

MUASIR DÖNEM İÇİN İSLAMİ YENİ PARA SİSTEMİNİN TEMELLERİ

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Tarihte para sistemleri mutad şekilde çökmüş ve yeni para sistemleri her zaman bir öncekinin kusurlu yönlerini tahsis etmek amaçlı ortaya çıkmıştır. Günümüzde de hâlihazırdaki para sisteminden kaynaklanan sorunlar iktisadi ve sosyal hayatta çöküşlere yol açmaktadır. Bu çalışmada mevcut para sisteminin kusurlu yönlerini düzeltmek için İslami bir çözüm önerisi sunulmuştur. Lisanslı depoculuk sistemi sayesinde paranın, tedarik zincirlerinden başlanarak üretime ve emeğe dayalı olarak yaratılma imkânı vardır. İslami açıdan uygun kripto para sistemiyle birlikte geliştirilecek elektronik depo sertifikaları da paranın çapası olma fonksiyonunu kolaylıkla yerine getirebilmektedir.

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FUNDAMENTALS OF NOVEL ISLAMIC MONETARY SYSTEM FOR THE CONTEMPORARY AGE

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ABSTRACT

Throughout history, monetary systems have repeatedly collapsed, and new systems have emerged to redress the failed flaws. The repercussions of the current monetary system give rise to collapses in modern economic and social life. This study aims to have an Islamic proposition to remedy the flaws of the modern monetary system. The money can be created based on production and work effort in the supply chain starting from a licensed warehousing system. It has been inferred that Electronic warehouse receipts of licensed warehouses can act as an anchor for an Islamic cryptocurrency system that can perform the functions of money readily.

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INTRODUCTION

The most important vehicle in establishing goods or services trade both in economic and social life is money. Not only is the value of goods and services based on it, but the barter process is also carried out through this system. Since money defines economic and social life, institutions and systems try to take it under control. Today, the supervision and control of the monetary system are carried out by central banks (Durmus, 2008). The monetary system is a way to keep the masses under control, and if the dominant power fails to maintain the system, social turmoil and political changes can occur. All social and economic systems have brought their monetary system.

In history, every monetary system – including the monetary systems based on precious metals – fulfilled the function of its specified time, and ultimately collapsed. The current monetary system, in which the central banks play an active role, emerged to eliminate the previously collapsed monetary system (Kovancilar, 2013). Today, it is clear that economic problems emerging from the current monetary system have caused chaos. In this sense, the current monetary system has faced questions. Alternative monetary system studies have been initiated to prevent a significant economic and social disaster since the economic problems emerging from the current monetary system have caused chaos (Gormus, 2016). Today, one of the main goals of central banks is to protect price stability through law. Such impositions have been dictated to states to protect the interest lobby, bond, and bond investments against inflation. In other words, the central banks have become an instrument of the interest lobby against the public interest. Through deposit banks, even the most distant individuals have been drawn into this trap. Unfortunately, in the Islamic world, participation banks have been in the leading position in this business.

For central banks, interest has become an essential tool to intervene in the market. The money should be used as fiat money, with its value on its primary purpose and acting as an intermediary in exchange transactions. The trading of money through interest causes excessive fluctuations in its value (Darici, 2009). While Islamic political movements and so-called religious communities that existed in the Islamic world quickly gained strength, the social collapse was inevitable. The fundamental reason for this can be shown as the desire for capitalist and communist systems and their structures, rather than the implementation of an economy and monetary system based on Islamic principles. As a result, the Islamic world went through a similar ordeal like the social

collapse caused by those systems. The prevailing political powers in the Islamic world adopted the method of turning society's attention to other parties by provoking notions such as *asabiyyah*, nationalism, *ummahism*, and sectarianism to cover up these problems (Gundogdu, 2019a).

Although the subject is significant, preliminary studies in the literature reveal the importance of this factor. In the literature, the issue was evaluated according to *fiqh*, and thus, a proposal with an Islamic solution could not be put forth. Durmus (2008) discusses the legitimacy of the foreign exchange transactions such as currency exchange, forward, futures, and swap transactions. According to *fiqh*, transactions are also examined, and evaluations are made whether these transactions are permissible in Islam or not. Within the context of money exchange, the history of money, its types, and functions are analyzed. On the other hand, the study mentioned above did not refer to the issues regarding money formation, the problems in today's monetary system, and the Islamic solution proposals for these problems.

Dogan (2018) introduces the types, features, and quality of money that has been used in the market since the time of the Prophet (PBUH). The article, then discusses the positive and negative sides of cryptocurrencies. Currently, there are severe debates regarding the types, technology, and legitimacy of cryptocurrencies. In terms of Islamic Law, it is clearly emphasized that deceit and deception occur in this connection during the circulation process of cryptocurrencies. Along with this, it is stated in the article that the crypto money system should not be excluded entirely from the solution proposal, and it is possible to circulate money indexed to a mine. In the case of Turkey, monetary system can be indexed to boron. As mentioned above, monetary systems like gold-silver, etc., which have a limited supply like boron mine, in history have been tried and collapsed. (Kovancilar, 2013).

Billah (2019) analyses cryptocurrencies in depth. The book includes academic articles titled as “Analysis of Cryptocurrency Based on *Maqasid al-Shari'ah*”, and “Social Financing Through Halal Cryptocurrency Management”. Money recording systems of the banks today have been shaped by centuries of experience and they are pretty substantive. In current cryptocurrencies, there is a relationship between speculative money creation and *gharar* (deception). In this case, there is no concrete existence against the produced money. It is emphasized that electronic money is suitable for use in Islamic terms; however, it is necessary to pay attention to Islamic contract rules. Buying and selling cryptocurrencies

alone and making payments, does not result in its being Islamically verifiable.

Gundogdu (2019), discusses how money should be issued according to Islamic principles in today's world, and how the state will regulate this process. It has been stated that the creation of Islamic money by producing products purchased from each other under the monitoring of the state is in accordance with Islamic rules. Producing money, in Islamic terms, with this method; a system is proposed in which the money supply increases with indexed labour trade and where banks and central banks do not have a say in this process.

MONEY CONCEPT FUNCTIONS AND TYPES

Money can be expressed as a standard measure of value and means of exchange adopted by a society. Money qualification can be possible with these two features (Ergin, 1972). Money should not be considered as a good in economic sense. The goods have to provide benefit. In other words, satisfaction is expected as a result of this benefit. However, money alone should not satisfy the needs of individuals. Benefits can be gained through transactions carried out via money. Here, too, the feature of money as a means of exchange, i.e. a vehicle, comes forth. The point where money benefits the individual is essential that it provides liquid purchasing power in the individual's hands. It ensures that individuals with cash have strength when purchasing goods or services (Orman, 1987).

The use of money in economic life can be seen long before the establishment of banks. It is known that there were credit transactions in the periods before money was not invented. In ancient times, people always left their goods in safe places, and entrust them to trustworthy people. Over time, this structure became secular and turned into the current banking model, and the concept of honesty in borrowing and lending disappeared. Also, it is known that religious institutions did not charge high rates of interest to those in need to whom they entrusted goods (Ergin, 1972). All kinds of interest is forbidden in the Quran. The Prophet Jesus (as) clashed with the clergy of the time and their religious institutions, who instrumentalized religion.

Functions of Money

The primary function of money can be listed as a means of payment, storing value, and a tool for economic policy. It is possible to use money

in a region only as a means of payment, without using it as a medium of exchange. When a person gives the money in their possession to another person without return, the money changes hands, but the exchange process does not occur. Thus, value transfer is made instead of transferring goods to the other party (Orman, 1987). If inflation is not taken into account, the present value of money should carry into the future. Commodities can be used as a medium of exchange but cannot be accumulated as a store of value (Orman, 1987). For a foreign currency to be substituted for that country's currency, it must have a value storage tool (Balaylar and Duygulu, 2004). Cryptocurrencies emerging today do not have this feature because there are excessive fluctuations and speculation in their values. Thus, instead of being a currency, this makes them a means of deception and gambling which are forbidden according to the Quran and Sunnah. In the current economic system, an attempt is made to direct the economic system by adjusting the money supply. Money is instrumental in all kinds of operations and policies. Today, central banks steer the economy with interest rates (Durmus, 2008). However, according to Islamic principles, it is not acceptable to use interest rates as a monetary policy tool.

Properties of Money

The basic properties of money are robustness, homogeneity and reliability. It also provides convenience in transportation and cannot be imitated, divisible, and scarce in supply. Just as goods must have a certain standard and durability in the market, money must have the same feature to ensure trust in trade (Orman, 1987). Electronic money applications strengthen these functions. As a result of the fluctuations created by international capital forces and the experience of financial crises, countries have turned to monopolised currencies. With this comes concern as money production is concentrated in a single authority (Tabak, 2002). In this respect, what countries need is the formation of an electronic currency free from speculation. Moreover, this can only be possible with reliable and robust government support.

The logistical possibilities of the barter in the economy are minimal. Thanks to money logistics ease is provided (Orman, 1987). *Suftece* (bills of exchange), which Muslims invented, refers to a document showing the debt to be preserved elsewhere. This was put forth to prevent problems and delays during the transfer of money (Durmus, 2008). In the Islamic monetary system, *Suftece* was used as a payment order or money order in the Abbasids (Inalcik, 2011). During the Ottoman Empire, large

amounts of taxes were collected in the tax farming system. Thus, bills of exchange were used like valuable documents as a solution to the transportation problem. Otherwise, when all the money was collected in the centre and redistributed to pay the debts, this process's transportation, distribution, and security costs were also revealed (Yilmaz, 2019).

For this reason, during the Ottoman period, bills of exchange and policies were used in trade (Zaim, 1989). With these terms of use, the exchange bill also performed the risk management function, which means it can also be used against negative situations that may arise during the transfer or storage of money (Demir, 2002). The disappearance of gharar (uncertainty) depends on the fact that the coins are the same in their group, and their value is clearly understood. To fulfil these conditions in the Islamic electronic money system, it is necessary to produce money due to exchange under strict trade rules and state control (Orman, 1987).

Barter, Exchange in Kind

Since money has not yet been used in shopping during the first age, trade was carried out through commodity exchange. Barter briefly means the payment of the price of a good with another good. In other words, it implies the exchange of goods (Haseni, 1996). In this way, people could meet their needs by exchanging their productions with someone else's. If we assume that there is no money in human life, it is impossible to carry out exchange transactions only by barter in an economic environment, where there are millions of goods and services. If we explain in mathematical terms, there would be $\frac{\pi(n-1)}{2}$ different price combinations. However, if the money is used, a price equal to $(n-1)$ is sufficient for shopping (Orman, 1987).

Another challenge in barter is the logistics and storage of goods. If a person produces more than their own needs and does not want to dispose of this production surplus and sell it immediately, they have to keep the storage goods. However, there are extra costs and risks of spoilage (Durmus, 2008). In this respect, today's advanced licensed warehousing business model can be proposed to solve these problems.

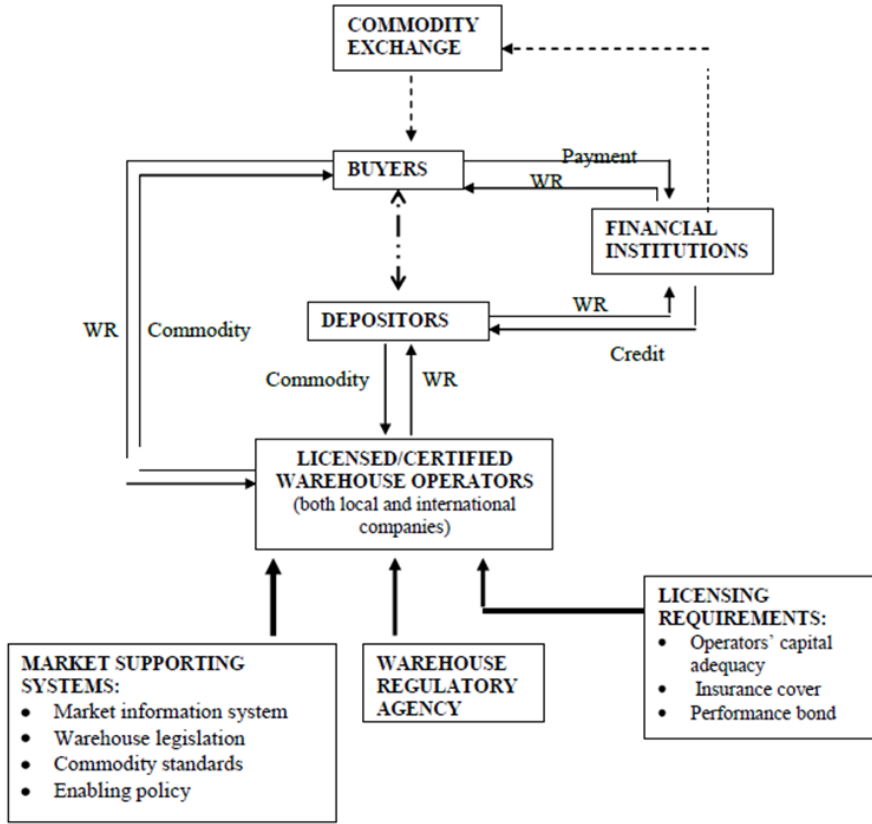
Licensed warehousing systems ensure that producers' products are protected in a healthy, safe, and insured manner. This system makes it possible to create products of a certain standard and quality in international trade, to bring producers and buyers together in a safe environment, and thus increase trade. There are various licensed

warehousing and agricultural product exchanges in our country, especially Anatolian Selcuklu Agricultural Products Licensed Warehousing in Konya (Memis and Keskin, 2015).

Currently licensed warehousing can be considered an alternative to the barter system's logistical and conservation difficulties for several reasons. Some of these are reliability, protection and measurement of agricultural products in healthy and accessible conditions, encouraging the producer to produce in terms of the requested quality and quantity, facilitating the purchase and sale by being categorised in the standards desired by the buyer, providing the producers with the opportunity to sell at any time, and providing cash management, transportation. It can also be considered a solution that can be provided by reducing other losses and reducing the informal economy, increasing the country's tax revenues, and contributing to the national income (Unal, 2011).

Figure 1 (Onumah, 2010) shows the workflow system in the product storage and sales process. According to this, the producer brings products to a licensed warehouse, the product is weighed, and a producer receipt is created. The product is examined in the laboratory and categorised according to its quality and properties. The licensed warehouse puts insurance on the product. Then, an Electronic Product Certificate is created that includes all these data. At this point, the manufacturer has two options. The first option is to buy the money by selling the product directly on the stock market. The second is to keep the warehouse product for more profit if there is no need for cash. Suppose the manufacturer needs cash but does not want to sell the product. In that case, it is still possible to keep the product in the warehouse and meet the cash requirement with credit by showing the bank's Electronic Product Certificate as a guarantee (Mizrak, 2012).

Figure 1: Licensed Warehouse Delivery System Example



Another difficulty of the barter is that it is not possible to forward sales. This difficulty can be eliminated by using cryptocurrency in the system. No problem will arise if the parties involved in the exchange simultaneously carry out the process, but if one of the parties wants to give the goods on another date, it becomes challenging to realise the term difference by barter. This is because the property may not carry the same value and features at a later time (Orman, 1987). Besides, it is possible to sell forward sales through an Islamic electronic platform.

Gundogdu (2016) examined this issue: The forward sale of goods valued with the licensed electronic warehouse certificate in this study can be a solution to the barter system's future sale problem. The producer receives the fee of their crop from the bank under the organized clearing system's supervision with the electronic warehouse certificate received in return for the delivered crop to the licensed warehouse. The buyer in the market

pays the money under the organized clearing system's supervision and receives the product from the licensed warehouse with the electronic depot certificate. When evaluated from the viewpoint of Maqasid al-Shari'ah, rural development can be achieved by using the funds in agriculture. In this system, it is also possible to fully operate Islamic finance rules, since sales consist of 100% physical sales. The producer will sell the product at a better price and solve the cash problem, and the warehouse system will increase the potential buyer of their crop. The buyer can plan the raw material cost, and if they do not want to buy the crop, the position can be closed by transferring the electronic certificate to someone else without physically requiring additional logistics.

Account Money

An account money system was created to solve the problems caused by barter. This system is more convenient than barter in shopping transactions, a common good is determined, and account money is made and stabilized in this market. All other goods are compared according to the account money. For example, let us take a product and call it A. In the exchange of goods B and C in the exchange, firstly, both goods' prices in terms of A are established. If both goods are equal at the same A value, an exchange takes place. With this, exchange difficulties are avoided, at least in terms of value (Orman, 1987). However, in this system, the division or logistics of goods based on account money creates a problem. The fact that the goods used as account money do not have the same features and forms cannot solve the main problem (Durmus, 2008). However, it can be divided using an electronic currency and an Islamic monetary system, where reference prices can be formed based on agricultural goods with homogeneous characteristics, can solve this problem.

Money Goods

Money goods is one of the first coins used in the market to facilitate shopping. Money goods, used as means of exchange, are popular in exchange for represented goods and their unique feature. Essentially, there should be a commodity accepted as a standard unit in society, regardless of shape. These goods tend to depend on located geography. For example, for rural areas animals, for coastal areas pearls, oysters, and equatorial regions hunting equipment are used for this purpose. Due to the increase in population in societies, division of labor and specialization, goods and money started to become insufficient over time. Hence, a

means of exchange was needed to meet the demands of larger societies and increased trade; thus, the use of coins —especially gold and silver— was used to meet this demand (Haseni, 1996).

Coins

Coins come in many varieties, but the most common ones are gold and silver coins. Coins previously functioned by weighing. Later, standard size and value coins started to be minted (Gozubenli, 1986). The money supply in the coin system causes economic stagnation due to the limited supply of precious metals, and this system manipulates societies in the control of mines and the occupation of other countries. It can be stated that human history consists mainly of blood wars in search of precious metals. In this respect, the monetary system based on precious metals Islamically constitutes the worst economic system.

Banknotes

With labor division, specialization, and the development of the population in societies, it has been revealed that gold and silver coins also have limited aspects. Primarily, many problems arose regarding the transportation and logistics of currencies. As a solution to these problems, individuals started to use the method of entrusting precious metal goods to trusted shopkeepers or moneychangers. On the other hand, they received a receipt, document, or check, on which the feature and amount of the mine were written, with moneychanger's seal. This was a practice based on the bilateral trust relationship between the mine's original owner and the moneychanger who took the entrusted. The mine owner was trading by buying goods from the market with the received receipt and presenting the receipt in return. Over time, moneychangers made many receipts of various amounts and types, making the trade easier. However, since this system was based on bilateral relations, the goods seller was not obliged to accept the other party's receipt as a means of payment (Orman, 1987).

Transition from Money Changing to Central Banking

In the past, trade has been carried out using different tools and intermediaries. As the labor division and the sense of sharing between people developed, trade has also increased. Because people living in different geographies required products that they could not have or could not grow. These developments also invented money. Money has always made progress from cash to virtual money in the historical process. The

biggest problem in the periods when money was physical was the issue of logistics. Only reliable moneychangers could solve this problem. In the past, reliable moneychangers only mediated the storage, transportation and transfer of money. Later, the Romans put their money-making business into a trade. At first, moneychangers, whose only role was being custodians, started to lend money at high or low-interest rates depending on whether the money was more or less in their location. In the Middle Ages, these moneychangers developed their business and exchanged each country's currency in their local trade centres, paid their debts and lent money. In other words, the moneychanger was like a bank with a limited function, both exchanging money and obtaining interest income by lending the surplus money as loans (Gucluay, 2001). Simultaneously, even these limited functions of moneychangers provided enough opportunity to be accepted as usurers. Moneychangers' work grew due to labor division and necessity developed in the medieval period; thus, money logistics began to pose a problem due to the increase in transactions. For this reason, moneychangers started to give their customers checks with the value representing the money entrusted to them. In the Ottoman period, these transactions were carried out under the name bill of exchange in the tax farming system.

After the First World War, the states that came out of the war needed money, which they could obtain from the Central Banks. However, the same trust problem was evident because of the large borrowing amount, and as a result of the rise in prices, the people who went to the bank with the banknotes in their hands could not get their return. Consequently, through enacting of a law, the commitment to keep coins in banknotes' profitability was removed, and the obligation to use paper money in debt payments was imposed. Thus, the relation between paper money and coins was cut off (Haseni, 1996).

CURRENT MONETARY SYSTEM AND THE FORMATION OF MONEY

The Bretton Woods System

In the period after the end of World War II, the international monetary system turned into chaos. Countries struggled to protect the value of their money. Germany made its money useless with its strict foreign exchange control, and thus, states that still tied their money in gold or pound began to have problems. From 1940, America and Britain tried to solve the monetary system problem (Serin, 1998). A system was needed to solve

the liquidity, external deficit and capital, speculative information, and trust issues experienced by the countries (Akdis, 2011). The IMF (International Monetary Fund) was established to solve these problems. Accordingly, each state would henceforth set a nominal value for its currency against the dollar or gold and set it at a 1% margin. Thus, a more stable foreign exchange regime was aimed. Funding to countries with current account deficits would be provided with the IMF's permission and the money of countries with current account surplus. In this regard, the most critical issue is that the US dollar will now be used as reserve money. This was because countries indexed their money to the US dollar, and an ounce of gold was fixed at 35 dollars (Akday, 2011). At that time, the American treasury kept approximately $\frac{3}{4}$ of the world's gold stock within its structure (Meltzer, 1991). Countries could buy gold in exchange for the excess dollars they had.

During this process, the US entered the Vietnam War, which was expensive. They spent a considerable amount to meet the financial burden of this war, which caused a current account deficit, and as a result, inflation in the US increased. Later, speculations increased, and countries started to demand gold by dropping the dollar. Initially, gold rose from 35 dollars an ounce to 38 dollars. Options determined against fluctuations have been weakened. However, with the USA's foreign trade deficit, the demand for gold continued.

Consequently, an ounce of gold rose to 42 dollars, and the Bretton Woods system collapsed in 1973. Countries have switched to floating exchange rate systems and forward exchange options markets have been established to guarantee exchange rates. In an unreliable economy, individuals and institutions prefer gold as a haven. As the US gave up the dollar system indexed to gold, the Bretton Woods system also collapsed.

Gold-Based Money System

It is unthinkable for gold, which has a limited capacity, to mediate the ever-growing world trade volume. States are obliged to print money and also reserve money. This means that there is not enough gold as much as the value of the printed money. In other words, the limited amount of gold is not in a position to meet the world trade volume, investments, and expenditures of countries (Aktan, Togay and Utkulu, 1998). It is not true that gold and silver, which are precious metals, are in circulation as money, no matter how much the production and division of labor increases. While precious metals (i.e., gold and silver) is in circulation in

the market as money, the trade volume does not grow after a certain point. Because the value of gold goes beyond the value of the product, it represents and becomes a commodity, which causes an increase in interest rates, and every increase, escalation in demand for gold, countries that own more gold and silver, on the other hand, become stronger. Countries have to adopt the method of exploiting other countries for more precious commodities and precious metals as state policy (Gundogdu, 2019a).

The lands known as Mexico today were included in the Spanish territory due to Hernan Cortes' attack on the Aztec Empire in 1521, and Mexico remained under Spanish colonization for 300 years. This is because neither religion, traditions, nor conscience could stand before Spain's gold demand from precious metals. As Hernan Cortes said "My companions and I suffer from a disease of the heart which can be cured only with gold" expresses the essence of the issue (Levy, 2009).

Central Banking

Fiat money and narrow money

The money produced by the Central bank refers to the narrow cash. Since the direct equivalent of the narrow money is the circulating banknotes and coins in the market, its effect on the real economy can be measured directly. Central banks allocate the money that they produce to the market through an interest mechanism. On the other hand, commercial banks in this system can also generate cash. The money created by commercial banks also constitutes registered money (Erdogan and Orhan, 2018). Banks make these loans available at interest rates. Through this practice, people who need financing borrow fiat money and are forced to pay interest at the same time. Such a burden on people is an explicit example of cruelty. The Holy Qur'an states that "taking riba despite its prohibition, and consuming people's wealth unjustly. We have prepared for the disbelievers among them a painful punishment" (Surah An-Nisa 4/161). As it is stated in Verse, interest is prohibited in the Qur'an, and it is also clearly stated that Allah Almighty has prepared a painful torment for those who behave in this way.

Central banks intervention in economic life

Central banks become involved in economic life by buying and selling gold or treasury bills through open market operations. In cases where the market is stagnant, or investment decreases, or the number of money decreases, state officials and the Central Bank prefer the market to revive.

For this purpose, the Central Bank increases the emission in return by purchasing treasury bills from the treasury, which means that it prints money. The critical point to be emphasized here is the treasury's willingness to borrow at low-interest rates. This is because they have to pay this debt with the debt they will receive later. Therefore, they do not want to borrow in return for high interest. The Central Bank's issues in the said acquisition can be summarised as being reliable and sound, being able to buy short and large amounts, and can be easily converted into cash when necessary. The most suitable securities with these conditions attract attention as treasury bills. After this acquisition by the central banks, recovery occurs in the market, and investments start increasing. Also, deposits are rising as banks produce more registered money. However, with these results, the fear of inflation also comes to the fore. Central banks may execute the reverse of the purchasing process, as mentioned above, this time to prevent inflation. Central Banks sell their treasury bills to previously determined big buyers (i.e., commercial banks, insurance companies) and receive a check in return. Since the buyer at the Central Bank is deducted with this check, the buyer bank lends less to the market as the money in the Central Bank decreases; thus, the amount of registered money produced is also reduced (Ergin, 1972). Bond issuance is purely a resource mobilization for governments. Banks share the savings and commodities of individuals with their burden of money and interest, while governments do the same through bonds.

The Formation of Money in a Modern Sense

In the past, money was issued by printing gold-based paper money, a type of precious metal, but today it is based on government debt securities. The market creates a demand for money so that trade can take place. The state, on the other hand, creates a demand for money for its expenditures. Central banks are the only institutions authorized to issue money. The central banks' privilege of printing money is expressed with the concept of seigniorage, which is realised with interest-bearing debt securities. Money is issued against debt, but it is not possible to print money for interest. The modern money production process takes place in the following stages:

- The state that needs money opens auctions for government-guaranteed Treasury bonds. These bonds are bought by the Central Bank and paid to the state by printing money in the amount written on it. The critical point here is that the printed money is only the

principal amount of the bond. Accordingly, no money is issued for the interest payment corresponding to the maturity portion. In this respect, the state will never be able to pay off this debt. To repay the government debt, it will re-issue treasury bonds and borrow again. As a result, a considerable debt bubble will occur, and assets will be priced accordingly. Also, the debate on halal haram in the financial system will remain idle, as money is created with interest even when created.

- The state, which receives money in return for the government bonds it issues, carries out public investments. Nowadays, since states can print and spend money without any deterrent constraints, the investments made are not questioned and are made arbitrarily. In this respect, tenders in assets are always given to close to the money creation mechanism. Thus, wealth is concentrated in certain people. This consequently causes deterioration in income distribution.
- The state will never pay its debt due to the arbitrary money being printed, so the budget deficits will not be closed. Afterward, the income distribution will not be fair, and grudges, hatred, and moral depressions will occur in other individuals except the state enriched. People will face heavy tax burdens, and ordinary and financial crimes will go outside the courts and cause deep social wounds.

Figure 2: The Relationship Between Government Debt and Money Supply

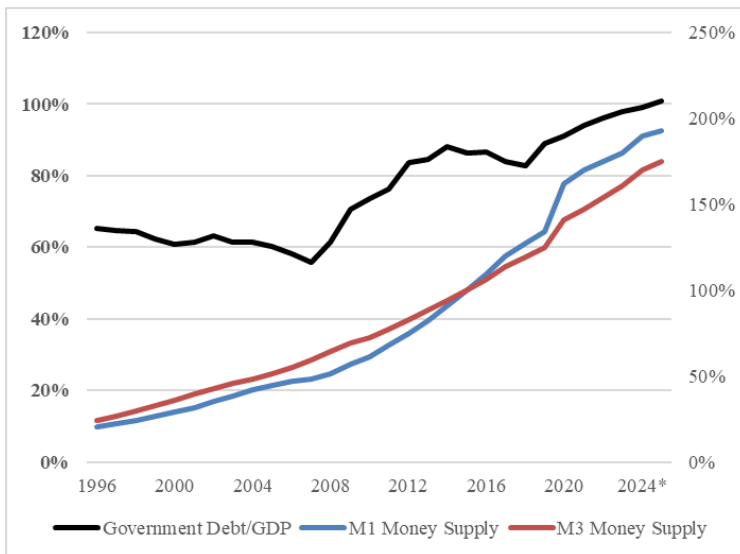


Figure 2 (OECD) shows the temporal trend of the relationship between public debt and money supply in OECD countries. As can be seen in the figure, public borrowing and money supply trends are in an increasing course with each other.

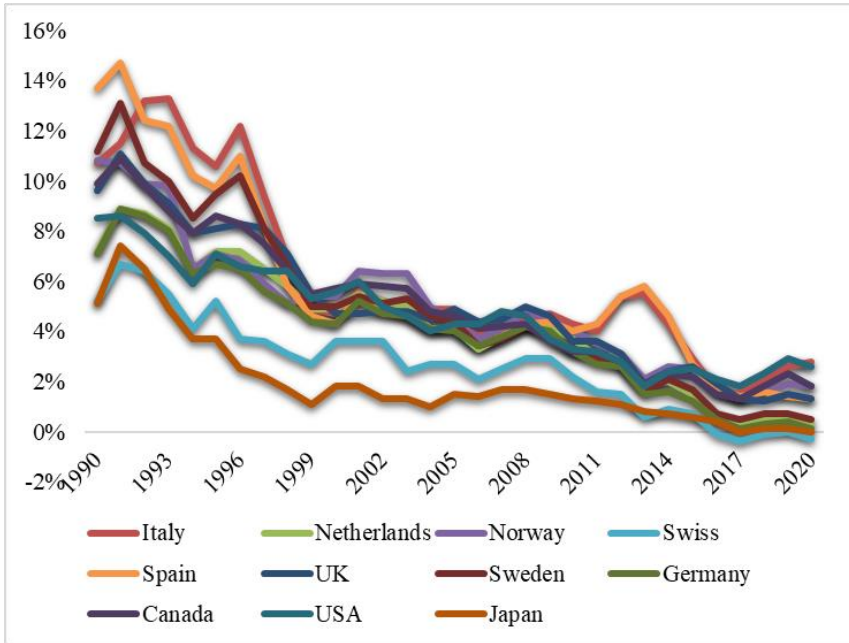
Negative Interest Rate as Alternative Monetary Policy

Many financial derivatives were used to reduce the fragility of the markets after the 2008 global economic crisis. On the other hand, Central banks adopted policies that consider both financial stability and price stability to overcome this fragility. Central banks had to consider these policies, especially in 2008, due to increased loan costs and the increase in uncertainties and borrowings in the economy. One of these is negative interest. This policy that has begun and continues to be implemented mainly in developing countries raises whether the policy is transitioning from an absolute politic towards a new monetary system (Unal and Yetiz, 2017). However, the negative interest rate policy will not be a solution to the current monetary system's shortcomings and negative aspects. It can even be said that negative interest will have even more negative effects on society.

Negative interest is applying the interest applied to the current accounts of banks in central banks at a lower rate than the inflation rate. In other words, the real interest rate is negative because the interest applied is positive but lower than the inflation rate. The purpose of the practice is to ensure that banks lend to the market instead of keeping their money in the central bank, thus reducing borrowing costs, realizing monetary expansion, increasing economic mobility, increasing consumption, and reducing the value of the domestic currency (Dedekoca, 2016).

Figure 3 shows the yield trend of the interest-bearing treasury bonds issued by the states for debt. As the figure indicates, treasury bonds yield curve that aim at the negative or low-interest policy is in a downward trend. It can be expected that the negative interest rates applied to make the public debt stock sustainable will cause a liquidity problem in the banking system by reducing the money supply, as well as creating a demographic effect by creating asset bubbles, the only way to get rid of this cancer is by euthanasia. As a result of the negative interest rate policy, the treasury bond yields decreases but their value increases.

Figure 3: Treasury Bonds Yield Curve (Source: Statbank.dk)



Negative interest rates, in a way, create an asset bubble (Gali, 2014). Besides, they cause an increase in unemployment and deterioration of society's demographic structure (Hulsmann, 2008). Subsequently, decreases in marriage and birth rates should be expected. People who have no income and cannot have assets have to postpone their plans. Also, the increase in the age of marriage or a decrease in the rate of birth and the number of children are among the results. This problem does not only concern Muslims but all humanity (Gundogdu, 2019a). Since the birth rate and the number of children in Muslim countries are higher, such a monetary policy will affect the Muslim countries the most.

THE CONCEPT OF MONEY IN ISLAM

In Islam, trade is encouraged for halal gain, and the economic life of the society is requested to be based on the production of goods and services, labor, mutual consent, and trade. In the Quran, it states "O you who believe! Do not devour your property among yourselves falsely, except that it be trading by your mutual consent; and do not kill your people; surely Allah is Merciful to you" (Surah An-Nisa 29). As stated in Verse, it is clear that there should be mutual consent in trade.

The Prophet (PBUH) sent one of his companions to Khaybar as a collector. That companion brought with him good quality dates on his return. The Prophet (PBUH) asked, "are all the dates in Khaybar like this?" He replied, "No, we get one scale of this for two scales and two scales for three scales". Upon this, the Prophet (PBUH) replies "Do not do this! Sell the date with less value for money. Then buy a good value date with that money" (Eser, 2015). In this hadith, the Prophet (PBUH) emphasises the use of money to prevent gharar during the exchange process. He (PBUH) states that the account money should be used even during the exchange, and recommends that the money be used only as a means of barter. As a result, in the new money system based on barter, which is used to reduce the demand for money, it is necessary for Islamic terms to use electronic money, which only acts as a means of exchange, to prevent gharar.

It can be said that today's economic and financial transactions have not been developed through a mutually consented trade. The lack of mutual consent is based on the interest generated against debt securities while money is being produced. On the other hand, interest-bearing bonds do not reflect the understanding of trade in Islam. For this reason, transactions and products based on speculation in today's monetary system are named as ZeroSum Game (Bayindir, 2015). Apart from the damage caused by the monetary system with this kind of speculation in the economic life, even the damage it causes to the society and the demographic structure of the society is almost a symbol of collapse. In other words, the current monetary system is damaging humanity. The Prophet (PBUH) desired to form a competitive and free trade, instead of a monopoly, and not interfere with prices. Price intervention causes problems in supplying goods to the market and inflation at prices, as well as the formation of black markets. As a result, the trade volume will decrease, hence there should be no intervention in the market prices. The Prophet (PBUH) prohibited the purchase of goods of the sellers who import them from outside the town before they enter into the market and asked producers to sell their goods in the most convenient method at fair prices (Tabakoglu, 2005). It is desired that the goods should enter into the market for the fair price formation. Fair price formation occurs in the market through the market competition and the balance of supply and demand. This constitutes one of the most basic principles of Islamic economic understanding. Before the goods reach the market, they should not be bought at lower prices from the manufacturer and sold at higher prices in the market, whereas the goods should not be purchased

wholesale cheaply in the same market and then sold at very high prices, and the goods should not be stocked with high price expectations (Ozel, 1996).

Considering the concept of money, which should be within the framework of the meaning assigned to money by the religion of Islam, money should be accepted by everyone as its main function is being a means of exchange and payment. In addition, the process of issuing money should not be monopolised, as it should be based on production and labor. It should only be available in the market as much as the goods and services produced, and it must maintain its value.

Crypto Money as an Alternative Monetary System

In today's search for a new money system, crypto money systems based on Blockchain technology are becoming popular. While examining past monetary systems' history, particular attention was given to the way money was created. Within the cryptocurrency system framework, the point of emphasis is how money is made in the system. In this context, according to Islamic understanding, money should be based on labor and production. Today's crypto coins are released to the market like an ornament. Apart from the lack of real work effort and production-based structure behind it, it is open to speculation, far from the truth, and based on complete deception (Gundogdu and Izhar, 2019b).

Cryptocurrency systems first began to appear in 2008, especially among payment systems technologies. It became quite popular because it could be an alternative money system to the current monetary system. However, the shaping of cryptocurrencies according to the technological innovations and people's inability to adapt to it quickly resulted in a minimal usage rate. From its first release in 2008 up until 2018, cryptocurrency circulation against other currencies remained at the level of 2% (Alpago, 2018).

Cryptocurrency refers to the electronic representation of a value that can be used as an alternative to money that has not been issued by a central bank or institution and organization (ECB, 2015). As can be understood from this definition, there is no central bank, institution, or state behind it. It is secured by passwords. With this password, it can only be traded or processed in digital media. The self-auditing digital system that offers secure protection and transfer without a wet signature is called Blockchain technology. Blockchain is a technology that allows all records to be stored in digital media by encrypting them. Although the

accounting registry system is seen as a general ledger, it is not a single-center system, and the records are available in all members as blockchains (Dogan, 2018). The above-mentioned exchange deed, which is the money transfer and registration system created by Muslims. The current record system is also a continuation of the exchange deed. The current financial record system challenged by blockchain is an adequate system developed for centuries with the help of different knowledge and experience that has been tried many times and is still being used safely. However, Blockchain technology is a false money technology system that does not have any legal basis and is unrelated to the current record system. While the current record system has reached its present position after years of knowledge and experience, using the blockchain system—which is philosophically defective—should be given a serious attention. The main features of cryptocurrencies can be listed as follows: it is not bound to a central authority, it is not connected to a central bank or institution, it has a distributed structure like the Blockchain technology, the amount to be requested or to be supplied can be determined (Ergun and Esenkaya, 2019).

In Islam, trade is encouraged for halal gain, in which deception and gharar or forbidden. In this context, determining what the good is, who the seller is, its price and type should be clearly stated in the contract, and mutual consent should be required. However, it is seen that these criteria do not prevail during the sales made by current cryptocurrencies. In other words, the information of the parties is kept confidential, which results in a gharar relationship.

Since cryptocurrencies will only be used electronically, they will be beneficial in recording the informal economy. Due to today's increasing costs and VAT type transaction taxes prohibited in Islam - individuals prefer to carry out trade in an informal environment. This will directly affect the payable tax and lack of information. Along with this, the circulation of Islamically appropriate cryptocurrencies will allow the informal economy to be prevented, and an effective taxation structure will be built (Dogan, 2018). Although the formal economy increase will constitute an effective tax system, taxes are not appropriate and are prohibited in Islam. However, in Islam, recording commercial activities in organized markets is recommended. The Prophet (PBUH) founded the Medina market for this reason and ordered that no tax was to be collected within the marketplace. In the modern world, the tax system causes an unfair distribution of income and puts a heavy burden on people

who are not close to the money creation mechanism. However, Islam prohibits tax collection and recommends facilitating and increasing trade in formal and transparent markets

How Should Money be in Islamic terms?

The issuance of money in Islam must begin with the production of the demanded product. As can be understood from here, the formation of money starts with trade. Until this part, the construction of money was realized without interest and following Islam. These monies, which are based on production, must have an exchange feature among themselves. This is because there will be various money and produced products; thus, this money needs an exchange system among themselves. This can only be possible through state control. Therefore, money in the amount of the product produced is created in an interest-free method. At the same time, usury and deception in the money-generating mechanism are eliminated. It is both comfortable and possible to control these transactions using the infrastructure of current cryptocurrency technology. However, the characteristics of the cryptocurrencies must also comply with Islamic rules.

Cryptocurrency should be accessible to everyone and have a universal micro-finance investment platform, regardless of their religion, language, race, sect, status, or nationality. Since cryptocurrencies are considered versatile, decision-makers and relevant authorities should observe principles such as transparency and trust while avoiding practices prohibited by Islam such as speculation, manipulation, fraud, and deception (Billah, 2019). According to the Islamic economic perspective, the monetary system should have the following characteristic (Gundogdu, 2019a):

- The monetary system should begin with trade, and money should be produced following the product in demand. In other words, money must be created according to the chain of needs, labor and production must be taken into account for the money issuance.
- Instead of speculation-based zero-sum games and unfair competition, money should be earned through labor and production, including added value, encouraging cooperation through trade, and leading work effort. People should only produce products that are demanded elsewhere for different reasons and make their own money. Also, state authorities should facilitate free access for the exchange of this money.

- Creating money should be done with Sharia-compliant interest-free contracts that facilitate trade, unlike current interest-bearing contracts such as treasury bonds. In this context, Murabaha contracts used in agricultural production are suitable for this purpose.
- The amount of money created must be by the value of the real goods and services available in the market. There should not be a difference between markets and finance and the real economy, which, like derivative instruments, involve interest, benefit. The cryptocurrency or any other money created should not be wholly independent and unrelated from the goods or services available in the market.
- The value of money and the goods or services it represents should never be affected or become the cause of inflation and asset inflation.
- Trade made with electronic money and the electronic clearing platform, the supply and demand of money as much as the daily trade volume should be provided with the platform. Binary-collusion trading should be avoided. If this does not happen, there will be a disjointed increase in money supply, and the market system will be disrupted.
- With the electronic exchange platform, the demand for money from daily shopping transactions should be reduced by the chain exchange mechanism.
- The policies and laws required to guarantee fair price formation in commercial markets should be implemented to provide confidence to the parties and the system.

If these needs are met, a monetary system based on labor and production can be founded, unlike the current banking system which is based on paper money and fractional reserve banking. Subsequently, interest-free financing systems, which are frequently mentioned today, can be implemented by abandoning the deposit banking business model that consumes partial reserve banking. In Islamic terms, the proper implementation of Islamic finance mechanisms in Sharia and Maqasid depends only on developing an Islamically appropriate monetary system. The financial system implemented in this way will contribute to the fair distribution of income in society, enabling people to lean towards production and earn as much as they work. As it is stated in the Quran "And that man can have nothing but what he strives for" (Surah An-Najm 53/39). As can be understood from the verse, people earn halal earnings as long as they produce and work with a monetary system based

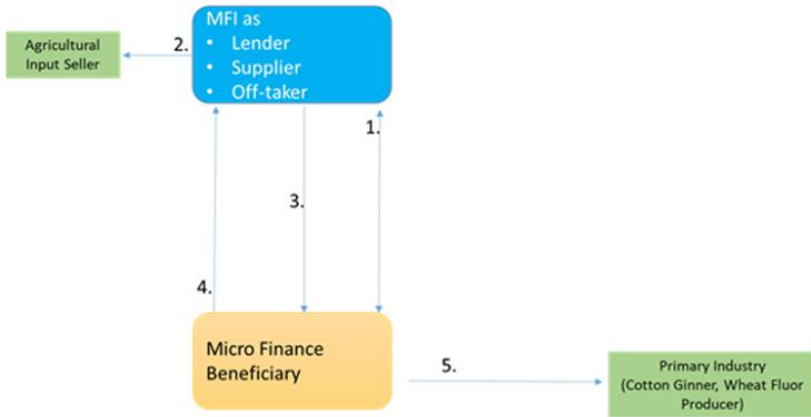
on labor and production. As can be understood from the verse, with a monetary system based on labour and production, people earn halal earnings as long as they produce and work. With the modern financial system, there is corruption in the society, and with the inflation of asset prices, the marriage and birth rates of young people decrease. However, with the monetary system that is compatible with Islam, which is based on labor and production, corruption in the society and speculation in asset prices can be prevented. The population will also increase with increasing birth rates, and the sustainable demand required for economic growth will be achieved. In Islam, any method of issuing money is not directly envisaged, but the prohibitions or what is allowed regarding the subject in question are clearly stated. The licensed warehousing system described above has the potential to provide a viable infrastructure for the Islamic money creation process. This system anticipates that the monetary system will start from supply chains and be fulfilled through Islamic microfinance contracts with farmers. Starting with this simple process, the model can be developed through the infrastructure of electronic warehouse receipts (e-WR) and licensed warehouses (LW). The electronic commerce platform can provide a significant role in developing international trade and facilitating commercial payments. With this model, a monetary system that emerges from the supply chain based on labor and production can be created, and the missing parts of the current system can be improved.

Figure 4 shows the structure of the recommended Islamic microfinance. With this structure, which also provides production input to farmers through Islamic finance contracts, a financing line is also offered to the Microfinance Institution (MFI) (Gundogdu, 2020).

In Figure 4, MFI goes beyond lending and is in supplier and buyer for farmers' harvest. In this way, MFI also provides suitable competition conditions for fragile farmers in the market. The currency of the contracts between farmers and MFI appears in an Islamic money creation system. To explain the workflow;

- MFI signs Islamic contracts (Murabaha, Musharaka or Mudaraba) over Islamic electronic currency (e-money [Ḍ]).
- According to the farmers' agreement, the MFI purchases 100 Ḍ worth of fertilizers and seeds from the agricultural products input vendor to act as a supplier.

Figure 4: Islamic Microfinance (Source: Gundogdu, 2020)



- If it is assumed that a Murabaha agreement is made between MFI and the farmers, MFI sells its agricultural inputs. For example, MFI sells the fertilizer or seed purchased for 100 ₺ at a fixed price and exchange rate to 106 ₺ to the farmers to be paid six months later.
- After six months, the farmers' harvest is 306 ₺. 106 ₺ is deducted, and the remaining 200 ₺ is credited to the farmer's account.
- MFI can sell the harvest it receives at 400 ₺ or the market price.

In this system, money was created in an Islamic way, based on labor and production. The money will be made with each MFI purchase, and this will be supported with reference prices. Also, e-money—which is accounted as a kind of money—holders will convert their money to other currencies through Islamic banks. Thus, the value of labor is also preserved. The system becomes widespread, and after the reference prices for all goods are formed on the electronic platform where harvest crops are sold, the connection of this account money with fiat money can be eliminated after a certain diffusion level by converting the fiat money held by the MFI into the metal commodity used as input in the industry. There is a need for an equivalent supported basket for e-money. The Islamic bank needs an entity worth 400 ₺. Because the value of e-money should be protected only by tying the traded commodities (Gundogdu, 2020)—with the additional financial services provided, such as current and investment accounts—the farmer in need of financing can be given loans, as the farmer's money can be converted into another currency;

hence the farmer can invest his money in specific Murabaha transactions or transfer it to another person. Through the development of the system, these needs can be met at an international level. Licensed storage services (Figure 1) should be provided to farmers to meet these needs.

In the figure, the farmers who bring the products to the licensed warehouses (LW) are informed about the type, quality, type and other features of the goods. An electronic warehouse certificate (e-WR) containing the qualifications is issued. The products purchased at the same time are insured in licensed warehouses. The farmer who delivers his products can immediately sell the crops on the stock exchange or hold them in licensed warehouses for later sale if they do not need the money. He can also give his electronic warehouse certificate to someone else in cash or use a loan by holding a guarantee in the bank. With today's crypto money system, it is possible to implement this more straightforwardly (Gundogdu, 2016).

While the crop in the field cannot be used in the Islamic money creation process since it does not have the quality of the goods, the specifications of the crops are determined in licensed laboratories and kept under certain storage conditions become goods. In a system where these qualities are proven with a deposit certificate (E-WR), it is possible to produce Islamic money based on labor and convert it to an international Islamic monetary system through international trade. Thus, problems caused by inflation, bond interest and exchange rates can be eliminated, and an economic contemplation plan can be established in the production and trade environment.

CONCLUSION

In Islam, money should be based on labor and production. The primary role of money is to facilitate trade, and this can be possible with electronic money. Thus, electronic money can provide solutions to the main problems of the current money system. What is more, thanks to electronic money, the informal economy will also be recorded, and trade will be ensured to be carried out in a healthy, transparent, and suitable platform.

A flawless monetary system has not been implemented throughout human history. The search for a new financial system may also be wrong, and it would be appropriate to question the issue in terms of Islam. This questioning should not only be limited to the point of being halal or haram. Islamic alternatives should also be put forward. Islam does not

envisage a perfect monetary system, but it reveals the rules to be followed and what can and cannot be done. Aside from discussing cryptocurrencies at the point of being halal or haram, it is possible to remedy the deficient or erroneous aspects in Maqasid with the licensed warehousing system we offer an alternative monetary system.

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AUTHORS’ PERCENTAGE-BASED CONTRIBUTION

The contributions of each author to the study by percentages are as follows:

The percentage-based contributions of the 1st author and 2nd author are 50% and 50%, respectively.

1st Author: Literature review, Data Analysis, Writing.

2nd Author: Evaluation of Research Significance, Research design, writing.

DECLARATION OF CONFLICTING INTERESTS

There is no financial or individual relationship with a person or an institution in the context of the study. Also, conflicting interests do not exist.

ETHICAL APPROVAL OF THE STUDY

All rules within the scope of “Instruction on Research and Publication Ethics for the Higher Education Institutions” were observed throughout the study. No actions mentioned in the Instruction's second chapter titled “Actions Against to Scientific Research and Publication Ethics” were taken in the study.