Financial Markets

BANKING AND FINANCIAL INTERMEDIARIES
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The Financial Infrastructure

- Payment systems, central counterparties (CCPs)
- Central securities depositories (CSDs)
- Securities Settlement Systems (SSS)
- Financial market infrastructures process not only payment flows, but also securities flows, in combinations that vary depending on the financial instrument.

Financial Instruments and Markets

- A financial market makes it possible to bring together economic agents who need financing and economic agents who can offer financing.
- It is also intended to help manage financial risk by redistributing it among the market participants.
- According to Article L. 211-1 of the French Monetary and Financial Code, financial instruments can be grouped into two categories: financial securities, which are instruments for immediate delivery, and futures (or financial contracts), which include derivative financial instruments.

Financial Instruments for immediate delivery

- A spot market is a market in which assets are typically exchanged for cash at prices reflecting the state of the market at the time the transactions are made.
- The purchase and sale of financial assets in a cash/spot market are subject to settlement terms providing for an immediate delivery, i.e. on the "settlement day defined by the rules of said market".
- The immediacy of the cash market is indeed relative since the settlement must allow for the processing times of so-called post-trade services.
- Settlement often takes place one (T+1) or two (T+2) days after the transaction date, depending on the type of market or instrument.

The Spot Market

- In organised exchanges, in Europe, the CSDR regulation requires settlement on T+2 maximum, whereas the rule is generally T+3 in the rest of the world.
- In contrast, for Over The Counter (OTC) trades, this time frame can be much longer (several months or even years), or shorter (settlement on the day of the trade, often referred to as T+0 or “same-day settlement”).
- In a spot market, for the transaction to take place, the seller must therefore possess, on the settlement date, the assets required to settle any orders placed.
- If the assets are not held when entering into the transaction – which would in that case be called a “short sale” – the seller could also borrow said assets. For example, through a securities loan or a repurchase agreement

Issuance and circulation of securities - primary & secondary market

- The primary market is where new securities are issued, in particular in the form of initial public offerings (iPOs), capital increases or bond issues. it is therefore the place where the issuers of securities, e.g. companies or governments, offer these securities to investors in return for the funding that the securities are representative of (debt or capital).
- The secondary market is where securities are exchanged after having been issued on the primary market. The existence of a secondary market means, firstly, that the security is transferable and negotiable, and secondly that it benefits from some liquidity, which means that an investor who buys it can resell it to a third party.

Shares

- A share (or stock) is a deed of ownership representing a fraction of a company’s equity. A share may give the holder various rights.
- Annual Dividends (if any)
- The right to vote
- Preferential subscription rights in the event of a capital increase to avoid dilution of the shareholder's voting rights.

Types of Shares

- Unlisted, if the company places its shares directly with investors who provide funds in exchange.
- Listed on a stock exchange when there has been a public offering.

Bonds

- A bond is a debt security representing debt owed by the issuer (company, government), the nominal amount (face value) of which is repaid by the issuer at maturity.
- The key differentiating features of a bond are the interest rate, the issue and redemption terms, the coupon (interest) payment method and the issuer's rating.
- Variants:
- Convertible bonds: bonds that can be converted into shares at any time or during predetermined periods (as provided for in the issue contract)
- Bonds redeemable in securities: these bonds are not redeemed in cash but in shares or other securities.

Variants of debt securities

- Negotiable debt securities, which are short- or medium-term financial instruments traded in the money market. Negotiable debt securities are transferable securities, the legal form of which is applied to a category of means of payment, specifically promissory notes.
- Negotiable debt securities fall into three main categories:
- Treasury Bills
- Short-term negotiable debt securities, which are a combination of the commercial paper issued by companies and of the certificates of deposit issued by credit institutions.
- Medium-term negotiable securities, formerly negotiable medium-term notes

Fund shares

- Open-ended mutual funds
- Closed-ended mutual funds
- Exchange traded funds
- Money market funds

Derivatives

- A derivative is an instrument or a contract between two counterparties, the value of which is linked to (derived from) the characteristics of an underlying asset or element, such as a share, an interest rate or a commodity.
- These instruments enable the transfer of the risk related to the underlying asset from one market participant to another.
- Derivatives are a large and heterogeneous family, as they can take simple or more complex forms.
- (Standardized) Derivative instruments were first created in the 19th century in the United States, in the Chicago area.
- But they were even traded before in the Dutch exchange in the 18 century

Derivatives

- These first instruments were in fact derivatives on agricultural products traded on the Chicago Board of Trade (CBOT).
- They played a very important role in enabling producers to hedge the price of agricultural products by selling their harvest forward at a firm and known price.
- A wine producer, for example, is faced with two constraints: determining the price at which the wine can be sold and ensuring that it is sold.
- The derivatives market allows the producer to sell the wine forward and to secure this forward sale at a price that has been set in advance

Derivatives: Main Types

- A futures contract is an agreement to buy or sell an asset at a future date and at a price set in advance in the contract.
- Forwards are non-standardised futures traded over the counter (OTC). Unlike forwards, futures are contracts with standardised amounts and maturity dates that are traded on organised markets.
- Negotiable options are contracts that give the holder the right (and not the obligation) to buy (known as a call) or to sell (put) an underlying asset at a price set in advance (exercise price or strike) regardless of the market price at maturity.
- An option can be exercised on a stated date (it is then referred to as a European option), or at any time during the period prior to the expiry date (American option).

Plain vanilla and exotic

- Plain Vanilla financial instrument is the simplest or most standardised version of a financial instrument. These are usually simple options, futures, forwards or swaps. Plain vanilla instruments are those that are the easiest to price because their characteristics are standardised and known to all market participants.
- Exotic financial instruments, in contrast, are more complex than the plain vanilla instruments commonly used in the markets. They usually have several sophisticated parameters for defining the payoff of the instrument, i.e. the formula that determines the gain or loss for the instrument holder.

Swaps

- A swap is a contract for the temporary exchange of financial flows between two parties during a given period and defined in advance.
- Interest rate swap, which allows market participants to “swap” a floating rate against a fixed rate;
- The cross-currency interest rate swap between interest rates denominated in different currencies (also called “cross-currency swap”);
- The Credit Default Swap (CDS), which allows you to purchase protection (insurance) against the credit risk of a bond issuer in exchange for periodic regular payments called premiums;

Financial Instrument Markets: Organised and Over The Counter

- In the over-the-counter market, the transaction is entered into bilaterally, i.e. between the two parties, on terms determined by them, whereas in a regulated market, the parties do not negotiate bilaterally but send buy and sell orders via an exchange, or a trading platform.
- This distinction has many consequences regarding the risk and the transparency of transactions in the derivatives market.

Organised Markets

- The organised market is operated by a market operator. A market undertaking is a trading company whose business is to set operating and market admission rules, while complying with the regulations of the authority in charge of regulating the operations of regulated markets.
- Participation in an organised market is not open to all. It is restricted to authorised members, or participants, who are allowed to trade on the trading platform.
- Market members are responsible for transmitting the orders of their individual or institutional clients. Only standardised financial instruments are traded in organised markets

Organised Markets

- For example, the Paris Stock Exchange is managed by the market undertaking Euronext Paris SA, a member of the Euronext NV group, which currently comprises the French, Dutch, Belgian, Portuguese and Irish stock markets (since the acquisition of the Dublin Stock Exchange by Euronext in 2018).
- As a market undertaking, Euronext Paris SA is subject to the supervision of the Autorité des marchés financiers (AMF – French Financial Markets Authority).

OTC Markets

- In an over-the-counter market, by contrast, the two parties negotiate the terms of the transaction between themselves (most of the times through an investment bank).
- Over the counter instruments are less standardised (especially in the case of derivatives) and the applicable regulatory framework is more flexible.
- The 2007-2008 crisis highlighted the importance of OTC derivatives markets in terms of financial stability. Why?
- I) The bilateral nature of these transactions, which in principle precludes the existence of a central location where transactions are recorded and processed, making controls more difficult;
- II) Their specific parameters, which makes their unique risk profile and system-wide risk distribution difficult to grasp.
- III) The volume of trading in these markets, which grew exponentially in the 2000s.

OTC Markets (some regulation)

- To make OTC derivatives transactions safer and increase their transparency, the G20 made the following commitments at the Pittsburgh Summit in 2009:
- All standardised OTC derivative contracts should be cleared through central counterparties
- All standardised OTC derivative contracts should be traded on exchanges or electronic trading platforms
- OTC derivative contracts should be reported to central trade repositories
- Non-standardised and non-centrally cleared OTC contracts should be subject to specific capital requirements

Types of trading platforms

- Until the mid-2000s, European markets were characterised by the existence of domestic trading platforms, each enjoying a quasi-monopoly position.
- The Markets in Financial Instruments Directive (MIF), adopted in 2004 and implemented on 1 November 2007, laid down a new organisation for equity markets in Europe. This was aimed at promoting competition by allowing “alternative” trading methods alongside the traditional stock exchanges.
- In addition, to ensure the quality of the price discovery mechanism in a market that had become fragmented, MIF introduced new rules on pre- and post-trade transparency and instituted the “best execution” principle for better investor protection, based on the search for the trading system offering the best price to the client.

Alternative Trading Facilities

- Multilateral Trading Facilities:
- A multilateral system, operated by an investment firm or a market operator, which brings together multiple third-party buying and selling interests in financial instruments
- A regulated market operator may also simultaneously manage MTFs to meet specific needs of market participants: Euronext, for example, also manages two Multilateral Trading Facilities (MTFs): Alternext (for SMEs and midcaps) and BondMatch (for bonds denominated in euros).

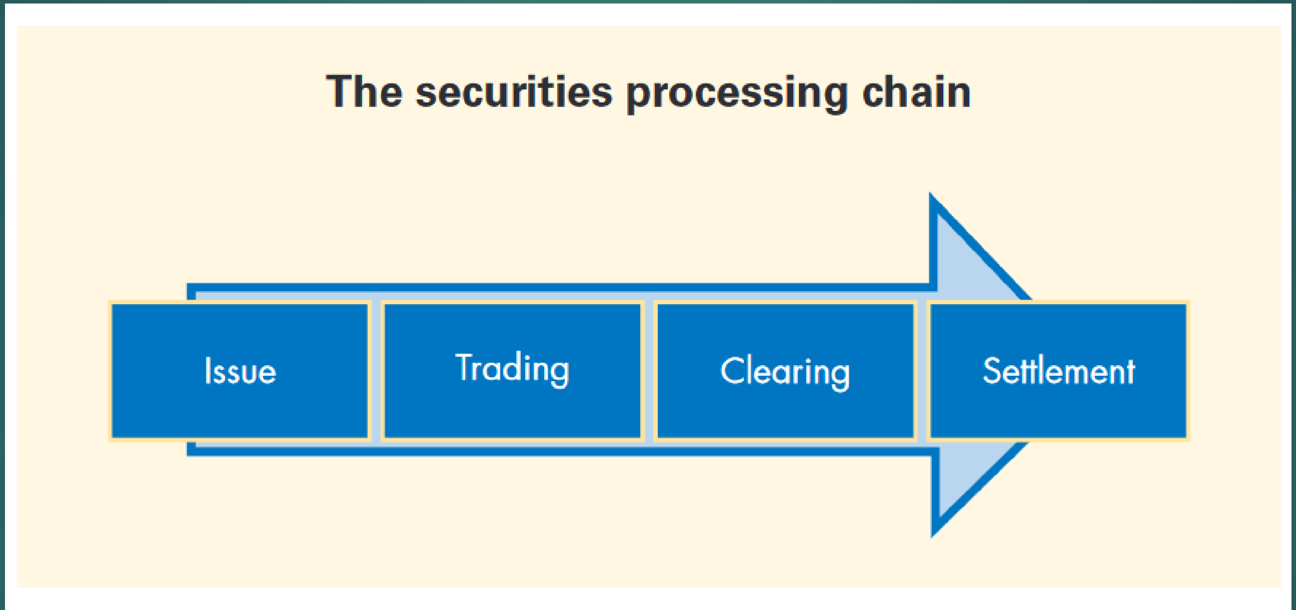
Organized Trading Facilities

- A multilateral system which is not a regulated market or an MTF and in which multiple third-party buying and selling interests in bonds, structured finance products, emission allowances or derivatives are able to interact.
- Unlike for regulated markets and MTFs, the operator of an OTF has discretion over how transactions are executed: the operator may decide to place or withdraw an order on the OTF, or decide not to match a specific order with the orders available in the system at a given time, which may in particular allow the best execution of client orders.
- However, the operator of an OTF cannot deal on own account.

Dark pools

- Dark pools are trading systems where there is no pre-trade transparency of orders: due to a regulatory exemption, an order can be placed in the trading system without the pre-trade reporting obligation, i.e. without being disclosed before being executed.
- The operator of a regulated market can also manage a dark pool. For example, Euronext manages a dark pool called SmartPool

The life cycle of a financial transaction



Issuing

- The first step in the life cycle of a security is its issue, which corresponds to the creation of a new security, e.g. a share or a bond.
- Historically, the creation of a security was materialised by a printed certificate entrusted to the investor, against the simultaneous delivery of funds by the latter.
- This certificate, which actually represented the investor's claim, was usually deposited in the investor's bank vault.
- In France securities have been totally dematerialised since 1984. These securities are now issued, safekept and exchanged electronically.

Issuing

- For companies or governments, the issuance of securities is critical for the financing of their funding requirements .
- For shares: in the context of an IPO(Initial Public Offer) when a company raises funds in the market for the first time, or, more often, in the form of capital increases.
- For bond issues: issuance usually takes the form of competitive bidding between market makers, such as banks dealing on own account or acting on behalf of their clients.
- For sovereign debt issues: government debt securities are issued in France via an auction process managed by Agence France Trésor1 (AFT).
- For sovereign debt the auction takes place in the form of Dutch auctions (or multiple-priced bids and sealed bids auctions) open to a limited number of participants called primary dealers.

Trading

- Trading is the first step of the transaction. During this phase, in over-the-counter markets, the buyer and the seller agree on the terms of the contract.
- The step immediately following the agreement of both parties is the verification of the details of the transaction.
- This step is necessary in the securities processing chain as well as for risk management.
- For transactions on a regulated market, it is the latter which will carry out the verification, since it brings together the purchase and sale orders.
- In the case of over-the-counter transactions, the two counterparties verify the details of the transaction via their internal systems

Trading

- The confirmation is the procedure whereby a record of the transaction that both parties have agreed on is created. This is done by one of the two counterparties sending the details of the transaction to the other, who checks the details and signifies agreement. This process can also be done by involving a third party to which both counterparties submit their record.
- When it exists, the third stage of trade processing is clearing (clearing houses). This step is indeed not mandatory for all instruments nor in all markets. As a rule, products traded on organised platforms are cleared

Settlement

- The last step in the securities processing chain is settlement. This includes the settlement of the reciprocal commitments of the buyer and the seller and the recognition of the transaction in the books to record the definitive nature of the transaction, i.e. the delivery of securities to the buyer, and the payment of funds to the seller, when appropriate.

Settlement (of derivatives)

- Derivatives usually do not give rise to an initial settlement phase but to intermediate flows.
- Cash settlement, which involves an exchange of cash flows corresponding to the value of the contract when it expires. This method is used for most derivative contracts. Following the netting process, settlement usually results in net cash exchanges between debtors and creditors.
- Physical settlement, with the delivery of the underlying asset in exchange for the payment of the price determined in the contract.

The operator and its governance

- The operator is responsible for the proper functioning of the system. It is the legal entity that manages the system, ensures its governance, defines the rules for participation and risk management, and is accountable for its compliance with the relevant domestic oversight authorities.
- Governance differs, especially for ensuring financial stability, depending on whether the infrastructure is organised as a private enterprise with a growth and profit objective, or as a public utility.

Settlement agents

- The settlement agent is the institution in whose books the accounts of the direct participants are credited and debited to ensure the final settlement of payment orders.
- The settlement agent of FMIs is either the central bank, which provides a settlement in central bank money, or a commercial bank, which provides settlement in commercial currency.
- In the case of payment systems, the payer’s bank and the beneficiary’s bank, direct participants in the payment system, hold an account in the books of the settlement agent.
- The payment may be funded either by funds already in the bank account making the payment or by a credit extended by the settlement agent.
- The settlement agent also plays a central role in the smooth functioning of a payment system by providing intraday (or daylight) credit. This is the credit made by the system’s settlement agent and repaid by the borrower during a single business day.

Participants

- Infrastructures must have participation criteria that are objective, risk-based, and publicly disclosed. They must also permit fair and open access to the infrastructure. By allowing the selection of participants depending on their risk profile, such participation criteria constitute the first line of defence of the infrastructure against the various financial and operational risks

Critical Service Providers

- To run their operations continuously and adequately, financial market infrastructures often rely on various service providers, such as providers of messaging and connectivity, or technology services.
- One example is the Society for Worldwide Interbank Financial Telecommunication (SWIFT), which provides a messaging service to the vast majority of infrastructures.
- SWIFT does not facilitate funds transfer: rather, it sends payment orders, which must be settled by correspondent accounts that the institutions have with each other.
- As of 2018, around half of all high-value cross-border payments worldwide used the SWIFT network