Solvency concerns whether assets cover liabilities under the relevant valuation. An illustrative bank has assets of £100 and liabilities of £95, leaving equity of £5. An £8 asset loss reduces assets to £92 and equity to minus £3. A solvent institution can nevertheless face a short-term liquidity problem.

Credit reallocates purchasing power and obligations

Credit allows spending before the borrower has earned or saved the full amount, while creating future repayment obligations. It can fund productive activity or unsustainable commitments. Effects on output and prices depend on demand, capacity, expectations, institutions and how credit is used. A balance-sheet mechanism alone does not determine a complete macroeconomic outcome.

Put time, purchasing power and uncertainty together

Label each amount as a stock or flow, nominal or real, and present or future. Match rates to periods and compounding conventions. Discount dated amounts consistently, identify the alternative being used, and test uncertain assumptions. For credit, record assets and liabilities separately. An attractive receipt today can carry a substantial obligation tomorrow.