

The Money Markets Canadian Securities Institute¹

Introduction

This chapter examines the various instruments that are available in the interest-rate market - broken down into the market for deposits and loans, and the market for securities.

The interest-rate market is the market in which individuals and businesses lend cash to other individuals and businesses and in return receive compensation in the form of interest. Most lending and borrowing occurs through some sort of intermediary, including deposit-taking institutions such as banks, trust companies or credit unions; and investment banks and dealers who underwrite interest-rate securities on behalf of borrowers, which include corporations, governments, and supranational institutions such as the World Bank.

The interest-rate market is not a single physical location, but is made up of several thousand financial institutions and several million customers who interact face-to-face, by telephone, over the Internet, or on private computer networks every business day around the globe, whereby lenders constantly seek out the highest interest rates, while borrowers continuously search for the cheapest source of funds.

When a lender makes a loan to a borrower, an interest-rate asset is created for the lender and an interest-rate liability is created for the borrower.

Characteristics of Money Market Instruments

The cash market for interest-rate assets and liabilities can be thought of as two distinct but related markets: the market for *deposits and loans*, and the market for *securities*. The wide variety of instruments in these two categories, which are known collectively as *fixed-income instruments*, may have any or all of the following six characteristics:

- *Term*. The term of a fixed-income instrument is the length of time that the borrower borrows the money. The day that marks the end of the term is referred to as the maturity date. Terms can range from one day to an infinite amount of time.² Most terms, however, are between one day and 30 years. Some instruments, known as revolving loans, do not have a specific maturity date; the borrower may pay off a revolving loan at any time.
- *Principal*. The principal is the amount that the borrower agrees to repay to the lender on the maturity date. The principal has many synonyms in the interest-rate market, including face value, par value, and deposit or loan – although technically the last two terms describe a type of instrument, rather than the amount lent. Some instruments require the borrower to repay the entire principal on the maturity date, while others require the borrower to repay the principal in instalments over the life of the loan. The principal is usually the same as the amount lent, although in some instances it may be more.
- *Interest rate*. This is the amount that the borrower agrees to pay the lender for the use of the money, usually expressed as an annual percentage of the principal. Interest payments may be paid in regular instalments over the term of the instrument, or in a lump sum at the

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² In the 1980s some companies issued debt known as perpetuities, which had no stated maturity date. The perpetuities called for the issuing companies to pay interest for ever. Almost all of the perpetuities, however, included a provision to allow the issuer to redeem them after a certain number of years.

maturity date. For example, an interest rate of 6% per annum means either that the borrower must pay the lender interest of 6% on the value of the principal every year, or that the borrower must pay a proportion of 6% if interest payments are made more frequently, or that the borrower must pay the equivalent of 6% in annual interest at maturity when the principal is repaid. For interest-rate securities such as bonds that pay interest at regular intervals, the interest rate is also known as the coupon rate. The interest rate can be fixed over the term of the loan, or can vary, or float, according to market interest rates. When the interest rate varies, there may be a limit placed on how high or low the interest rate can go.

- **Marketability.** If ownership of the interest-rate asset or liability can be readily transferred to a third party, the instrument is said to be marketable. Most interest-rate securities are marketable instruments.
- **Security.** Fixed-income instruments can be either secured, or collateralised by specific assets, or unsecured. If an instrument is secured, the lender has the right to take ownership of the specified assets if the borrower does not fulfil their obligation to repay the principal. If an instrument is unsecured, the lender has no specific claim to any of the borrower's assets if the borrower does not repay the principal. In this case, the lender is an unsecured creditor who relies on the borrower's general ability to meet financial obligations.
- **Call or put features.** Some instruments have a provision that allows the borrower to repay the principal (a call feature) or the lender to demand repayment of the principal (a put feature) before the maturity date.

Deposits and Loans

Banks, credit unions and trust companies (which as a group will be referred to as 'banks') and large investment dealers are the dominant players in the domestic markets for deposits and loans to individuals and businesses.

Deposits from Businesses

Banks accept deposits from businesses in three basic forms.

1. *Demand deposits*, more commonly known as cheque accounts, can be withdrawn by the depositor at any time, without giving any notice to the bank. Most banks pay little or no interest on demand deposits.
2. *Notice deposits*, which consist primarily of savings accounts, require the depositor to give the bank advance notice before withdrawing the funds, although this requirement is rarely, if ever, enforced. Notice deposits are floating-rate deposits. The rates offered by most banks are usually quite low, and they change infrequently.
3. *Fixed-term deposits* have fixed terms and must be repaid, with interest, to the depositor on the maturity date. Fixed-term deposits are also known as term deposits or time deposits. Some fixed-term deposits, however, have a provision that allows the depositor to withdraw the deposit before the maturity date. There may or may not be a penalty for doing so.

Banks offer fixed-term deposits with both fixed and floating rates of interest. The interest rate on floating-rate term deposits is usually tied to a benchmark interest rate, also called a reference rate. These reference rates include administered rates, which are set by various institutions or policy makers, such as a bank's prime rate, or a market rate, which is determined by the trading activity in a certain market, such as the 90-day Treasury bill rate.

Loans to Businesses

Banks lend money to businesses in many different forms. Loans to medium-sized and large corporations are usually structured as *credit facilities*, also called *credit lines*. A credit facility is a flexible, customised arrangement in which the corporation (bank's customer) has a variety of ways to borrow from the bank.

Typically, credit facilities allow corporations to borrow through fixed-rate term loans, floating-rate loans, or bankers' acceptances. Except for the most creditworthy corporations, most bank lending is secured by the corporation's physical assets or receivables.

Credit facilities are tailored to suit the needs of the borrower. At any given time, a borrower does not usually require all the funds that the bank makes available in different forms as part of the facility, but has access to the money whenever it is needed. To compensate the banks for being ready and willing to lend the entire amount of the credit facility, the corporation usually pays a standby or commitment fee on the facility's unused portion. The fee is expressed as a percentage of the unused portion, and is usually quite small.

Banks also make one-off floating-rate loans to corporations based on the bank's prime rate plus a spread. So-called prime-based lending is more expensive for corporations than, for example, bankers' acceptance issues, because a bank's prime rate is always higher than its bankers' acceptance rate.

The largest banks also participate in syndicated lending to very large, mostly publicly traded financial and non-financial corporations. In syndicated lending, a group of banks lend money on common terms to a single borrower. The loans can be structured as credit facilities, with a range of options for the borrower, or as one-time loans with fixed- or floating-rate terms. The total amount lent is usually quite large, and many of these loans exceed \$1 billion. By sharing the loan among several lenders, banks lessen their exposure to a given borrower.

Repurchase Agreements

A repurchase agreement, or *repo*, is a loan in which a borrower sells a security to a lender at one price with an agreement to buy the security back on a future date at a higher price. Although it is simply the other side of the same agreement, the lender's position in the agreement is generally referred to as a reverse repurchase agreement, or *reverse repo*.

An *overnight repo* is a repo with a term of one day. Term repos are repos with any term longer than one day. The higher price at which the security will be repurchased is determined by the repo rate. The security sold to the lender acts as collateral for the loan. If the borrower cannot repay the funds on the maturity date of the repo, the lender gets to keep the securities.

The repo rate for a particular repurchase agreement depends on several factors, including the quality of the collateral and the term of the agreement. The quality of the collateral affects the credit risk and liquidity of the security. The effect of the repo's term on the repo rate depends on the general level of interest rates in the market for different terms to maturity.

Investment dealers make extensive use of repurchase agreements to finance their inventories of equity and interest-rate securities.

International Markets

The international market for deposits and loans is known as the *Eurocurrency market*. This is the market for term deposits and loans in a currency other than the local currency of the bank branch that is accepting the deposit or extending the loan.

The Eurocurrency market, which is most active in London, England, grew rapidly in the 1980s, largely in response to regulatory restrictions placed on financial institutions within their domestic markets. Although some of these regulations

have since been relaxed, many still exist, making the Eurocurrency market a vital source of relatively low-cost, short-term funding for large multinational corporations and internationally active financial institutions. The largest segment of the Eurocurrency market is by far the *Eurodollar market*. This is the market for US dollar time deposits and loans.

The London Interbank Offered Rate (LIBOR)

On each business day in London, banks in the Eurocurrency interbank market constantly lend and borrow Eurocurrency deposits to and from each other. The most popular currencies represented include the US dollar, the Japanese yen, the Swiss franc, the Canadian dollar, the Australian dollar, and the euro. The rates the banks bid for deposits and offer for loans in each of these currencies are regularly posted on quotation and automated trading systems such as Reuters, Bridge Telerate, and Bloomberg.

At 11:00 a.m. London time each day, the British Bankers' Association (BBA) surveys the rates offered by at least eight banks chosen for their 'reputation, scale of activity in the London market, and perceived expertise in the currency concerned, and giving due consideration to credit standing. It ranks the quotes from highest to lowest, drops the highest and lowest 25%, and takes the average of the remaining 50%. The result is the official BBA *London Interbank Offered Rate* (LIBOR) for the specific currency and maturity.

Why is BBA LIBOR important? For the US dollar in particular, LIBOR has become the primary benchmark interest rate for many short-term US dollar loans to corporations, including those made in the US domestic market. The interest rate on these loans is quoted as a spread above or below LIBOR, such as 'three-month LIBOR - 0.25%' or 'six-month LIBOR + 2.25%'. The size of the spread depends primarily on the credit quality of the customer borrowing the money. While most corporations can only borrow at a spread above LIBOR, some of the most creditworthy customers can obtain loans at rates below LIBOR.

US-dollar LIBOR is also the basis for settling many interest-rate futures contracts, including the most liquid contract of all, the three-month Eurodollar contract that trades on the Chicago Mercantile Exchange (CME), as well as most over-the-counter interest-rate derivatives.

Money Market Securities

Money market securities are loans that have been structured so that they can be traded among investors in the secondary market with a wide variety of structures and characteristics. Money market securities are initially issued with terms of one year or less. They allow investors to place their excess cash in short-term instruments that, all else being equal, are less risky than securities with longer terms. They also allow investors to get a higher rate of return than they would from money sitting in a traditional bank account, while at the same time providing the issuers of money market securities with a relatively low-cost source of short-term funding.

While it is true that money market securities have lower risk than longer-dated bonds, market participants are exposed to risk at a number of levels, namely:

- *Interest-rate risk.* The risk that interest rates will rise (fall) and the price of the security will accordingly fall (rise).
- *Credit risk.* The risk that the issuer of the security will default on its obligations to repay interest, principal or both.
- *Liquidity risk.* The risk that an investor wishing to sell a security is not able to do so quickly without sacrificing price.

Money market securities often trade in denominations that are too large for individual investors. *Cash management trusts* or *money market mutual funds* have become popular vehicles that enable the small investor to participate in these markets. Such funds pool the resources of many investors and can trade in money market securities on their behalf, managing the risks in accordance with the fund's trust deed.

Treasury Bills

Treasury bills (also known as *T-bills*) are short-term securities issued by governments, normally national governments, often using auction mechanisms, as part of their liquidity management operations. Credit risk is very low or effectively non-existent, depending on the credit standing of the issuing government. Investors can purchase T-bills on either the primary or the secondary market; that is, either at auction or from a securities dealer. Liquidity is excellent in the secondary market.

T-bills do not explicitly pay interest. Instead, they are sold to investors for less than their face value; when they mature, they are repaid at their face value. The difference between the issue price and the face value represents the return on the investment for the purchaser. Securities that pay interest in this fashion are known as discount instruments because they are issued and traded at a discount (that is, a lower price) to their face value.

Because of different market conventions, the quoted yield on some government T-bills is not directly comparable to the quoted yield on others. For example, Canadian T-bill yields are known as *bond equivalent* or *money market yields*, while US T-bill yields are known as *bank discount* yields.

Commercial Paper

Corporations in need of short-term financing usually borrow money from one or more banks. For large corporations with good credit ratings, an alternative to bank lending is the commercial paper market. Commercial paper is similar to T-bills. It does not pay explicit interest: it is issued at a discount to its face value and it matures at face value. Commercial paper is often backed by the liquidity of a bank line of credit. The existence of the line of credit, however, does not mean a guarantee of repayment to the investor. The yields on commercial paper (and other money market securities) will generally be higher than those on T-bills because of the relatively greater credit risk and liquidity risk.

Promissory notes are very similar to commercial paper. They are bills issued by a borrower without the credit support of a financial institution.

Bankers' Acceptances

A banker's acceptance (BA) is short-term debt that is issued by a corporation and guaranteed by a bank. BAs may be used to facilitate the purchase and sale of goods, either domestically or internationally, or to borrow money for any purpose. BAs trade on the credit quality of the accepting bank, not that of the originating corporation.

Certificates of Deposit

A certificate of deposit is a time deposit with a bank which can be traded. They generally have maturity of less than three months. They can be thought of as bank bills where the issuer is the bank. Not surprisingly, they pay the same yield as BAs. They are often used by banks for the purpose of asset/liability management.