

## **Challenges and Necessity of Developing Financial Derivatives in the Financial Market of Iran**

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### **Abstract**

The capital market is one of the important pillars of the economy in the country. Capital market participants are always looking for investment with minimal risk or its reduction and transfer. Risk reduction in investment and financial matters is done using risk management methods and turns financial risks in the real world into predictable and controllable risks. Derivatives, which are innovations of financial professionals, are one of the most important risk management tools and thus have played an important role in financial markets and are traded on relevant stock exchanges. This research assesses the general concept of derivatives, their history and types, as well as the advantages and disadvantages of derivatives; finally, the leading challenges and their necessity and importance in the Iranian financial market are discussed.

### **Keywords**

Financial Derivatives, Risk Management, Capital Market of Iran

## 1. Introduction

Governments, central banks, organizations, companies, and economic actors are always faced with the challenge of uncertainty about future conditions in their economic decisions and planning for the future due to common fluctuations and changes in economics and politics, including periods of prosperity and recession, wars and sanctions at the domestic and foreign levels, followed by instability and constant change of micro and macro economic components.

This uncertainty, both at the macro level of economic decisions and at the micro level, can be very costly and may overshadow the social and economic security of a society.

All managers and economic activists with a scientific and practical future-thinking approach can protect themselves against the storm of changes, fluctuations, risks, and probabilities or at least have enough flexibility in the face of unexpected changes (Navai Lavasani, 2013).

Undoubtedly, achieving economic development can be considered as one of the goals that all countries are pursuing. Therefore, identifying factors affecting economic growth is very important. Studies show that in developed countries, an extensive and advanced financial system is a requisite for stable and long-term economic growth (Makian and Izadi, 2015).

In the world of investing in capital markets, financial engineering offers the right solutions for both investor and investee groups so that both can minimize their risk. Creating a suitable interest rate for the investor and providing appropriate financial resources at a rate lower than the usual interest rate for the investee are all achievements related to financial engineering (Navai Lavasani, 2013). Familiarity and providing a suitable environment for the presence of different groups of investors, consolidating the market and deepening are the most basic tools of economic development. Financial experts have developed many new tools to reassure economic actors that are becoming more and more diverse. One of these tools is derivatives (Rouhani, 2021; Marshall and Bansol, 1998).

The main philosophy of inventing these tools is risk management, and their use in addition to eliminating the risk of price fluctuations has positive effects such as increasing trading volume, high liquidity, low risk costs, and increased efficiency, which have increased the attractiveness of derivatives (Masoumiya, 2006).

By definition, derivatives are trades in which the principal asset is not transferred, and the price performance of derivatives is due to changes in the price of the commodity. In other words, the behavior of these instruments stems from the behavior of the relevant assets in the market. Of course, in many cases, no specific assets are traded, and only the price difference or premium between the parties is settled. This type of trading is done only for profit or speculation and to trade on the stock exchange and out of the stock exchange (Tahan Toraghi, Bashiri, and Eskandari 2018; Javadian, 2007).

## 2. Derivative financial instruments

Derivative financial instruments are a kind of financial instrument whose value is derived from other securities or assets. The reason these instruments are listed as derivatives is that they are worthless in themselves but derive their value from other securities, interest rates, exchange rates, stock indices, and even commodities. Future agreements, future contracts, option contracts, and lease contracts are derivative financial instruments designed by financial engineers to cover risk that have played a prominent role in risk coverage and management in both commodity and financial markets (Hall, 2005; Navai Lavasani, 2013)

## 3. Main features of derivatives

Derivative financial instruments have the following three main characteristics:

- Their value varies depending on changes in the price of the underlying asset (such as stocks, commodities, etc.).
- Derivatives do not require initial net investment.

- These financial instruments will be settled in the future (Tahana Torghi, Bashiri and Eskandari, 2018; Ghahremani, 2006; Sorani, 2008).

#### **4. Functions of derivative instruments**

Derivatives have various purposes and applications depending on their type and design. Protection against adverse price fluctuations, the possibility of speculative activity to benefit from profits that are not possible in ordinary investments, increased psychological and efficiency of the market, access to credit, and the possibility of financial leverage and other benefits are the primary benefits of using derivatives in today's advanced markets.

Some of the most important of these functions are:

##### **4.1. Hedging of currency fluctuations risk**

Risk and uncertainty is an integral part of economic activities. In fact, everyone who owns one or more types of assets and intends to engage in economic activities is at risk. Although some people are risk-taking and enter high-risk areas to achieve exceptional opportunities and high profits, most people prefer to minimize the risk of their activities even if they earn less. By entering into derivative contracts, the parties gain relative confidence and safely plan for future production. This feature can be considered the main advantage of derivatives. However, the nature of the derivatives market is to play with zero sum, i.e. the profit of one trader always means the loss of another trader; therefore, all traders try to conclude a contract with sufficient information and receiving appropriate expert advice.

##### **4.2. Decrease in informal foreign exchange market transactions**

Since the need for a foreign exchange derivatives market is a real need, the lack of a formal foreign exchange derivatives market leads to the formation of an informal foreign exchange derivatives market. Naturally, the presence of needy people in this market is associated with high costs, and due to the non-

transparency of transactions in it, the possibility of jobbery in this informal market is very high. Hence, the formation of a formal foreign exchange derivative market can gradually transfer informal market transactions to the formal market. Laying the groundwork for the discovery of future currency prices: One of the concerns in developing economies is the correct prediction of future currency prices. In the absence of a foreign exchange derivatives market, individuals and legal entities that feel that the price of foreign exchange will increase in the future will try to make a profit in the future by buying and saving foreign currency in cash. This can negatively affect the balance of the foreign exchange market. However, despite the sufficiently varied due-date derivatives market, it is possible to see the general predictions of market stakeholders about future foreign exchange prices, and those interested in making a profit can buy derivatives instead of buying foreign exchange with much less money than derivatives.

##### **4.3. Foreign exchange market management**

If for various reasons, the foreign exchange market is on the verge of crisis and inflammation, the central bank can calm the market by entering the foreign exchange derivatives market through contracts related to foreign exchange derivatives and publishing foreign exchange derivatives in addition to meeting market needs. Such actions of the central bank, without causing physical and objective movement of currency can promote foreign exchange derivatives in the real market and boost imports and exports, and prevent any crisis and disruption in the foreign exchange market, and calm the market, while maintaining foreign exchange reserves.

##### **4.4. Preventing the destruction of production sectors**

Increasing the exchange rate has destructive effects on production units. Inflation due to the increase in imported items is a result of the increase in the exchange rate. Many industrial projects that were profitable at the time of launching and economic study

based on the exchange rate of that time faced bankruptcy and closure of production units after the devaluation of the rial by increasing the exchange rate due to reliance on imported raw materials. Therefore, covering the risk of exchange rate fluctuations can prevent the closure of production units, and the use of foreign exchange derivatives can be very effective in covering the exchange rate (Rouhani, 2021; Meysamy, 2017).

## 5. The economic role of derivative instruments

The economic roles that derivatives play are as follows:

- Market risk transfer (control of financial assets, limiting the range of price changes or price volatility, controlling the risk of releasing financial assets)
- Reducing borrowers' financing costs,
- Efficient change of fixed debt to floating rate debt ratio
- Increase of return on assets
- Rapid adjustment of the cash flow structure of assets to better adapt to the company's position in the market
- Tax evasion and circumvention of regulations (Climate, 2017; Abdo Tabrizi, 2016).

## 6. Jurisprudence of derivatives

Specific and identical future contracts are spent in some cases only for sale, according to which the parties make a deal on a certain date in the future and the sale will take place in the future. In some other cases, like many oil contracts, the sale takes place in the present, but the payment of the price and the object of sale is postponed to the future. Hence there are different possibilities.

In the first case, there are three possibilities (initial condition, independent and compromise contract) which, commonly, the initial condition is not binding. According to the independent and compromise contract, scholars and famous jurists have ruled that it is valid. In the second case, the scholars considered

such a contract as a sale on credit and ruled that it should be annulled. The contract of option is also jurisprudentially problematic, and several ways have been proposed to correct it, i.e. the option can be corrected through the initial condition, consideration, and compromise, and the jurisprudential problem can be solved (Eghlimi, 2017; Golriz, 2001).

## 7. Advantages and disadvantages of using derivatives

Using these tools can bring benefits such as the following:

- 1) Providing leverage by which a small movement in the value of the underlying asset can lead to a fundamental difference in the value of the derivatives.
- 2) Speculation and profit-making: If the value of derivatives moves according to the expectations of investors, this fact will be realized.
- 3) Coverage and reduction of risk in underlying assets,
- 4) These tools make it easy to buy and sell risk, and many people find this appropriate in an economic system. Although some people gain profit and some incur losses, as long as one benefits from trading derivatives in a normal environment to the detriment of another person, derivatives exchanges will not affect the economic system.
- 5) According to the head of the Federal Reserve, the use of derivatives has mitigated the effects of the recession at the beginning of the 21<sup>st</sup> century.
- 6) By reducing price risk via concluding contracts, the parties enjoy relative confidence and plan safely for future production. This feature can be considered the main advantage of derivatives. Of course, exchanges in derivatives markets are a zero-sum game, i.e. the profit of one trader always means the loss of another trader. But all traders enter into a contract through expert opinion; therefore, the

risk is divided between them. As a result, it is easier for the whole market to withstand shocks.

- 7) Increasing the prevalence of transactions in these securities will increase the number of transactions in the stock market. These securities themselves are traded in the secondary market, creating a variety of financial instruments and assets in the stock market and providing a basis for responding to different tastes and desires. Transactions in the market also increase following this volume. The low cost of derivatives relative to the value of the underlying asset underlies the so-called effects. The popularity of these instruments also reduces the cost of obtaining information and promotes investment and, consequently, economic growth.
- 8) One of the risks that prevents savers from spending their money on long-term investments is liquidity risk. They like to store their resources in such a way that they can turn them into cash whenever they want. On the other hand, economic growth requires long-term investments that require financial resources. Financial markets, especially derivatives, provide the necessary assurance for capital owners.
- 9) Carrying out fast transactions in the derivatives market brings about high liquidity; in this market, investors are confident that they can convert their assets into cash when needed. Lower transaction costs in this market compared to the stock market also increase the volume of transactions, which requires an increase in liquidity.
- 10) The cost of risk is much lower than the cash market; buyers and sellers in this market face a low potential and relatively certain losses, unlike the cash market, where the amount of loss is unknown and is sometimes very high, to the extent that it annuls the principle capital. The risk cost of this market is lower than ordinary stocks because you have to pay a high

price to buy the stock, but a small amount is enough to buy derivatives. This feature reduces the cost of maintaining the portfolio, so traders reduce their risk by diversifying their portfolio.

There are also many disadvantages to derivatives, some of which are:

- 1) The use of derivatives leads to severe losses due to leverage or excessive borrowing.
- 2) Some derivatives, especially swaps, cause investors to take risks at the counter. Of course, different types of derivatives are exposed to this risk to varying degrees.
- 3) High imaginary value,
- 4) Leveraging economic debt (Saber Eghlimi, 2017; Pasha, 2012; Sami, 2012; Sayyah and Salehabadi, 2006; Shakeri, 2011; Fabozi, 2011).

## **8. Types of derivative contracts**

Derivatives are usually traded in one of two ways.

- Over-the-counter (OTC) derivatives: Contracts that are concluded privately between the two parties and there is no intermediary between them.
- Exchange-traded derivatives (EDT): They are standardized derivatives contracts, which are concluded in an organized and formal manner, i.e. derivatives can be bought and sold in the official market.

Types of derivative contracts (exchanges or reciprocal transactions, options or optional transactions, future transactions and future contracts) fall into one of the above two categories (Tahan Torghi, Bashiri, and Eskandari, 2018; Dehdar, Hassanolmaki and Kohneh Kalbadi, 2016).

### **8.1. Transaction option**

An option contract is a commitment-option contract, i.e. the seller or transferor of the transaction option, in exchange for receiving a certain amount from the buyer or acquirer of the transaction, undertakes to sell or buy a certain number of basic assets at the agreed

price at a certain time in the future if the acquirer exercises option. An important difference between the acquirer of the option and the transferor is the right versus obligation. That is, the acquirer of the option has the right and not obligation to perform the transaction in the future on a basic asset and based on the contract terms, while the option transferor undertakes to perform the transaction in the future (Rahnama Rudpashti, Zanganeh, and Gholamreza, 2018).

### **History**

The first transactions of option contracts in Europe and the United States date back to the early 18<sup>th</sup> century. In the early years, these markets were well known for the prevalence of corruption and bribery. In the early 1980s, a group of companies introducing themselves as the Association of Brokers and Traders in an option brokerage set up an option market to bring together buyers and sellers. Although these markets survived and grew dramatically, they had several major drawbacks and inefficiencies, including:

- It was not possible for the holder of the transaction to transfer it to another person before the expiration of the contract, and they did not have an active secondary market.
- There was no mechanism to guarantee the fulfillment of obligations by the seller or transferor of the option, and in case of default, the buyer would pay a lot of costs to file a lawsuit.

In April 1973, a major change took place in the derivatives market. The Chicago Board of Trade established an exclusive stock exchange called the Chicago Mercantile Exchange for stock options, which is now one of the largest stock exchanges in the world. In 1975, the possibility of trading options on the US Stock Exchange and the Philadelphia Stock Exchange was made possible. The Oceania Stock Exchange began trading this financial product in 1976; it is interesting to note that in the early 1980s, the trading volume of option contracts outpaced the daily trading volume of stocks on the New York Stock Exchange (Rahnama Roodpashti, Zanganeh, and Gholamreza, 2018; Daneh, 1992).

### **Types of options**

There are generally two types of option contracts.

*Purchase Contract:* This contract gives the holder the right to purchase the asset on a specified date and at a specified price.

*Option Contract:* This contract gives the holder the right to sell an asset on a specified date and at a specified price. The date specified in the contract is known as the expiration date, the execution date, the contract date, or the due date. The price specified in the contract is called the execution price or the agreed price (Rahnama Rudposhti, Zanganeh and Gholamreza, 2018; Rajab, 2015).

### **Trading positions in option contracts**

In any option contract, there are two trading parties. One party is the investment trader who has taken the buying position and has bought the option. On the other side of the contract, the investor has taken the selling position, i.e. has issued or sold the option. The buyer or the holder of the transaction has no obligation to the contract, while the sale or issuance of the option is binding on the seller, i.e. the seller receives the option price and in return agrees that if the buyer exercises the option, he will comply with the provisions of the contract. There are generally four alternatives for a trading option:

- A. Sale position in the call option
- B. Purchase position in the put option
- C. Purchase position in the call option
- D. Sale position in the put option

### **Factors affecting the option price**

**Option contract price:** The price paid for the option contract for each unit of assets on which the purchase or sale order is executed.

**Agreed price (execution):** The agreed price of the acquirer and transferor in the option contract is to buy or sell the underlying asset.

**Basic assets:** it refers to the asset on which the option contract is based. For each underlying asset, at any given time, there are very different options that may be traded; therefore, options are divided into different types based on the type of asset they contain.

**Due date:** the date after which the contract expires, and the person holding the option has the right to exercise the option on or before that date.

**Asset price volatility:** A measure of the volatility of price changes at the rate of financial assets. This concept can be used to examine the number of trading option valuation methods or derivatives.

**Option class:** All trading options that are of the same type (put option or call option) are called option class.

**Option series:** Option series include all trading options of a certain class that have the same agreed price and due-date.

**Expected return:** It refers to the amount of returns an investor expects to earn in investing. According to the degree of risk aversion and risk-taking of individuals, the rate of return expected by the investor is divided into two components of risky and risk-free interest rates (Rahnama Rudpashti, Zanganeh and Gholamreza, 2018).

### Advantages and disadvantages of options

#### Advantages

**Diversification:** Having the option in the investment portfolio with a small initial capital allows the investor to properly diversify the portfolio.

**Financial leverage:** Transaction options allow the investor to take advantage of fluctuations in the underlying asset price using a leverage and paying a certain percentage of the underlying asset price without having to hold the entire value of the contract.

**Earnings from stock price fluctuations:** Using the option, a person can benefit from its price fluctuations without having the basic stock.

**Earning:** The investor may not limit his interest on the held shares to capital gains and dividends, and gain other cash flows by selling or transferring the option. Transferring the control of the stock of the investor or the share he intends to buy is one of the simplest and most profitable trading strategies.

**Earnings from stock price fluctuations:** Using the option, a person can benefit from its price fluctuations without having a basic stock. For this purpose, two simple scenarios can be considered:

A) Acquisition of put option in ascending markets

B) Acquisition of call option in descending markets

#### Buying the right time for buying/selling decisions:

Contracts or options allow the investor to prove his cash flow by paying a percentage of the share price and make the right decision in the time left until the due-date.

#### Disadvantages

**High risk:** Options, like other financial instruments, are subject to the general law of risk and return, and their risk depends on the amount of return expected by investors. The higher the risk, the higher the return and vice versa.

**Complexity:** Option contracts, due to their special nature, lead to complexity and increase in the size of the stock market.

**High commission:** Usually a relatively high commission is paid for the transaction of these contracts in relation to the value of options, which will reduce the efficiency of the market (Rahnama Rudpashti, Zanganeh and Gholamreza, 2018; Zeinali and Eftekharifar, 2018).

#### Types of options regarding the expiration date

Option regarding the expiration date, or the execution method, refers to the time period for which a contract is executed, which are classified into conventional and unconventional categories based on the option contracts. European and American are in the conventional category.

- US option: If the option contract is concluded in such a way that the holder of the card can exercise his right at any time (before the expiration date), it is called US security.
- European option: If it is stated in the contract that the holder can use the right only at the time of expiration, it is called European security (Roodposhti and Jula, 2016; Tahan Targhi, Bashiri and Eskandari, 2018).

#### Types of options available regarding the underlying asset credit

Options are divided into different types based on the underlying asset credit. Securities, currencies, stock indices, gold, metals, energy, agricultural products, and livestock products are the most important underlying assets of option.

- **Stock option:** These options are concluded on stocks and allow the buyer to buy or sell a certain number of shares at a certain time and at a specified price.
- **Commodity option:** This type of option contract is usually based on commodity, commodity index, and future commodity contracts, and manufacturers mostly use these contracts to insure their products. The commodity option contract gives the holder the right to buy or sell an underlying asset in the form of goods such as precious metals, oil, agricultural products, etc. at a certain price and on a specific date, which does not necessarily create an obligation for the individual.
- **Bond options:** In many stock exchanges where stock options are traded, it is also possible to trade bond options. Bond options are also used primarily for short-term profit and risk coverage. Options, like other types of put and call options of their underlying asset, are transferred to the holder at a specified price on a specified expiration date or before the expiration date.
- **Interest rate option:** Interest rate option is a special type of derivatives contracts valued based on interest rates. The value of this type of option is tied to a base interest rate, such as a ten-year return on treasury bonds; in fact, the profitability of the interest rate option depends on future interest rate changes. In recent years, this type of option has been very popular, and now various types of interest rate options are actively traded on official stock exchanges and over-the-counter markets.
- **Currency option:** It is a contract according to which the currency put or call option is given to the holder at a specified rate and time. In return for this right, an amount of price must be paid as an advance payment to the option transferor. Exchange rate options can be used by individuals or companies to cover exchange rate fluctuations.
- **Index option:** Although index option is similar to stock option in many ways, there are some important differences between them. Since each index represents a portfolio or set of a particular set of stocks, the exercise of index option also requires the exchange of a set of stocks in the same proportion as in the index. This means collecting and exchanging a set of stocks that fits exactly into the composition of a particular portfolio, which is a very laborious and difficult task. Therefore, to facilitate the exercise of index option, another process called cash settlement is used. In this method, if an index put option is applied, the transferor calculates the difference between the index level and the agreed price, multiplies it by the number of index shares, and pays cash to the acquirer as a result of these calculations (Rahnama Rudpashti, Zanganeh and Gholamreza, 2018).

## 9. Future contracts

Historically, the first new futures took place in the mid-nineteenth century (1865) following the trading of grain on the Chicago Board of Trade. The International Monetary Fund was established in 1972 as a subsidiary of the Chicago Mercantile Exchange to trade futures contracts. At present, the number of stock exchanges in which futures contracts are traded has experienced a significant growth (Tahan Torghi, Bashiri and Eskandari, 2018; Koffman, 2003).

A futures contract is a derivative that can be traded in the financial markets. In this contract, according to the compromise contract, one party (seller) agrees to deliver a certain amount of a certain commodity or an asset (such as stock) to the other party (buyer) at a certain maturity, at the price they now set. Futures contracts were first traded in 1972 on the basis of agricultural products and later on the basis of natural resources such as oil. In recent years, these contracts have become very common based on other foundations such as currency, interest rates, and stock market indices and play an important role in risk control.

### **Special futures contracts**

Expert interpretations for Forward Contract are different. Some have referred to it as the Future Pact (Hall, 2005) and some as futures contracts. Rouhani (2021) and Derakhshan (2004) and another group have called them special future contracts. The use of the term future contracts is not appropriate for these contracts because it causes to mistake them with the future contracts that are common in our legal and jurisprudential culture.

Based on the special futures contract, the party who intends to purchase undertakes to receive a certain amount of an asset from the seller on a specified date, at a specified price, and at a specified location, and the other party who wishes to sell also undertakes to deliver that asset with the same characteristics to the buyer.

The main features of these contracts are:

- A) These contracts are concluded out of stock exchange, and unlike stock exchanges, which have a physical location and do not have specific rules and regulations on how to trade in them in a particular place, are done directly between traders and usually via telephone or computer networks. In addition, standard rules and regulations do not govern these transactions (Rouhani, 2021; Derakhshan, 2004). In other words, these contracts are fully consistent with the original philosophy of derivatives.
- B) These contracts are often settled at the expiration date by transaction and delivery of price and assurance.
- C) In these contracts, no guarantee or deposit is usually taken from the parties to fulfill the obligation; therefore, there is always the risk of default of one of the parties to fulfill the obligation, and the only guarantee is the use of legal leverage.
- D) They benefit both parties because these contracts eliminate the price risk.

### **Identical future contracts**

The definition of these contracts is the same as specific futures contracts, but the condition of being standard is added to these contracts. In these contracts, by determining all the characteristics such as quantity, date, place of delivery, quality, etc., it is possible to buy and sell in the secondary market and it is not necessary to find the other party. Therefore, both parties refer to the stock exchange broker and make the desired transaction with the broker stock exchange. In these contracts, first of all, in the majority of cases, delivering the price and the object is not involved, but the two parties end their position in the market in other ways. For example, a hedging transaction is made through a reverse transaction with the first transaction or leave the market by receiving and paying the difference between the purchase price or the selling position and the price at the expiration date. This method is called cash settlement. Second, in this contract, an initial deposit is paid as an obligation by the buyer and seller to the broker, which is paid as compensation in case of fault. This deposit is adjusted daily based on the change in the future price of the underlying asset. If the future price of the underlying asset decreases to such an extent that the trader's deposit is less than the minimum fixed deposit, the Exchange will immediately ask the trader to pay the deposit account to the original deposit level by paying the difference.

If the trader does not pay this price, the stockbroker will block his trading position on the stock exchange and expel him from the market. The clearing house located in the stock exchange itself guarantees the obligations of the parties of the transaction as mentioned above. This room comes into operation after the stockbrokers buy or sell the futures contract and play the role of buyer against the seller and the role of seller for the buyer (Rouhani, 2021; Derakhshan 2004). Therefore, these rooms are not the lawyers of the buyer and the seller; they do not play the role of intermediaries, but they are the parties to the transaction.

### Stock index futures contracts

In many stock exchanges, an index is calculated as the average stock index. To calculate it, the last transaction made on a given day on a stock is considered for a number of major companies and the average is calculated. This index reflects the market situation. By considering it, stock returns can be compared with other markets, such as the money market, and better investment opportunities can be identified. Traders conclude on a futures contract by predicting the future status of the stock index as the underlying asset. If the trader predicts the increase in the price of this index, he will buy the futures contract index, and if his forecast is a decrease, he will sell it. Since the stock index is a subjective matter, in practice, almost no case leads to the payment of shares, and the position of the parties are considered terminated and removed from the market through the adoption of the opposite position and cash settlement (Gholam Ali Masouminia, 2006).

### Exchange contracts

A swap contract is a contract under which the parties undertake to exchange two assets (physical or financial) or benefits from the two assets for a specified period of time with a specified quality in a specified proportion, and upon expiration date, either party undertakes to return the original property to its owner. These types of contracts are usually done informally. A common and well-known example of exchange is the transaction of two methods of paying interest for a single principal amount (for example, two methods of paying interest on a loan with a certain amount) (Tahan Torghi, Bashiri and Eskandari, 2018; Alikhani and Moseri, 2015).

In other words, swap contracts are an agreement between two companies to exchange cash flows in the future (with two different types of payment of debt or assets). In these contracts, the payment date and the calculation of the cash flows to be paid are specified. Therefore, since in such buying and selling or selling and buying transactions, a certain amount of currency is exchanged simultaneously, there is no risk of exchange rate fluctuations, but it has a cost derived

from the difference between cash and futures trading rates. Different types of swaps include commodity swaps such as wheat, gold, oil, etc. and stock swaps, complex swaps, and swap options (Tahan Torghi, Bashiri, and Eskandari, 2018).

### 10. Forward contracts

The forward and future contracts are similar in terms of delivery time and price and are basically the same in nature, but also they have some fundamental differences that are mentioned below:

- The forward contract is a systematic and standardized type of futures contract and enjoys more control.
- The forward contract is traded on futures exchanges, while the futures contract is traded on the over-the-counter market.
- In a forward contract, there is a specific intermediary called a clearing house, so the parties to the contract are not responsible for each other, but futures contracts are not like that.
- In the forward contract, the parties pay an amount as a guarantee to ensure the implementation of the contract.

In general, the forward contract market has a systematic structure; therefore, the contractual framework governs it, while in the futures contract market, the creditworthiness of the other party is required. The parties transact based on mutual recognition due to the lack of strong control rules; hence, the risk of the future contract is higher than the forward contract (Rahnama Rudposhti, Zanganeh, and Gholamreza, 2018).

### 11. Derivatives in Iran

Despite the fact that the Iranian stock market has experienced significant growth in recent years in terms of trading volume of stocks and bonds, the use of derivatives has not been pursued very seriously, and the ratio of trading volume of this instrument to the total transactions is very small. However, in many stock exchanges around the world, the volume of

transactions in the derivatives sector is equal to other sectors.

The most widely used derivatives in Iran are as follows:

#### **Futures contracts**

In Iran, limited futures contracts have taken place on the shares of some large companies, which are not very prosperous. Lack of necessary conditions and some restrictions and of course lack of proper informing and insufficient knowledge of investors about the dimensions and details of futures contracts have caused the failure of stock futures trading on the Iranian Stock Exchange.

The stock is listed on the Iranian Stock Exchange. It should be noted that futures contracts of Bahar Azadi coin are traded in Iran Commodity Exchange, and it is interesting that the trading volume of gold coin futures contracts in Iran Commodity Exchange is much more than the trading volume of stock futures contracts so that coin futures can be traded successfully in Iran. Also in the Commodity Exchange, standard parallel futures contracts are designed in addition to ordinary futures contracts, in which these contracts are traded in the derivative market and a certain amount of the underlying asset is sold based on the contract specifications. The contract payment must be paid at the time of the transaction and according to the schedule specified in the contract specifications, and the underlying asset must be delivered at the expiration date. During the contract period, buyers can sell the standard parallel futures contract to another person at the amount purchased. These two contracts are independent of each other, and the seller refers the buyer to the original seller for physical delivery based on the standard parallel futures certificate.

In this case, the remittance acceptor accepts the responsibility of referring to the primary seller and has no right to refer to the seller in the secondary transaction. Establishing a secondary market for futures, reducing liquidity risk and price change risk, utilizing market liquidity and the ability of financial investors, facilitating long-term financing of development projects, facilitating working capital

financing, and tax exemption are the most important features of standard parallel futures contracts.

The first futures in the capital market dates back to coin futures, which were discontinued in 1997. In this regard, the first step taken by the Exchange and Securities Organization was to launch a coin futures market in the Lotus Gold Fund. It can be said that this effective measure could revive hopes towards the resumption of future gold coin transactions.

#### **Option contracts**

In recent years, in the Iran Stock Exchange, the mechanism of put option of subordinated shares called stock insurance was also applied to some financial assets. According to this plan, the real shareholders of some companies could pay an amount equal to the number of assets of the basic shares to buy securities of put option shares and sell their shares to the supplier at a certain price and date. The buyers of the securities did not have the right to sell the securities before expiration date, and these securities could not be traded on secondary transactions. In practice, all these legal and sharia restrictions distorted the real function of these derivatives by destroying the effectiveness of high-return strategies and risk coverage strategies and caused them to be limitedly welcomed by investors and not to be attractive to investors.

Currently, the lack of derivatives is felt more than ever due to the existence of emotional behaviors with no analysis by real investors and short-term and speculative strategies of major shareholders and legal entities that have caused irrational fluctuations in the Iranian stock market. Developing derivatives and reviewing existing guidelines will help control these fluctuations and contribute to investor comfort. The expansion of these instruments also allows shareholders and legal entities and financial institutions to select a variety of risk hedging strategies in stock portfolios.

Regarding commodity and energy derivatives, the development of these instruments as well as the expansion of the standardized asset range will help cover the risk of buyers and sellers in various industries. The expansion of these instruments will also welcome speculators and financial intermediaries

in this field and will ensure the liquidity of this market to an acceptable level. Of course, before designing a derivative, easy transfer of assets as well as the mechanism of detecting the fair price of the asset must be specified and implemented. Of course, such instruments, which are new and almost unknown in Iran, are very well established and widely used in advanced stock exchanges. The reason for the lack of success of these tools in the Iranian capital market, in addition to low financial knowledge among market participants, has been the limited and underdeveloped market mechanism. With the gradual application of these tools and the expansion of related financial knowledge, some of the shortcomings and functional drawbacks of the market will be eliminated. For instance, efficient instruments are provided to market participants to cover the risk of transactions, which while reducing the risk of investments can be very effective in attracting new capital, especially foreign capital, because for many traders in global markets, capital markets without derivatives are almost meaningless. It seems that it is necessary for the capital market trustees to define other conventional financial instruments in the stock market with double attention and also to train and inform these instruments in the market with a proper planning so that they can attract foreign investors successfully in addition to increasing market dynamics (Karimi, 2017).

## **12. Challenges of derivatives in Iran**

Enabling risk management through the development of investment strategies and creating a mechanism for discovering future trends in the futures and instant markets are opportunities that increase the entry of more investors into the capital market and include increase in liquidity, reducing transaction costs, and improving price discovery processes.

Derivatives are risky; the market will not grow if there is no risk is taken in the policy field. Development must be such that it does not harm other market segments. In this regard, the application of restrictions and legislation in times of crisis is one of the solutions that has been seen in this regard (Torbek, 1995).

These instruments also subconsciously involve speculative activities although speculation is part of the market and lending of different groups of investors with different degrees of risk-taking and risk aversion leads to market development. Increased risk, especially in OTCs, and increased financial system instability and price volatility are some of the other risks in derivatives that need to be addressed.

The history of stock derivatives in the current structured form in the world goes back to the commodity markets. The development of these instruments in international markets is due to the possibility of risk coverage. Gold coin futures trading is one of the most successful derivatives market transactions in our country. After that, this instrument was applied on various goods and continued until saffron, and thus achieved the next success with the red gold. Recent trades were also made on silver and gold fund futures.

The two main axes of success and failure indicators of derivatives are trading volume and contract length.

The most important challenge in commodity trading is the issue of pricing intervention and price sensitivity in the field of commodities. According to policy makers, the possibility of discovering prices, especially with derivatives for some non-essential goods, intensifies market sensitivities to some extent. The most important reason for this is the events that took place in the field of gold coin futures in 2018.

## **13. Conclusion**

Financial markets play an important role in economic growth. One of the most widely used instruments in these markets are derivatives whose value is derived from the price of their underlying assets such as commodity, currency, energy, money, and capital, in which the main asset transactions are not transferred, and its price performance is due to changes in the price of related goods. These instruments are considered as the most important risk management tools and are divided into specific future contracts, identical future contracts, options, swaps, and future contracts. The nature of the derivatives market is zero-sum game, and

the profit of one trader always means the loss of another trader. The speed and power of liquidity in this market is higher and less costly compared to the cash market and can be effective economically, reducing the cost of financing, increasing the return on assets, fast adjustment of the cash flow structure, tax evasion, changing fixed debt rates, and floating rate. Due to the legitimacy of the floating rate from the Islamic point of view, this instrument is common and used in Iran. Despite numerous challenges facing these instruments, solutions such as establishment of hedge funds and development of the debt market, developing subsidiary option, reviewing the relevant rules and regulations and developing it, designing and creating index funds, entering various OMSs into the future and options, setting minimum quotas for investing in these transactions in equity funds for the development of these instruments in the Iranian capital market.

#### **14. Suggestions**

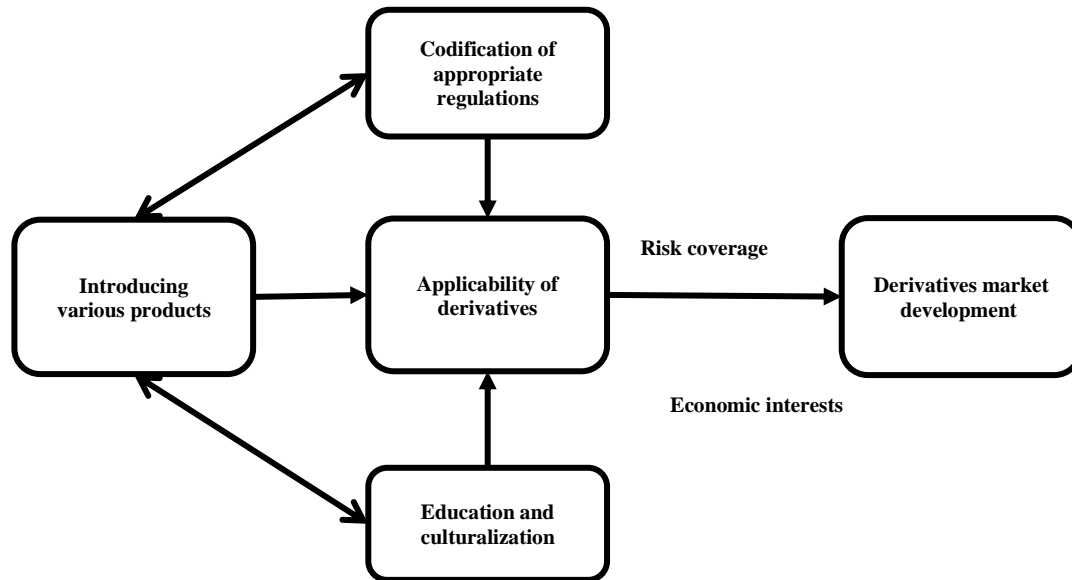
Derivatives make up a large part of the world financial markets; however, these instruments play a small role in our financial market, so that the variety and depth of their transactions in the market is small; on the other hand, most investors are not informed about the performance of derivatives. However, derivatives also have high risks and investors should be aware of them. The following solutions are presented regarding the development of the derivatives market and the challenges ahead.

- Risk hedge funds operate in the field of futures and options. Creating strong and powerful fixed income funds, it is possible to attract the attention of investors who did not have sufficient financial knowledge. Therefore, with the development of these funds, the debt market will also develop favorably. The derivatives market, whether commodity or stock, requires institutionalization first. In this regard, the Stock Exchange Organization intends to enter the hedge funds, which is one of the indirect investment instruments in the field of derivatives. Therefore, design and development, with a targeted approach to

attract long-term capital, are proposed for market development.

- Development of subordinate call option is another activity that the Stock Exchange Organization has done for the initial acquaintance of people with the space of option instruments. In recent years, the growth and development of the derivatives market and numerous proliferation of this instrument have made investors familiar with the concept of the derivatives market. At the moment, it seems that this market has reached sufficient maturity, and it is possible to move towards real options.
- Existing laws do not have the necessary efficiency to design new contracts, so another prerequisite for the development of the derivative market is the revision of laws and regulations.
- To design futures and options on different indices, index funds are needed. It is possible to design futures and options on these types of funds, which can be equivalent to index futures contracts. In this regard, a very good experience has been formed with the help of Iran Commodity Exchange, which is performing future contracts on gold fund units.
- The issue of entering different OMSs (online capital market service companies) into the field of futures and options is one of the topics raised in this field.
- Minimum quotas are determined for investing in futures and options in equity funds. Equity funds have not entered this field seriously, while the Stock Exchange Organization is ready to provide acceptable quotas for the minimum investments in the field of futures and options of securities with the existing risk assessment models.

According to the aforementioned discussions and suggestions and based on the findings of Parashar et al. (2018), the development model of derivatives in the Iranian capital market is presented as follows:



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## چالش‌ها و ضرورت توسعه مشتقات مالی در بازار مالی ایران

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### چکیده

بازار سرمایه یکی از ارکان مهم اقتصاد در کشور است. فعالان بازار سرمایه همواره به دنبال سرمایه‌گذاری با حداقل ریسک و یا کاهش و انتقال آن هستند. کاهش ریسک در مباحث سرمایه‌گذاری و مالی، با استفاده از روش‌های مدیریت ریسک صورت می‌گیرد و خطرات مالی در دنیای واقعی را به ریسک‌های قابل پیش‌بینی و کنترل تبدیل می‌کنند. ابزارهای مشتقه که از نوآوری‌های متخصصان امور مالی می‌باشند، یکی از مهم‌ترین ابزارهای مدیریت ریسک به شمار می‌روند و به این ترتیب نقش مهمی را در بازارهای مالی ایفا نموده‌اند و در بورس‌های مربوطه معامله می‌شوند. در این پژوهش به بررسی تحلیلی مفهوم کلی ابزارهای مشتقه، تاریخچه و انواع آن‌ها و نیز مزایا و معایب ابزارهای مشتقه پرداخته شد و در نهایت چالش‌های پیش‌رو و ضرورت و اهمیت آن‌ها در بازار مالی ایران مورد اشاره قرار گرفت.

### کلمات کلیدی

ابزارهای مشتقه، مدیریت ریسک، بازار سرمایه ایران.