Money markets

1. Introduction

1.1. Chapter overview

The **money market** is the market place for short-term borrowing and lending (i.e. loans and deposits with maturities of less than one year).

The chapter starts by looking at the **inter-bank market**, the market in which banks lend and borrow money for periods ranging from 24 hours to one year.

You will then see how the UK Government borrows for the short-term by issuing short-term IOUs called **Treasury bills**. These instruments are fully tradable on the money markets.

The chapter moves on to describe other money market instruments, such as certificates of deposit and commercial paper, which are used by companies to raise capital in the short-term.

1.2. Learning outcomes

On completion of this module, you will:

Cash and cash equivalents

- 12.1.1 Explain the main characteristics and risks associated with cash deposits and money market instruments (including Treasury Bills, certificates of deposit, commercial paper, floating rate notes)
- 12.1.2 Calculate the discount and quoted yield on a UK Treasury Bill

2. Cash and cash equivalents

2.1. Cash

Background

The money markets are the market for short-term credit, loans and deposits with an original maturity of less than one year.

Institutions can borrow funds if they have a cash flow problem, or deposit funds if they have a surplus. Deposits range from overnight to 12 months.

These funds may either be in the form of a straightforward cash deposit or loan, or an instrument such as a bill or a certificate of deposit.

Money markets exist in most major economies to a greater or lesser extent; the most active is in London.

The need for cash

Companies continually borrow or lend money.

Each day different companies (and other customers) approach the banks wanting to borrow or lend different amounts of cash for different terms (i.e. periods of time).

Inter-bank market

Introduction

In order to resolve any shortages or surpluses of cash that arise, the banks have a borrowing/lending market amongst themselves called the inter-bank market. Here they raise the shortfalls and lay off the surpluses generated in each period by their customers' activities.

Normally, the minimum transaction size is £500,000, and arrangements are unsecured.

LIBOR

The leading banks in London estimate what they would be charged if borrowing from other banks in the interbank market. These rates are submitted and the average is published as the London Interbank Offered Rate (LIBOR). There are several different LIBOR rates published as the banks must submit rates for various borrowing periods and different types of currencies

LIBID - the London Interbank Bid Rate - is another common benchmark. It is the rate available to **depositors**. It has no official fixing and is usually an adjustment of the published LIBOR rate.

2.2. Government bills

UK Treasury bills (UK T-bills)

T-bills: features

The UK Government, like any other, sometimes needs to spend more money than it receives. This gives rise to cash flow problems.

In order to alleviate this problem the Government borrows money on the money markets through short-term 'I owe yous' (IOUs) called Treasury bills (T-bills).

The Bank of England uses T-bills to conduct Open Market Operations (OMOs). During OMOs the Bank is buying or selling T-bills in the London money market to either inject or remove cash to/from the banking system.

T-bills are issued with a life of less than a year.

Because of their short lives there is no opportunity to make an interest or coupon payment; instead T-bills are issued at a discount and redeemed at their face value, or par.

The minimum denomination of T-bills is £25,000 nominal value.

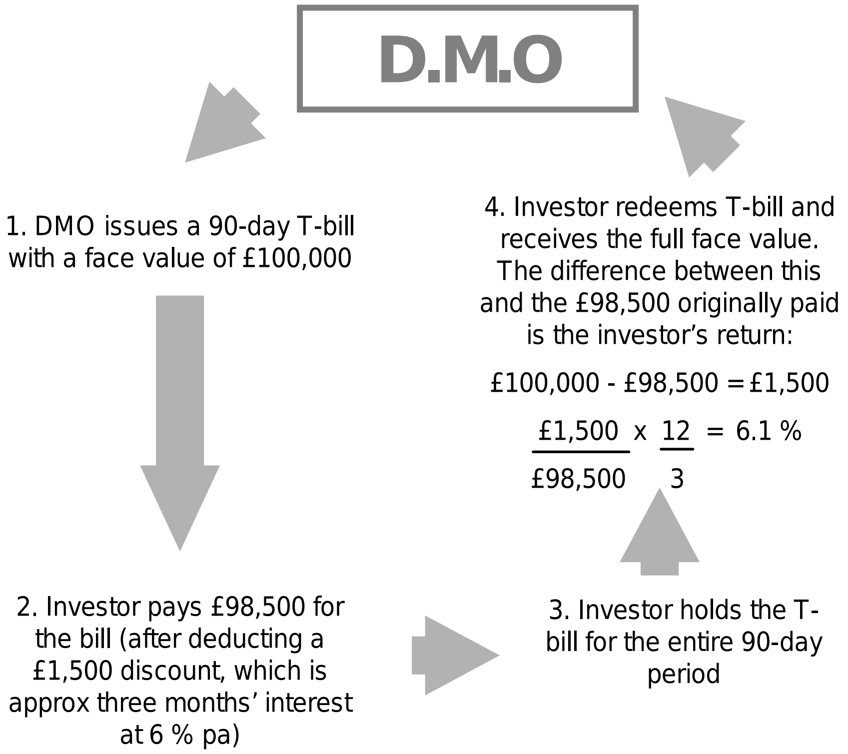
T-bills: issuance

The administration of T-bills is the responsibility of a department within the Treasury called the UK Debt Management Office (UK DMO).

The price submitted is below the face value of the bill. When the owner submits the bill at the end of its life, he or she will receive the full face value and therefore a return. There is no coupon.

When calculating yield UK T-bills are based on an actual/365 convention, whereas many other countries including the US use the 30/360 convention.

Illustration



Calculating yields and discounts

Yields

In the exam, you may be asked to calculated the yield of T-Bill given the issue price and the redemption value. In the example above, the quoted yield is 6.1%, as calculated.

If we were to take another example, let's say a 6 month T-Bill issued for £48,000 with a redemption value of £50,000, we would calculate the yield as follows:

- £2,000 / £48,000 x 12/6 = 0.833 or 8.33%

Discounts

Alternatively, the exam may ask you calculate the discount, given the redemption value and the quoted yield.

For example, £500,000 of a 3 month T-Bill is issued at a quoted yield of 4.2%. The discounted price of the bill would be:

- £500,000 / (1 + 0.042 x 3/12) = £494,804.55

This is a standard single cash flow discounting calculation, but remember to de-annualise the interest rate first.

2.3. Commercial paper

Just as governments issue short dated money market instruments, so do companies.

Corporate issued, unsecured short dated debt is called Commercial Paper (CP).

When corporates issue commercial paper investors need to take into account the risk of default (government debt is zero risk of default).

Like T-bills, CPs carry no coupon; they are issued at a discount and redeemed in full.

CPs may have maturities of between seven days and 12 months.

2.4. Certificates of deposit (CDs)

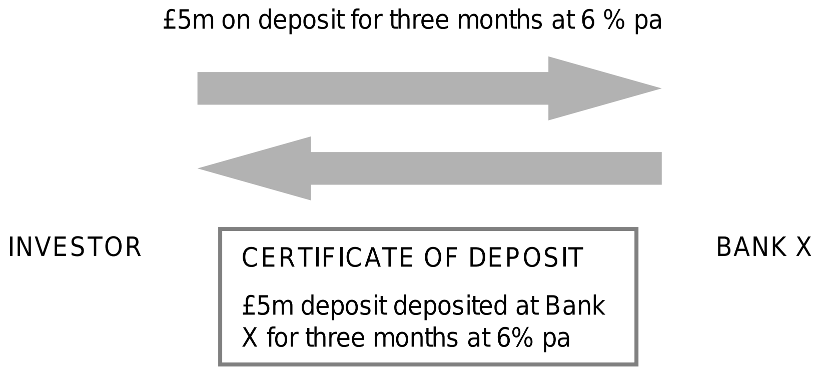
Features

In the UK, a CD can be issued by any bank or building society with a UK banking licence. It can be issued when an investor places some money for a given term with a bank at an agreed interest rate. To be permitted to accept the deposit the bank (or building society) would need a banking licence. The bank may draw up a CD representing the deposit. This is freely tradable.

CDs are different from other money market instruments in the following respects:

- CDs represent a deposit and not a loan
- CDs pay interest, whereas bills of exchange, T-bills and CPs do not
- CDs are typically issued with a life of between one month and one year, but can be issued with a life of up to five years
  - Only those with a remaining maturity of one year or less that are classed as money market instruments

The only default risk taken on is the risk of the bank defaulting.



CD vs. cash deposit

Although ordinary market deposits generally have better returns, they are not transferable. CDs can be freely transferred.

3. Money markets: summary

3.1. Key concepts

Cash and cash equivalents

- 12.1.1 Explain the main characteristics and risks associated with cash deposits and money market instruments (including Treasury Bills, certificates of deposit, commercial paper, floating rate notes)
- 12.1.2 Calculate the discount and quoted yield on a UK Treasury Bill

Now you have finished this chapter you should attempt the chapter questions.