CHAPTER 1

Introduction

The money market is traditionally defined as the market for financial assets that have original maturities of one year or less. In essence, it is the market for short-term debt instruments. Financial assets traded in this market include such instruments as U.S. Treasury bills, commercial paper, some medium-term notes, bankers acceptances, federal agency discount paper, most certificates of deposit, repurchase agreements, floating-rate agreements, and federal funds. The scope of the money market has expanded in recent years to include securitized products such mortgage-backed and asset-backed securities with short average lives. These securities, along with the derivative contracts associated with them, are the subject of this book.

The workings of the money market are largely invisible to the average retail investor. The reason is that the money market is the province of relatively large financial institutions and corporations. Namely, large borrowers (e.g., U.S. Treasury, agencies, money center banks, etc.) seeking short-term funding as well as large institutional investors with excess cash willing to supply funds short-term. Typically, the only contact retail investors have with the money market is through *money market mutual funds*, known as *unit trusts* in the United Kingdom and Europe.

Money market mutual funds are mutual funds that invest only in money market instruments. There are three types of money market funds: (1) general money market funds, which invest in wide variety of short-term debt products; (2) U.S. government short-term funds, which invest only in U.S. Treasury bills or U.S. government agencies; and (3) short-term municipal funds. Money market mutual funds are a popular investment vehicle for retail investors seeking a safe place to park excess cash. In Europe, unit trusts are well-established investment vehicles for retail savers; a number of these invest in short-term assets and thus are termed money market unit trusts. Placing funds in a unit trust is an effective means by which smaller investors can leverage off the market power of larger investors. In the UK money market, unit trusts typically invest in deposits, with a relatively small share of funds placed in money market paper such as government bills or certificates of deposit. Investors can invest in money market funds using one-off sums or save through a regular savings plan.

THE MONEY MARKET

The money market is a market in which the cash requirements of market participants who are *long* cash are met along with the requirements of those that are *short* cash. This is identical to any financial market; the distinguishing factor of the money market is that it provides for only short-term cash requirements. The market will always, without fail, be required because the needs of long cash and short cash market participants are never completely synchronized. The participants in the market are many and varied, and large numbers of them are both borrowers and lenders at the same time. They include:

- the sovereign authority, including the central government ("Treasury"), as well as government agencies and the central bank or *reserve bank*;
- financial institutions such as the large integrated investment banks, commercial banks, mortgage institutions, insurance companies, and finance companies;
- corporations of all types;
- individual private investors, such as high net-worth individuals and small savers;
- intermediaries such as money brokers, banking institutions, etc.;
- infrastructure of the marketplace, such as derivatives exchanges.

A money market exists in virtually every country in the world, and all such markets exhibit the characteristics we describe in this book to some extent. For instance, they provide a means by which the conflicting needs of borrowers and lenders can achieve equilibrium, they act as a conduit for financing of all maturities between one day and one year, and they can be accessed by individuals, corporations, and governments alike.

In addition to national domestic markets, there is the international cross-border market illustrated by the trade in *Eurocurrencies*.[1] Of

[1] A Eurocurrency is a currency that is traded outside of its national border, and can be any currency rather than just a European one.

course, there are distinctions between individual country markets, and financial market culture will differ. For instance, the prevailing financial culture in the United States and United Kingdom is based on a secondary market in tradable financial assets, so we have a developed and liquid bond and equity market in these economies. While such an arrangement also exists in virtually all other countries, the culture in certain economies such as Japan and (to a lesser extent) Germany is based more on banking relationships, with banks providing a large proportion of corporate finance. The differences across countries are not touched upon in this book; rather, it is the similarities in the type of instruments used that is highlighted.

In developed economies, the money market is large and liquid. Exhibit 1.1 illustrates the market growth in the United States during the 1990s. Exhibit 1.2 illustrates the breakdown of the United Kingdom money market by different types of instrument, each of which we cover in detail in this book.

OVERVIEW OF THE BOOK

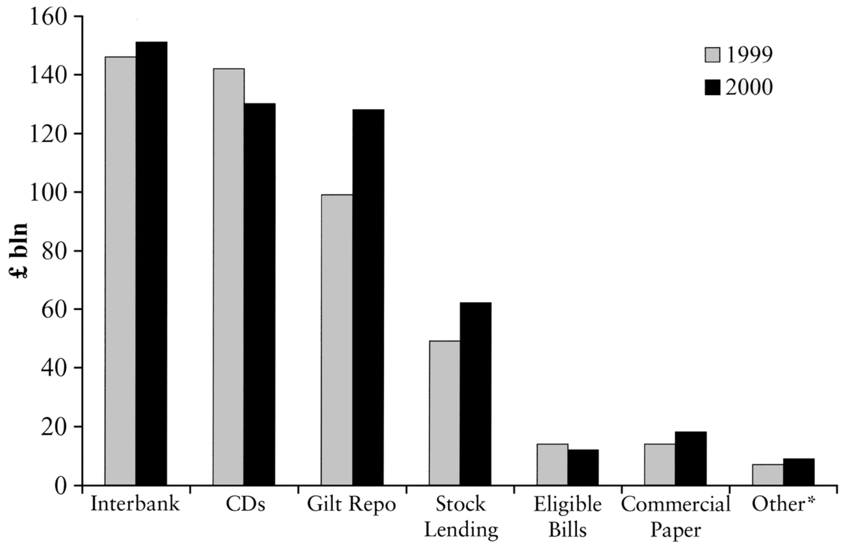
In Chapter 2 we cover money market calculations. The intent of this chapter is to introduce some of the fundamental money market calculations and conventions that will be used throughout this book, including day count conventions, as well as the basic formulae for price and yield. It is essential to understand these calculations since some market instruments are interest bearing while others are discount instruments. Moreover, some instruments calculate interest based on a 360-day year and some money market securities use a 365-day year.

EXHIBIT 1.1 **US Money Market Volumes, $ Billion at Year-End**

Instrument	1990	1995	1999
Treasury bills	527	748	723
Federal agency securities	435	845	1,284
Commercial paper	561	675	1,213
Bankers' acceptances	55	29	21
Fed funds borrowers and repo	409	569	762
Eurodollar borrowings	37	94	167
CDs (min size $100,000)	432	345	634

Source: Federal Reserve Bulletin, 2000, 2001

EXHIBIT 1.2 **Composition of Sterling Money Markets, £ Billion Volume Outstanding**



* Includes Treasury bills, sell/buy-backs and local authority bills
Source: Bank of England *Quarterly Bulletin*, Autumn 2001

Chapters 3 and 4 cover short-term debt instruments issued by some of the largest borrowers in the world—the U.S. Treasury and U.S. federal agencies. U.S. Treasury bills are considered among the safest and most liquid securities in the money market. Treasury bill yields serve as benchmark short-term interest rates for markets around the world. Agency securities are *not* typically backed by the full faith and credit of the U.S. government, as is the case with Treasury bills. However, short-term agency securities are considered safer than other money market instruments except U.S. Treasury bills.

Another large borrower of short-term funds is a corporation using instruments such as commercial paper or short-term medium term notes. These instruments are the subject of Chapter 5. Commercial paper is a short-term unsecured promissory note that is issued in the open market and represents the obligation of the issuing corporation. An important innovation in this market is asset-backed commercial paper. Asset-backed commercial paper is commercial paper issued by either corporations or large financial institutions through a bankruptcy-remote special purpose corporation and is usually issued to finance the purchase of receivables and other similar assets. In contrast, a medium-term note is a corporate debt instrument with the unique characteristic that notes are offered continuously to investors by an agent of the issuer. The maturities of medium-term notes range from 9 months to 30 years or longer. Our focus will be on medium-term notes with original maturities of one year or less.

The largest group of players in the global money markets are financial institutions that include depository institutions, investment banks, and insurance companies. These institutions are simultaneously the biggest investors in and issuers of money market instruments. There are specialized instruments that are unique to this group of borrowers which include certificates of deposits, bankers acceptances, federal funds, and funding agreements. Chapter 6 details these instruments.

Chapter 7 describes short-term floating-rate securities. The term "floating-rate security" covers several different types of instruments with one common feature: the security's coupon rate will vary over the life of the instrument. Approximately, 10% of publicly traded debt issued worldwide possesses a floating coupon. Floating-rate securities are the investment of choice for financial institutions whose funding costs are based on a short-term floating rate.

One of the largest segments of the global money markets is the market for repurchase agreements. The repurchase agreement on one hand is an efficient mechanism used by security dealers to finance bond positions, and on the other a relatively safe investment opportunity for investors such as money market funds and corporations. In Chapter 8, we review repurchase agreements as well as their major uses.

Chapters 9 and 10 cover short-term mortgage-backed and asset-backed securities. Mortgage-backed securities are securities backed by a pool of mortgage loans. The pool of loans is referred to as the collateral. While residential mortgages are by far the largest type of asset that has been securitized, other assets such as consumer loans, business loans and receivables have also been securitized. Securities backed by collateral other the mortgage loans are called asset-backed securities. The largest sectors of the asset-backed securities market in the United States are securities backed by credit card receivables, auto loans, home equity loans, manufactured housing loans, and student loans.

Derivatives are financial instruments that derive their value from some underlying price, index, or interest rate. Money market practitioners use derivatives to control their exposure to risk by taking positions to either diminish or enhance this exposure. In Chapters 11 and 12, we describe these derivative instruments and how they are employed to create advantageous risk and return patterns. Chapter 11 describes forward contracts, futures contracts, and forward rate agreements. Chapter focuses on swap contracts and caps/floors.

The activity of financial institutions in the money market involves an activity known as asset and liability management. Asset and liability management is the term covering tools and techniques used by financial institutions to manage various types of risk while achieving its profit objectives by holding the optimal combination of assets and liabilities. We introduce the fundamental principles of asset and liability management in Chapter 13. An appreciation of these concepts and tools is essential to an understanding of the functioning of the global money markets.

The final chapter of the book, Chapter 14, describes bank regulatory capital issues. As noted, the primary players in the global money markets are large financial institutions, in particular depository institutions. These entities are subject to risk-based capital requirement. The asset allocation decisions by managers of depository institutions are largely influenced by how much capital they are compelled to hold and the capital costs incurred. As a result, these money market participants must risk-based capital issues regardless of the products they trade or else they will not fully understand the cost of their own capital or the return on its use.