

MONEY MARKET

DEFINITION MONEY MARKET

Broadly defined, the money market is the market for financial assets with short maturity. In practice, the cutoff point for 'short' maturity differs between countries (1 year for US, UK and 2 year for EMU, NL). However, market practice does not actually respect this cutoff point, because, for example, euro-currency deposits and swaps are traded for maturities as long as five years.

In theory, short maturity refers to the time period for which investments in short maturity assets have no market value risk. Shorter maturities have reinvestment risk, whereas longer maturities have price risk. Therefore, the appropriate maturity for the 'money market' depends on the time period of the theoretical analysis and can be 1 week, 1 month, 1 year, or else.

Note that it is rather ridiculous to think that the money market is the market where money is traded. First, there is very little reason to trade/change one type of (domestic) money into another type of (domestic) money. Second, this is not what the money market is about.

TYPES OF MONEY MARKET INSTRUMENTS

Some types of money market instruments are common to most countries (although their use may be more or less) and other types are more country specific.

* term deposits (termijndeposito's): deposit accounts with banks or other financial institutions having fixed maturity, nontradable, no withdrawals, repayment at maturity including interest rate. For the most part a wholesale market for large-value deposits. Only a primary market, no secondary market possible.

- Euro currency/deposit market: market in bank term deposits located in other countries than the country of the currency of the deposits (e.g. dollar deposits in the US traded by international banks in London). Two reasons for its existence: First, originated in the 1950s to circumvent real or potential constraints on deposits in their home countries. Due to constraints on international capital flows there used to be significant differences between euro deposit rates (for example in London) and corresponding homeland deposit rates (for example, Italy). Second, a key characteristic of Eurodeposits is that they are not subject to reserve requirements (in the UK reserve requirements do not apply to foreign currency deposits, but, for example, historically, a dollar deposit placed with a German bank is not a Eurodollar deposit because in Germany dollar deposits were subject to German reserve requirements).

* commercial paper (CP): unsecured, short term tradable debt security issued by private sector firms and local authorities. Usually repayment of the nominal value at maturity and the interest rate being discounted in market price. Mostly a wholesale market using large denominations. Comparable to bank CDs and government T-Bills, but different from commercial bills (wissels/promessen)! CP serves as general financing instrument for firms, whereas commercial bills are created as a result of specific trade transactions. Until the 1980s CP markets only existed in the US, Canada and (from the mid-1970s) Australia.

- Euro commercial paper (ECP) market: Euro commercial paper is standardized commercial paper (according to market conventions, perhaps different from national requirements of legal, fiscal, or other nature), traded internationally, with transactions settled by international clearing organizations such as Euroclear or Clearstream. Originated in the early 1970s.

* certificates of deposit (CDs): short term tradable debt security issued by banks. Repayment of principal value at maturity, interest rate discounted in market price. Mostly a wholesale market using large denominations.

- Euro CD market: Same type as Euro commercial paper market.

* Treasury paper: bills/certificates (schatkistpapier): short term tradable debt security issued by governments, comparable to CDs and CP. In the Netherlands we historically distinguished several types of Treasury paper: schatkistbiljetten, schatkistpromessen, schatkistcertificaten, and Dutch Treasury Certificates. They differ in terms of maturity, uses, etc.)

* commercial/local-authority/utility bills: short term tradable debt securities issued by firms, local authorities or utility companies. Represent claims from trade transactions, i.e. a written IOU being a promise to pay the value of a trade invoice at a predetermined date. In the Netherlands we refer to 'wissels' and 'promessen'.

* bank acceptance: similar to commercial bills, but with an added guarantee for payment (acceptance) by a bank. Usually originated from international trade transactions (import/export) and therefore mostly found in US dollars.

* repurchase agreements (repo's): contract for current buy (sale) and simultaneous obligation to sell (repurchase) on a future date the underlying financial assets (for example, government bonds). Repos are bilateral or OTC contracts and not tradable in secondary markets. Interest rate is incorporated in the contract buy and sell prices.

There are different types of repos, depending on the type of collateral and the legal form of the contract (i.e. economic and legal ownership of the underlying financial assets). Legal barriers against transactions without

material transfer of ownership ('windhandel' restrictions) prevented the use of repos in the Netherlands. The Dutch equivalent of a repo would be a collateralized loan.

Also:

- * current account (rekening-courant): demand deposits with banks combined with a payment and credit facility.
- * cash loans (kasgeldleningen): short maturity standardized private placement loans to local authorities, utility companies and selected large firms. Large value loans brokered through specialized money market brokers.
- * federal funds (bank reserves): demand deposits of banks held at the central bank, counted towards amount of bank reserves. Used for settlement of payments between (clients of) banks and for fulfilling reserve requirements set by the central bank as part of monetary policy.

Standard maturities and benchmark rates

Common maturities used in money markets are: day-to-day (daggeld)- loans/deposits for 1 day); call money (callgeld)- loans/deposits repayable on demand with roll-over characteristic; overnight- loans/deposits from end of day until next morning; fixed maturities of 1 week, 1-2-3-6-12 months.

Note that some money market instruments are created new each day (for example, bank deposits), whereas other instruments are issued periodically and sold continuously with decreasing remaining maturities (for example, CDs, CP, bills)

There are some well-known benchmarks or reference values for money market rates, mostly interbank deposits: such as US federal funds rate or NYBOR (New York Bank Offer Rate), UK SONIA (Sterling OverNight Interbank Average) and LIBOR (London InterBank Offer Rate), EMU EONIA (Euro OverNight Interbank Average) and EURIBOR (EURO InterBank Offer Rate). Most of these reference values are established by holding daily surveys with selected banks, inquiring about their current rates for these instruments.

EONIA: Euro OverNight Index Average, calculated daily between 6:45 p.m. and 7:00 p.m. Brussels time as a weighted average of all overnight unsecured lending transactions in the interbank market initiated within the euro area by the declaring panel banks. 57 banks are represented on the panel, 47 of which are euro area banks, four of which are from other EU Member States and six of which are international banks.

EURIBOR: Euro Interbank Offered Rate, calculated daily at 11:00 a.m. Brussels time as the unweighted average of offered rates for interbank deposits of prime banks on the basis of transactions by 57 banks, 47 of which are euro area banks, four of which are from other EU Member States and six of which are international banks. 15% of the highest and lowest rates are omitted when calculating the rate.

Money market segments

Markets for short-term instruments can be divided in several market segments depending on the characteristics of market participants, or the type of financial instruments traded.

Narrow and broad money markets (geldmarkt in enge en ruime zin)

The broad money market is the total trade in short-term financial assets, including all money market instruments and all money market participants.

The narrow money market (or market for bank reserves) is a subsection of the broad money market. Banks have a special requirement to manage their cash or bank reserves (i.e. cash plus deposits with the central bank). For example, when there are unexpectedly high liabilities from the payments system, banks must obtain additional cash/reserves the same day. Normal money market transactions cannot be used because normal money market transactions are cleared and settled over a period of several days (usually T+2M). The narrow money market, or federal funds market in US terminology, allows banks to trade on same-day or even real-time basis and adjust their cash/reserves accordingly.

Interbank and open money markets (interbancaire markt en open markt)

The open market is available to any market participant and includes all money market instruments.

The interbank market is only available to banks and uses only a limited number of money market instruments (for example, deposits, loans or repos). The interbank and narrow money markets are closely related but not the same.

Money markets, unsecured and secured, and short-term securities market

Unsecured money market is mainly an interbank borrowing/lending deposit market. (2001: in the euro area, approx 90% of this market is concentrated in overnight O/N (70%) and tomorrow/next T/N - 1 month (20%) maturities; approx. 60% is concentrated with 20 largest banks). The secured money market is mainly interbank repo or sell/buy-back transactions (i.e. cash borrowing against securities) and reverse repo or buy/sell-back transactions (i.e. cash lending against securities) market. (2001: in the euro area, approx. 90% of this market is concentrated in overnight O/N (20%) and tomorrow/next - 1 month T/N (70%) maturities; approx. 80% is concentrated with 20 largest banks).

The short-term securities market includes government securities (T-bills) and private securities (CP, CD etc).

Issuing money market paper

Commercial paper and CD issues are structured as 'programs'. A program consists of the notification with supervisory authorities of a regular offer of CP or CDs to the public. Part of the issue is a prospectus (one time) and an indication of the maximum volume of the planned issue.

Most governments, including the Dutch State, hold regular auctions for their issue of Treasury paper. Usually only a limited number of financial institutions are allowed to bid at these auctions. Besides auctions, sometimes Treasury paper of a country is issued 'on tap', in which case Treasury paper can be obtained by buyers each day at adjustable, predetermined prices.

Distribution and promotion of Dutch Treasury Certificates (DTC) is organised in a Primary Dealer system. This means that bonds are sold initially to a limited number of selected financial institutions (the Primary Dealers (13), and Single Market Specialists (8)) that will resell the bonds to the public. The objective is that the dealers and specialists will make more market oriented price, reach a broader international (i.e. European) public, and guarantee continuous trading in their role as market makers.

DUTCH MONEY MARKET

Historical money market regulation of the Dutch central bank (DNB)

Until 1986 no one except the Dutch government was allowed to issue short-term tradable debt securities such as CP, CDs. Commercial bills were used very little. Furthermore, an agreement with the Dutch government restricted the volume of Treasury paper because the central bank considered this part of the (broad) money supply.

Market system

The Dutch money market has (as in most countries) no centralized exchange, and is therefore an OTC market. Trading occurs by using telephones, fax or electronic bulletin board (Reuters etc). There exists very little public market information other than some advisory (not actual) interest rates on selected money market instruments.

The Dutch money market consists largely of term deposits with banks and the interbank deposit/loan market. Only a limited volume exists of Treasury paper, commercial paper and certificates of deposit. The money market is primarily a 'wholesale market' where trading consists of large value transactions. Small investors can only access the money market through money market mutual funds and small term deposits with banks.

WHAT DOES THE FINANCIAL PRESS TELL YOU?

Official interest rates. Interest rates used by central banks in their operations with the bank system or broader money market are reported as official interest rates. These can be for various central bank instruments. Names used are central bank discount rate, lombard rate, official repo rate, etc.

Market interest rates. For the money market there are no official exchange publications because the markets are OTC. Usually, newspapers and dedicated publications of banks/brokers report selected interest rates for different money market instruments and different maturities. These published data can be averages of actual transactions or (usually) averages of indicative prices obtained from various banks and/or brokers.

International and domestic interest rates. International interest rates usually refer to interest rates for different currencies in the euro deposit market. Domestic interest rates refer to interest rates in the national markets of the indicated country.

Comments on published data

Interest rates and discount rates. Some 'interest rates' reported are actually discount rates. Interest rates and discount rates are different concepts!

Credit ratings. Credit ratings for commercial paper of a firm are usually different from the credit ratings for bonds issued by the same firm. First of all, the letter codes used to signal credit ratings are different. Second, the risks of creditworthiness can be different for short and long time periods.

MARKET CONVENTIONS WITH RESPECT TO MONEY MARKET PRICE AND INTEREST RATE CALCULATIONS

Separate notes

INTEREST RATES AND MONEY MARKET POLICY OF CENTRAL BANKS

Monetary policy of central banks in all countries has a large influence over money market interest rates.

Most central banks implement monetary policy in the narrow (interbank) money market, more or less achieving a target value for the overnight/call/day-to-day money market interest rate. Arbitrage between different money market segments will spread the influence of central banks to the entire money market.

Money market instruments of central banks

Three main groups of instruments to change bank reserves: (1) open market operations, (2) standing facilities, (3) reserve requirements. The details of these instruments differ between countries.

Money market operating procedures of central banks

Operating procedures describe how and why central bank instruments are used. Usually central banks choose a short-term objective or operating target for the price (interest rate) or the quantity of bank reserves.

Monetary policy rules and reaction functions

Policy rules describe how, according to some economists who favor such a rule, central banks ought to change the level of the operating target or proxy instrument (interest rate, money, reserves) in response to new information about the economy (economic growth, inflation, etc.). There are several well-known types of policy rules, for example Taylor rule, Friedman rule, McCallum rule.

Reaction functions describe how, in practice, central banks have changed the value of the operating target or proxy instrument as a response to new information.

INTEREST RATE TERM STRUCTURE

Same as in the bond market, the term structure describes the relationship between interest rates and remaining maturity, keeping all other influences constant (for example, default risk, taxes, etc.)

Expectations theory of the term structure

No-arbitrage condition requires that longer-term interest rates are averages of current and expected future short-term interest rates. Debate on the validity of the expectations theory continues. There are many empirical problems to deal with. Topic treated in another course.

Major problem for interest rates with maturities up to 1-2 years appears to be the predictability of changes in monetary policy interest rates.

NOMINAL, REAL INTEREST RATES AND THE FISHER EFFECT

The Fisher effect requires that nominal interest rates equal real interest rates adjusted for expected inflation.

Debate on the validity of the Fisher effect continues. There are many empirical problems to deal with. Topic treated in another course.

Major problem for short-term interest rates appears to be that because inflation is 'sticky' in the short run, monetary policy influence over nominal interest rates also affects real interest rates, and monetary policy reacts to current and expected future inflation. The dynamic relations are complex and do not allow simple tests of the Fisher hypothesis.

SUGGESTIONS FOR FURTHER READING

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