Financial Markets

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The Financial Foundation

- Our financial infrastructure is comprised of key players that keep the system running smoothly:
  - Payment systems to facilitate transactions
  - Central counterparties (CCPs) to manage risk
  - Central securities depositories (CSDs) for secure storage of securities
  - Securities Settlement Systems (SSS) to finalize transactions
- Together, these components handle both payment and securities flows, adapting to meet the unique needs of each financial instrument.

Linking Financers and Borrowers through Financial Instruments and Markets

- Financial markets serve as a platform to bring together those seeking financing and those able to provide it.
- They also play a crucial role in managing financial risk by spreading it among market participants.
- As defined by French Monetary and Financial Code (Article L. 211-1), financial instruments can be broadly classified into two categories:
  - Financial securities: ready-to-use financing instruments.
  - Futures and derivative financial instruments: contracts that offer financing in the future.

Financial Instruments for Immediate Delivery

- A spot market is a platform where assets are traded for cash at current market prices.
- Transactions in the cash/spot market require immediate delivery, subject to settlement terms.
- Although the delivery is considered immediate, the settlement process does take some time to complete.
- The settlement often occurs one (T+1) or two (T+2) days after the transaction date, based on the type of market or instrument.

The Spot Market

- In Europe, organized exchanges must settle transactions within T+2 as per the CSDR regulation.
- In the rest of the world, the settlement time frame is typically T+3.
- For Over The Counter (OTC) trades, the settlement time frame can range from same-day (T+0) to several months or years.
- In a spot market, the seller must have the necessary assets for settlement on the settlement date.
- If the assets are not available, the seller may borrow them, such as through a securities loan or a repurchase agreement. This is commonly referred to as a "short sale."

Issuance and Circulation of Securities

- **Primary Market:**
  - The primary market is where new securities are issued.
  - Examples of new securities include initial public offerings (IPOs), capital increases, and bond issues.
  - Companies or governments issue securities to investors in exchange for funding (debt or capital).
- **Secondary Market:**
  - The secondary market is where securities are traded after being issued in the primary market.
  - The security is transferable and negotiable, providing liquidity for the investor.
  - An investor who buys a security in the secondary market can resell it to another party.

Shares

- A share (or stock) represents a fraction of a company's equity and confers certain rights to the holder.
- These rights may include:
  - The receipt of annual dividends (if any)
  - The right to vote in shareholder meetings
  - Preferential subscription rights in case of a capital increase, to prevent dilution of the shareholder's voting rights.

Types of Shares

- Unlisted Shares
  - The company places its shares directly with investors
  - Investors provide funds in exchange for the shares
- Listed Shares
  - The shares are publicly offered
  - The shares are traded on a stock exchange

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. These are transferable securities in the form of promissory notes.
- Negotiable debt securities can be classified into three main categories:
    - Treasury Bills
    - Short-term negotiable debt securities, which include commercial paper issued by companies and certificates of deposit issued by credit institutions.
    - Medium-term negotiable securities, also known as negotiable medium-term notes.

Fund Shares

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

Derivatives

- A derivative is a financial instrument or contract between two counterparties, the value of which is linked to (derived from) an underlying asset or element such as a share, an interest rate, or a commodity.
- Derivatives enable the transfer of risk related to the underlying asset from one market participant to another.
- Derivatives are a large and heterogeneous group of financial instruments that can take simple or complex forms.
- Standardized derivative instruments were first created in the United States in the 19th century in the Chicago area. However, derivatives were also traded before, in the Dutch exchange in the 18th 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.
- For example, a wine producer is faced with two challenges: determining the sale price of their wine and ensuring that it is sold.
- The derivatives market allows the producer to sell the wine forward and secure the forward sale at a pre-determined price.

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-standardized futures traded over the counter (OTC). Unlike forwards, futures are contracts with standardized amounts and maturity dates that are traded on organized 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 vs Exotic Instruments

- Plain Vanilla financial instruments are simple and standardised, such as options, futures, forwards, or swaps. These instruments are easily priced because their characteristics are well-known to market participants.
- Exotic financial instruments, on the other hand, are more complex and have several sophisticated parameters for determining the payoff of the instrument.

Swaps

A swap is a financial contract that allows two parties to temporarily exchange financial flows over a specified period of time. The terms of the exchange are agreed upon in advance.
There are various types of swaps, including:

- Interest rate swap, which allows market participants to exchange a floating rate for a fixed rate.
- Cross-currency interest rate swap, which involves the exchange of interest rates denominated in different currencies.
- Credit Default Swap (CDS), which provides the buyer with insurance against the credit risk of a bond issuer, in exchange for periodic payments known as premiums.

Financial Instrument Markets: Organized vs Over The Counter

Organized Markets:

- Transactions are executed through a regulated exchange or trading platform.
- Buy and sell orders are not negotiated bilaterally, but matched by the exchange.

Over The Counter (OTC) Markets:

- Transactions are entered into bilaterally between the two parties.
- The terms of the transaction are determined by the parties.

Impact on Risk and Transparency: The distinction between organized and OTC markets has significant implications for the risk and transparency of transactions in the derivatives market.

Organised Markets

- An 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 restricted to authorized 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 (OTC) market, the two parties negotiate the terms of the transaction between themselves, usually through an investment bank.
- OTC instruments are less standardised, especially in the case of derivatives, and the applicable regulatory framework is more flexible.
- The financial crisis of 2007-2008 highlighted the importance of OTC derivatives markets in terms of financial stability due to:
  - The bilateral nature of these transactions, which makes controls more difficult since there is no central location where transactions are recorded and processed.
  - The unique risk profile and system-wide risk distribution of OTC derivatives, which are difficult to grasp due to their specific parameters.
  - The exponential growth in the volume of trading in these markets 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 mid-2000s, European markets had domestic trading platforms each with a quasi-monopoly.
- In 2004, the Markets in Financial Instruments Directive (MIF) aimed to promote competition by allowing alternative trading methods.
- Implemented in 2007, MIF introduced rules for pre- and post-trade transparency and the "best execution" principle for better investor protection, promoting the search for the best price for the client.

Alternative Trading Facilities

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

Organized Trading Facilities

- A multilateral system for interaction between third-party buying and selling interests in bonds, structured finance products, emission allowances, or derivatives.
- Unlike regulated markets and MTFs, the OTF operator has discretion over how transactions are executed. They may choose to place or withdraw an order, or not match a specific order for best execution.
- Note: The OTF operator cannot deal on their own account.

Dark Pools

- Dark pools are private exchanges or trading forums where securities are traded outside of public markets.
- These pools are called "dark" because the details of the trades, such as the identity of the buyer and seller and the price, are not disclosed until after the trade is completed.
- Dark pools allow large institutional investors to trade large quantities of securities anonymously, avoiding market impact and reducing the chances of their trades affecting market prices.
- Despite offering advantages for large traders, dark pools have faced criticism for lack of transparency and the potential for insider trading.

Lifecycle of a Financial Transaction

- **Issue:** The creation and issuance of a financial instrument, such as a bond or a stock, typically by a government or a corporation.
- **Trading:** The buying and selling of financial instruments, typically on an exchange or an electronic trading platform, to transfer ownership from one party to another.
- **Clearing:** The process of settling the obligations between the buyer and the seller, which involves verifying the validity of the trade and making sure that both parties meet their obligations.
- **Settlement:** The process of transferring the ownership of the assets from the seller to the buyer, typically through intermediaries such as depositories and clearinghouses.

The Issuance of Securities

- The first step in the life cycle of a security is its issuance, which involves the creation of a new security, such as a bond or a stock.
- Historically, the issuance of a security was represented by a physical certificate, which was delivered to the investor in exchange for funds.
- This certificate, which acted as proof of ownership, was typically kept in a secure location, such as a bank vault.
- In recent times, securities have become fully dematerialized, with the issuance, storage, and transfer of securities all done electronically. This is the case in France since 1984.

The Issuance of Securities

- For companies or governments, the issuance of securities is a crucial source of financing for their funding needs.
- The issuance of shares can take the form of an Initial Public Offer (IPO) when a company raises funds for the first time, or through subsequent capital increases.
- Bond issuances are typically carried out through a competitive bidding process between market makers, such as banks or other financial institutions.
- For sovereign debt issuances, governments typically use an auction process managed by an agency such as Agence France Trésor (AFT). This auction takes place in the form of Dutch auctions, and is open to a limited number of primary dealers.

Trading

- Trading is the first step of the financial transaction.
- During this phase, in over-the-counter (OTC) markets, the buyer and seller agree on the terms of the contract.
- The next step is the verification of the details of the transaction.
- For transactions on regulated markets, it is the market operator that carries out the verification.
- In OTC transactions, the two counterparties verify the details through their internal systems.

Confirmation

- Confirmation is the process of creating a record of the agreed upon transaction.
- This is done by one of the two counterparties sending the details to the other, who then checks and signifies agreement.
- A third party can also be involved in the confirmation process.
- In this case, both counterparties submit their records to the third party.

Clearing

- Clearing is the third stage of trade processing.
- It is not mandatory for all financial instruments or in all markets.
- As a rule, products traded on organized platforms are cleared through a clearing house.

Settlement

The last step in the securities processing chain is settlement. This process involves settling the reciprocal commitments of the buyer and the seller, and recording the transaction in the books to confirm the delivery of securities to the buyer and the payment of funds to the seller, when appropriate.

Settlement of Derivatives

Derivatives typically do not result in an initial settlement phase, but instead, intermediate cash flows. There are two main methods of settling derivatives:

- **Cash settlement**: This involves exchanging cash flows corresponding to the value of the contract when it expires. This method is used for most derivative contracts and usually results in net cash exchanges between debtors and creditors following the netting process.
- **Physical settlement**: This involves delivering the underlying asset in exchange for payment of the price determined in the contract.

The Operator and its Governance

The operator is the legal entity responsible for the proper functioning of the securities processing system. The operator manages the system, ensures its governance, defines the rules for participation and risk management, and is accountable to relevant domestic oversight authorities.

Governance differs, particularly for ensuring financial stability, depending on whether the infrastructure is organized as a private enterprise with a growth and profit objective, or as a public utility.

Settlement Agents

- The settlement agent is the institution whose books are credited and debited to settle the payment orders of direct participants. The settlement agent of FMIs (Financial Market Infrastructures) is either a central bank, which provides settlement in central bank money, or a commercial bank, which provides settlement in commercial currency.
- For payment systems, the payer's bank and the beneficiary's bank, both 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 crucial role in the smooth functioning of a payment system by providing intraday (or daylight) credit, which is 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.

SWIFT

The Society for Worldwide Interbank Financial Telecommunication (SWIFT) is a messaging network used by the vast majority of financial market infrastructures. It is relied upon to run their operations continuously and effectively.

What is SWIFT

SWIFT is not a funds transfer system, but a messaging network that sends payment orders between institutions. The institutions must have correspondent accounts with each other to settle these payment orders.

How SWIFT Works

When a financial institution wants to send a payment order, it sends a message through the SWIFT network to the recipient institution. The recipient institution then receives the payment order and settles it through its correspondent account with the sender institution.

SWIFT in the Payment Landscape

As of 2018, SWIFT was used for around half of all high-value cross-border payments worldwide. This highlights the significance of SWIFT in the global payment landscape and its importance to financial institutions.

Impact of the Disruption of SWIFT in Russia

The disruption of the Society for Worldwide Interbank Financial Telecommunication (SWIFT) system in Russia had significant consequences for the country's financial sector.

- Banking Transactions: The SWIFT system is the primary means of communication between banks for interbank transactions. The disruption caused a significant slowdown in the processing of cross-border payments and international transfers.
- Financial Stability: The disruption raised concerns about the reliability and stability of the financial system in Russia, as it indicated the vulnerability of the country's banking sector to cyber-attacks.
- Reputation: The disruption also had an impact on the reputation of Russia's banking sector, as it highlighted the need for stronger cybersecurity measures and better preparedness to prevent and respond to similar incidents in the future.
- Alternative Solutions: The disruption of the SWIFT system in Russia led to increased interest in alternative solutions, such as domestic interbank messaging systems and blockchain-based solutions.

The disruption of the SWIFT system in Russia had significant implications for the country's financial sector and underscored the importance of robust cybersecurity measures for financial institutions.