Chapter 15: The Functioning of Financial Markets

Introduction

1. Primary Markets: markets in which companies and governments sell their securities to investors. Each type of security has its own primary market.
2. Secondary Markets: markets in which investors trade securities and contracts.

Primary Security Markets

1. Introduction
    a. Issuers: companies and governments selling securities to investors in exchange for cash as a way of raising money. These transactions occur in the primary market, and the three main types of transactions are public offerings, private placements, and rights offerings.

2. Public Offerings
    a. IPO: Initial Public Offering, the first time that a company sells securities to the public. This can include new shares issued by the company, as well as shares held by those with equity that want to liquidate. The latter is known as monetising.
    b. Secondary/Seasoned Equity Offerings: offerings of securities made by companies after their IPO.
    c. Prior to public offerings, companies issue prospectus including information about their business and risk.
    d. The process of going public typically involves the services of an investment bank, which will help find investors and determine the price at which the shares will be offered. The role that an investment bank plays will vary based on the type of offering. These can be:
        i. Underwriting Offering: an offering type in which the investment bank buys shares of the company then resells them to investors, both at predetermined prices. Investors in these transactions are called subscribers, and the process of sourcing investors is called book building.
            1. Offers can be over or under subscribed. If oversubscribed, investment banks will sell their shares to preferred clients or to investors at a pro rata basis. If undersubscribed, investment banks take on the unsold shares, increasing risk and exposure to losses. In this situation, investment banks have a conflict of interests. They want to offer at the best price for their client, while also mitigating their own risk.
            2. First time issuers will be more likely to accept a lower price for the offering of their shares, as most companies will not want to be undersubscribed at their IPO. Underwriters can provide price support for a limited period of time, meaning that they will buy shares to increase or stabilize the price of shares if they decline after IPO.
            3. Pricing is easier after IPOs, because the market has already determined the price of shares. Therefore, investment bank fees are typically lower for seasoned offerings.
            4. IPOs may be undertaken by several banks, forming a syndicate, in which there is a lead underwriter.

ii. Best Efforts Offering: an offering type in which the investment bank only acts as a broker and does not assume risk associated with buying securities. In the case that the offering is undersubscribed, the company simply sells fewer shares and raises less capital.

e. Shelf Registration: an offering type in which companies sell securities directly to the public through multiple transactions over a period of time, while still providing prospectus. This provides companies flexibility in when they raise capital, and it can also alleviate the downward pressure on price associated with seasoned offerings.

3. Private Placements
    a. Private Placement: transactions in which companies issue securities directly to a small group of investors, usually with the assistance of an investment bank that helps identify potential investors and set the price of the securities.
    b. Investors in private placements are assumed to have sufficient knowledge to understand the investments they are making, and therefore these transactions require less disclosure and oversight. This also makes raising capital quicker and less costly.
    c. It is generally easier for companies to raise capital if their securities can be traded in secondary markets with high liquidity. Private placements tend to involve securities that are less liquid, and so investors typically expect higher returns on securities bought through private placements.

4. Rights Offerings
    a. Companies can also raise capital through rights offerings, in which they provide existing shareholders rights to buy new shares at an exercise price (often below market price). These rights are known as pre-emptive rights, as existing shareholders have the right of first refusal. Issuing additional shares dilutes the ownership stake of existing shareholders.

5. Other Primary Market Transactions
    a. National governments of strong countries can issue and sell debt securities through auctions in primary markets. Weaker countries may elicit the assistance of investment banks to issue debt securities.

Trading Venues

1. Introduction
    a. Orders: instructions that investors who want to trade give to service providers.
    b. Trading venues are places, whether electronic or physical, where the actual trading of securities can occur. These are, in a sense, literal secondary markets.

2. Exchanges
    a. Securities exchanges are markets in which trading can occur. Exchanges are legally and contractually structured in a manner that requires agreement from all market participants, in addition to being overseen by regulatory bodies of the national government. Legal matters include disclosures and timely information. Exchanges charge commissions on the trades that they facilitate.

3. Alternative Trading Venues
    a. Alternative trading venues is a term used to describe markets where trading occurs that are not exchanges. There are a variety of kinds of alternative trading values, including:
        i. Crossing Network: an electronic trading system that matches buyers and sellers willing to trade at prices obtained from exchanges or other alternative venues.
        ii. Dark Pools: a type of venue with little transparency, meaning that market participants do not get to see the bid and ask prices of other participants. It can be beneficial to trade blocks in dark pools, as it avoids the upward or downward price pressure that trading blocks causes in visible marketplaces.

4. Comparison of Trading Venues
    a. The majority of trading happens over electronic trading systems in which there are computerized rules that determine how trades are executed. These ‘trading rules’ vary from venue to venue.
    b. Electronic trading systems have lowered the overall cost of trading, allowing for greater volume as well as the opportunity to implement strategies that were previously too expensive.
    c. Exchanges and alternative trading venues differ in the degree of regulation they impose on market participants. They also differ in the degree of transparency. By regulation, all trading venues require post-trade transparency, however exchanges also provide pre-trade transparency.
    d. Transparency is valued by investors due to it allowing them to better manage trading, understand market prices, and predict costs. Dealers prefer opaque trading venues because it gives them an informational advantage.

Trading in Secondary Markets

1. Introduction
    a. Call Market: a market in which participants can arrange trades only when the market is called, which is usually once a day. In call markets, all buyers and sellers are present at the same time, allowing for the potential of highly liquid markets.
    b. Continuous Trading Market: participants can arrange and execute trades at any time the market is open. Most markets, including alternative trading venues, are continuous.
    c. There are three market structures for trading, and they are:

2. Quote-Driven Markets
    a. Quote-driven markets, also called over the counter markets, are markets in which investors trade with dealers. The name arises from the fact that investors trade at the price quoted by dealers. Almost all bonds, currencies, and spot commodities trade in quote-driven markets.

3. Order-Driven Markets
    a. Order-driven markets are markets in which buy and sell orders are matched. Most equity securities, futures, and options trade on exchange and alternative trading venues that use order-driven trading systems. Parties that are trading must set specifications for their orders, including maximum and minimum price. Because the participants of these markets are typically strangers, these markets have systems for settlement.

4. Brokered Markets
    a. Brokered markets are markets in which transactions are facilitated by brokers. These markets tend to trade unique and illiquid investments that have potential interest from a select group of investors. Brokers in these markets are generally unwilling to make markets, and instead they attempt to match buyers and sellers. These markets commonly trade blocks of securities and real estate.

Positions

1. Introduction
    a. Position: the quantity of an asset or security that a person or institutions owns or owes.

2. Short Positions
    a. Short positions are acquired by borrowing securities from securities lenders, which an investor then sells. This creates a position that the investor must close by repurchasing shares of the security and returning them to the lender. In the event that price of the security falls during this time, the investor profits, and vice versa. The potential gains to a long position are unlimited, while the potential gains from a short sell are up to 100%. But, the potential losses on short selling are potentially unlimited.
    b. The lending of securities during short selling is facilitated legally by security lending agreements, which state that the borrower will return the securities to the lender in addition to payments in lieu of dividends or interest.
    c. Counterparty risk exists for the lender due to the potential that the borrower does not return the securities. To reduce this risk, lenders require that borrowers leave proceeds of the short sale on deposit with them as collateral for the loan.
        i. The collateral each party pledges to the other changes with fluctuations in the price of the borrowed security. When the price increases, the lender faces the risk that the borrow might not return the security, so they require short sellers to pledge additional capital. Conversely, short sellers face the risk that lenders may not return the pledged capital in the event of the price falling, and so lenders must return some of the collateral in the event of a decrease in price.

3. Leveraged Positions
    a. Leverage refers to the amount of debt used in taking a position. Higher leveraged positions are those that have higher ratios of debt to equity. The use of debt to take positions is done through margin, the maximum of which is set by either regulators, exchanges, or those who provide leverage. The advantage of using leverage is that it can increase returns relative to equity. However, this is paired with the potential for increased losses, thus it increases risk. Capital borrowed on margin must be repaid, and it can be called for at any time, and it additionally must be paid with interest.

Orders

1. Introduction
    a. Bid Price: the price at which market participants are willing to buy, quoted to the market.
    b. Ask Price: the price at which market participants are willing to sell, quoted to the market.
    c. The best bid is the highest bid, the best ask is the lowest ask.
    d. Dealers are said to quote a market when they expose their bids and offers. They will often do so on both sides, quoting a two-sided market. Dealers may also specify ask and bid sizes. Depending on the venue, these may or may not be exposed to other market participants.
    e. Market Bid-Ask Spread: the difference between the best bid and the best offer.
        i. This is generally smaller than the dealers' bid-ask spread because dealers often quote better prices on one side of the market than the other. Accordingly, the bids and asks that are the best bid and ask in markets often come from different dealers.

2. Order Execution Instructions
    a. Market Order: instructions for a broker or trading venue to obtain the best price immediately available when filling the order.
    b. Limit Order: instructions for a broker or trading venue to obtain the ebay price immediately when filling the order, but also with a limit price - a ceiling price for a buy and floor price for a sell.
    c. Mark orders generally execute trades immediately. However, this can lead to market buys being filled at higher prices and market sells being filled at lower prices. Market orders are more likely to be filled at particularly disadvantageous prices in markets for thinly traded securities or when orders are relatively large.
        i. In order to avoid this, traders can send limit orders. However, these orders run the risk of not being filled.
    d. A trader's decision to use a market order versus a limit order when attempting to make a trade is dependent on their priorities regarding price, efficiency, and risk of unfulfillment. Limit orders tend to be filled at better prices than market orders, but they do often go unfilled.
    e. Stop Order: an order type in which a trader specifies a stop price - a price that triggers the conversion of a stop order into a market order.

        i. Traders who want to protect their long positions often use stop orders that trigger market sell orders if prices are falling with the hope of stopping losses. These are referred to as stop-loss orders.
    f. Some order execution instructions specify conditions on size.

3. Order Exposure Instructions
    a. Order exposure instructions specify how an order is to be seen by other market participants.
    b. Hidden Orders: orders that are seen by brokers or trading venues, but not by other market participants until they can be filled.
    c. Traders who are attempting to trade in large quantities can use hidden orders to their advantage. Large sellers may use them to avoid the downward pressure that large orders put on price, resulting from buyers demanding lower prices. Large buyers may use them to avoid the upward pressure that large orders put on price, resulting from sellers demanding higher prices.

4. Order Time-in-Force Instructions
    a. Time-in-Force instructions indicate when an order can be filled. The most common types are:
        i. Immediate or Cancel Orders: which can be executed only on immediate receipt by the broker or trading venue.
        ii. Day Orders: which can be executed only on the day they are submitted and are cancelled at the end of the day.
        iii. Good-Until-Cancelled Orders: which can be executed until they are cancelled; some brokers and trading venues establish maximum numbers of days before orders are automatically cancelled.

Clearing and Settlement

1. Clearing
    a. Confirmation: the action taken by buyers and sellers in which they agree and confirm the exact terms of their trade. This generally takes place on the day of the trade and is only necessary for manually facilitated trades, it is done automatically with electronic trading systems.
    b. Clearing Houses require that their clients have adequate cash and margin to make trades. They also set limits on the aggregate net quantities that their clients settle (this is buys minus sells.) Additionally, they monitor clients to make sure they do not attempt to arrange trades they cannot settle.
    c. Efficient clearing systems are essential for promoting liquidity.

2. Settlement
    a. Settlement Cycle: the timing and processes of procedures that are involved in settling trades. The processes involved in and the duration of the settlement cycle can vary across markets, ranging from instantaneous to three days.

b. During settlement, buyers must deliver cash to the clearing houses, and sellers must deliver the securities. The settlement agent then makes the exchange in a process called delivery versus payment.
c. Reducing the length of time of the settlement cycle reduces counterparty risk and reduces the risk posed by price changes of the security throughout the process of a trade.
d. Once the trade is complete, the settlement agent will contact the transfer agent of the issuing company, which maintains a registry of who owns the company’s shares.

Transaction Costs

1. Explicit Trading Costs
    a. Explicit trading costs are those direct costs associated with trading. The largest of these are brokerage fees, which are paid to brokers either as a percentage of the trade value, or a set rate per security.
2. Implicit Trading Costs
    a. Implicit trading costs are those indirect costs associated with trading. These include:
    b. Bid-Ask Spread: the bid-ask spread represents the amount that dealers are requiring to be compensated for trading. The size of this spread is a good indication of liquidity, as larger spreads arise from opaque markets and the difficulty associated with assessing value.
    c. Price Impact: refers to the changes in price that trading causes. This effect is larger when securities are traded in larger quantities and when traders want to sell quicker.
    d. Opportunity Cost: include the costs associated with changes in price and changes in trading price resulting from decisions to trade using different order types and over different time horizons.
3. Minimising Transaction Costs
    a. Efficient trading allows investors to trade at optimal prices and minimize transaction costs. This can be achieved by algorithmic trading or manually implemented strategies, both of which require analysis of transaction costs. Notably, there is a trade-off between minimizing transaction costs and reducing opportunity cost.