

ISCOIN'İN DİĞER YATIRIM ARAÇLARINA GÖRE KARŞILAŞTIRMALI GETİRİSİ

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ÖZ

Paranın tarihçesi, takas ekonomisinden, madeni para, kâğıt para, itibari para, elektronik para ve sanal paraya geçiş şeklinde bir seyir izlemiştir. Blockchain teknolojisinin yaygınlaşmasından sonra 2011 yılından sonra finansal piyasaların en tartışmasız kripto paraları Bitcoin, Ethereum ve Ripple olmuştur. Küresel finansal piyasalarda alternatif ödeme sistemi ve yeni rezerv para oluşturma arayışları devam ederken İslami finansal piyasalarda da benzer arayışların olduğu ve konunun çözüme kavuşturulması ihtiyacı bulunduğu görülmüştür. Bu makalede, İslam Kalkınma Bankası tarafından helal kripto para olarak tasarlanacak olan Islamic Coin'in (IsCoin) güvenilir bir ödeme aracı şeklinde fıkha uygun bir biçimde nasıl tasarlanması gerektiği ele alınmıştır. Bu çalışmada Türk Lirasının, doların, euronun mevduat faizleri, altın, Borsa İstanbul ve Nasdaq, Bitcoin, Ethereum ile IsCoin getirileri karşılaştırılmıştır. Sonuç olarak, IsCoin getirisinin TL, Euro, Dolar ve Borsa İstanbul'dan daha iyi getiri sağladığı kanıtlanmıştır. Söz konusu getiri altının getirisine yakın, ama Bitcoin ve Ethereum'dan daha düşük gerçekleşmiştir. Ancak, pek çok İslam alimi kripto paralara yatırım yapmayı yüksek volatilité, belirsizlik, cehalet barınması ve sistemin kamunun denetiminde olmaması nedeniyle İslami Finans ilkelerine aykırı görmektedir.

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THE COMPARISON RETURN OF ISCOIN WITH THE OTHER RETURN OF ALTERNATIVE INVESTMENT INSTRUMENTS

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ABSTRACT

The money has tracked a historical course from the barter economy, cash, fiat money, deposit, digital and crypto money. The widespread blockchain technology has managed to crypto money such as Bitcoin, Ripple and Ethereum being ubiquitous in financial markets after 2011. While the quest for new currencies and substitute payment systems in international economic markets have continued, it is observed that these progresses are appraised in terms of Islamic marketplaces, and a solution is needed in this area. Islamic Coin (IsCoin) was shown how the halal crypto money system has been designed with sharia compliance to current offers and suggests assurance in the markets as another payment system, which has been integrated by Islamic Development Banks (IDB). I comparatively examine Turkish Lira deposit interest, Euro and USD interest, Borsa Istanbul Stock Exchange (BIST), IsCoin, gold, NASDAQ, Bitcoin, and Ethereum return. This paper reveals that the return of the IsCoin is better than the return of Turkish Liras, Euro, USD Dollar, and BIST. However, the return of Bitcoin and Ethereum is better than IsCoin. Still, according to many Islamic scholars, these investment instruments have high volatility, and they have not accepted suitable investment tools due to sharia non-compliance risk.

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INTRODUCTION

With the increasing internet usage, computers, smartphones, and tablets, our daily life and financial habits are changing. Today, without going to a bank branch or automatic teller machine (ATM), many transactions such as money transfer, stock trading, foreign exchange buying, and selling, payment of invoices or computers, tablets and smartphones could carry out investment placement world (Çetin, 2020). With the acceleration of the search for reserve money, blockchain technology spread crypto money systems in financial markets in the last decade. The crypto money system has the advantage of reducing costs and making transactions faster. Therefore, it has attracted the attention of the countries, regulatory authorities, central banks, financial institutions, and private sector companies to take place in this area. The upright of the products and services formed by the financial technology (FinTech) companies, which emerged with the assembly of finance and technology and abbreviated the duration of financial transactions, is increasing day by day. Today, the acceptance of Bitcoin (BTC) and other cryptocurrencies as a payment instrument by many banks, financial institutions, and commercial institutions and their further extent shortly requires regulatory authorities to make legislation in this field. In addition, it is essential to make international regulations and establish standards for cryptocurrencies so that they are not the source of transactions such as money laundering, terrorist financing, and fraud. World trade and services volume declined to 12 % in 2020 and trade occurred to 17 trillion USD, and world service amount to 5 trillion USD after COVID-19. (Koopman et al., 2021, 11). The benefit of technological developments and the development of new business models reduce costs and enhance efficiency to increase world trade volume. The positive relationship between growth and trade volume brings up the discussion of new reserve currencies. In this context, crypto coins show a growth in the developments in trade volume around the world. There are many instruments for investors who want to invest in locally and globally. As far as it is known this article is the first publication to compare the return of Turkish Lira, Euro, and USD deposit interest, Borsa Istanbul stock exchange (BIST), IsCoin, gold, NASDAQ, Bitcoin, and Ethereum (Ether) altogether. After the introduction and literature review, in the third part of the article, I examined the evolution of money from the exchange economy to cryptocurrency. The reality of cryptocurrencies, the advantages and disadvantages of cryptocurrencies, and the regulations regarding cryptocurrencies have been discussed. The fourth part of the article, it was examined the evaluation of crypto coins in terms of Islamic law. In addition, I have designed Islamic Coin (IsCoin), such as a new cryptocurrency proposal

for Muslim countries' alternative payment systems. Before the conclusion, I compared the return of IsCoin and other alternative investment instruments.

LITERATURE REVIEW

Blockchain technology is a decentralized encryption registry that enables the transfer of valuable assets on the internet. The biggest problem is the lack of a central guarantor behind blockchain-based cryptocurrencies. According to investors, government and academic scholars blockchain technology has a power to transform the traditional global financial markets. (Carson et al., 2018) Financial technology, represented by smart contracts and blockchain, is one of the main challenges for conventional and Islamic businesses in the following ten years. A well-organized halal process gives opportunities for the purchaser to improve the halal supply chains and grow customer assurance in halal products. Halal blockchains offer some rewards for retailers, distributors, manufacturers, entrepreneurs, service providers, and halal certification forms for better trust (Emin et al., 2020). PayPal, which was established by Elon Musk in 1998, is a kind of online banking system that allows people to make secure purchases on the internet by associating the credit card, debit card, or bank account with the system it has established or to send money to the desired person at any time (PayPal, 2018). In an article written by Satoshi Nakamoto, he stated that money transfer is possible without the need for a central structure and any financial institution, in the case of digital signatures and peer-to-peer networks; it is possible to send electronic money directly to another party (Nakamoto, 2009). The largest cryptocurrency on the market is Bitcoin, which has a decentralized and mining-based structure. The yield of the existing bonds can be realized in very low amounts against the profits of cryptocurrencies. Likewise, losses in crypto money can cause people to lose all their savings and further deteriorate the resource distribution of developing countries. (Dinç, 2018). Thanks to smart contracts, every node in the network has the same meaning for everyone. Smart contracts enable companies to automate without human factors such as managers and boards of directors (Natarajan et al., 2017; 29). Due to distributed general ledger transactions and smart contracts, financial institutions can solve their financial needs reliably and effectively at a low fee, enable money transfer, and offer custody and instant payment services by using virtual wallets leading these currencies to become widespread in the near future (Pinna and Ruttenberg, 2016; 4-26). Blockchain technology also occupies an important place on the agenda of Turkish banks. Blockchain and financial technologies can be perceived as threats or as opportunities. If banks consider blockchain technology as a new financial technology opportunity and adapt, they can benefit from reducing costs and increasing profitability. (Ertugrul, H. M., Özüin, A. & Kartal, M. T., 2021). To have crypto money; is possible by mining, inheritance, purchasing

cryptocurrency, and accepting it as a gift or as a means of payment. Those who want to have crypto money can get a virtual wallet service or start transactions directly by creating their wallets (EBA, 2014; 13-14). According to the Vector Autoregressive (VAR) method, there are no important connections between Bitcoin, Gold, Ripple, Ethereum, and Brent Oil. However, cryptocurrency investment is riskier than Gold and Brent Oil investment; it may benefit investors to consider diversification for their portfolios. (Deniz & Teker, 2020). The Impact-Response based on the VAR analysis, it was not proved that USD, EUR and Bitcoin are alternative investment tools for each other. Bestowing on the results of VAR analysis based on Variance Decomposition, Euro and Bitcoin are primarily peripheral variables, and their prices are not ominously affected by USD (Ozyesil, 2019). It is claimed that crypto money such as Bitcoin and Ripple may constitute an effective instrument for further developing Islamic finance. Because of reducing financial intermediation and transferring money cheaper, blockchain technology may take the place of the conventional financial system shortly. Even though many of the crypto markets have cointegration with each other, only a few of them are surviving in vigorous competition, making regulations, and under cyber-attacks. (Aysan et al., 2021). Erkan et al. (2020) claimed that crypto money should be represented as goods and services to appraise commodities such as silver and gold and supported by the central government. In addition, this Money should be controlled by the Central Bank of Turkey and supported financial stability. Çetin (2020) had a study that was the first conducted in the field of cryptocurrency, which was the halal Islamic Coin in the world, designed by the Islamic Development Bank (IDB). IDB Sharia Board could create and supervise halal crypto money systems for Muslim countries.

THE EVOLUTION OF MONEY: FROM THE EXCHANGE ECONOMY TO CRYPTOCURRENCY

The history of the economy is based on the barter economy in which goods and services are exchanged. However, goods and services could not effectively be stocked, transported, and divided; a transition from the barter economy to a coin economy has been adopted. Metals such as copper, silver, and gold have begun to be used in commercial transactions due to facilitate commercial life. The fact that gold and silver have a low melting point, they could be processed and turned into coins easily, and using such as jewelry has made them the most preferred coins in the world. The coin system has evolved in time from cash to a representative money system. In the acting monetary system, banks and other financial players have required to hold gold or silver in return for the total value of the certificate amounts they issue. (Çarkacıoğlu, 2016; 2-4). However, the first stage was put into paper money circulation in China in the 1000s BC, which became widespread in the 20th century. Factors such as the

increase in human population, the explosion of commercial transactions, the inadequacy of precious metals and the cost of extracting these metals, and difficulties in the change of precious metals have caused states to switch from coins to a paper money economy. Paper money has functions such as being a value storage tool, acting as an exchange, easily transported and split, it allowed paper money to gain a widespread place in our daily life. Haber and Stornetta (1991) stated that it would be possible to share information and documents more reliably, effectively, and efficiently by taking the "hashes" of the papers without a wet signature. Nakamoto, who designed the Bitcoin network based on a specific algorithm in January 2009, was the first name that designed this system and won 50-gift Bitcoin (BTC). The smallest unit of Bitcoin, which could divide up to eight digits, is called "satoshis". (Üzer, 2017; 42). A virtual currency supply of 21 million determined by the BTC protocol will reach in 2140. Approximately 900 new Bitcoins are issued daily, and the total mining BTC reached over 19 million by May 2022. (Buy Bitcoin Worldwide, 2022). Countries, organizations, the public, or individuals cannot control distributed general ledgers. The architecture of unauthorized ledgers like Bitcoin, however, is not under the monopoly of a single person or organization and has a design infrastructure where everyone can download a copy or contribute to the ledgers. In the authorized ledgers system, somebody or a group of people can design the system. So that new registrations and additions can only be made by reliable system designer players such as the state or bank. (Walport, 2015; 17-19). In Ripple, Dollars, Euros, Yen, Gold, and airline miles can be transferred. In this system, there are independent authentication servers that work with the common ledger and are open to everyone. In money transfers, there are time and cost advantages. Due to these advantages, many international banks and financial institutions have started to use the Ripple system. Since there is no need for transaction clearing and central counterparty, the Ripple system is used by many banks such as Bank of America, Merrill Lynch, Standard Chartered, Unicredit, and Santander (Üzer, 2017; 48-52). While the supply of many virtual currencies such as Bitcoin, Litecoin, and Namecoin is fixed, the supply of some currencies as peercoin designed to allow an annual increase of 1%. In currencies like Ripple, the cryptocurrency supply is determined in the beginning. There are approximately 100 billion Ripple (XRP) in the market, 47,75 % of which are held by users, and the remaining 52,25% by Ripple Company in May 2022. Ethereum (ETH), another cryptocurrency, emerged in July 2015 with 60 million ETH. Although cryptocurrency issues in ETH at any time, BTC has an upper limit. While the average refreshing block in Bitcoin has taken 10 minutes, it has 12 seconds in ETH viewed as another advantage of this cryptocurrency. As of February 2018, there are approximately 17 million BTC and 97 million ETH in the market (Sehra et al., 2018; 17).

Transformation of the Monetary System

Considering the world's GDP as of 2021 is estimated at a total of 93,86 trillion US dollars, the share of the USA with the highest GDP in this pie is 24.15%, and the portion of the European Union countries in the second place is 22.18%. World trade volume has grown by 44% in the last 5 years and reached 27,5 trillion US Dollars. In the same period, world service exports reached 5.8 trillion USD (UNCTAD; 2022). Almost all of the world trade volume is between WTO members and 88% between Asian, European, and North American countries. The ten largest economies are controlled 53% of world trade (Koopman et al., 2021). Furthermore, eight Muslim countries that came together to develop economic, political and military cooperation among Muslim countries established D8 on June 15th, 1997. These countries are Turkey, Iran, Pakistan, Egypt, Bangladesh, Malaysia, Nigeria, and Indonesia. The realization of commercial transactions between Muslim countries in local currencies will contribute to the development of those countries. Today, the US dollar is used effectively in world trade and it is the most preferred reserve currency by countries. For this reason, international markets may be under the pressure of the dollar, and the FED's decisions can greatly affect the world markets. (Gündoğan, 2017; 13, 32, 134). The request to carry out business transactions in local currencies is limited beneficial. In this model, the quantities of the tradable transactions are based on the principle of depositing them in local currencies to the central banks and netting them by the balancing and clearing system for definite periods. In this model, the loss of real value in any of the country's currencies causes the other party to suffer. Another proposal is the issuance of oil-based cryptocurrencies by Venezuela. The statement that the oil-based virtual currency is in dollars may be beneficial to the United States of Amerika (USA) more than Venezuela. The advantage of the USA is the fact that the USD is dominant currency in the world, and the price of a barrel is determined by the USD. The proposal to make transactions in gold does not have a sound infrastructure. With the Great Depression, the British gold standard collapsed in 1931. In 1944, with Bretton Woods, the gold standard was brought back to the agenda and the national currencies were fixed to the dollar and revised to the US \$ 35 per ONS. The Bretton Woods monetary system collapsed in 1973 and the exchange rates of the country's currencies left to fluctuate against the dollar (Mishkin, 2000, 115; Gerdemesier, 2009, 17). There are major drawbacks of the gold money system; the high volatility of gold in the long term is that it can be used as a tool for speculation, the gold supply is limited, it carries a commodity risk and the gold ONS price is determined in dollar terms. For these reasons, gold cannot be the best solution to the world's dominant payment system. Nowadays, virtual money has started to be effective as a financial instrument in the financial system. The

issuance of crypto money systems by governments or international institutions and making international standards will reduce the regulatory arbitrage and increase the world trade volume. The first step of electronic payment accepted debit cards as loading money on cards and being able to buy fuel with this money, to prevent theft at gas stations in Europe in the 1980s (Griffith, 2014). Law on Payment and Security Settlement Systems, Payment Services, and Electronic Money Institutions was enacted in 2013 in Turkey. Although there is no specific regulation regarding the purchase and sale of cryptocurrencies by public institutions in Turkey, some platforms trade cryptocurrencies. (Webinar, 2021; 19). The Central Bank of the Republic of Turkey (CBRT) published the "Regulation on Not Using Crypto Assets in Payments in the Official Gazette dated April 16th, 2021. According to this regulation, payment and electronic money institutions cannot mediate platforms that offer trading, custody, transfer, issue crypto assets, or fund transfers from these platforms and cannot develop new business models in this context.

Advantages of Crypto Coins

Blockchain is based on the principle that a certain data structure is not kept in a single-center, but stored or sent through the digital chain in blocks through distributed ledgers. Since cryptographic and algorithmic methods have been used in blockchain technology, data on the same network is saved without being changed. (Natarajan et al., 2017; 2) Most of today's computers operate on a distributed general ledger basis. Many large companies and organizations worldwide prefer the distributed ledger method to perform their transactions faster, not to cause idle capacity, to continue their transactions reliably, and to obtain more storage space (Watternhofer, 2016; 1-3). Since there is no central authority in transactions using blockchain technology, some experts have stated that doing business in many areas will change. It is noted that blockchain technology will be used extensively in transactions such as central banking platforms, business development processes, local and international trade, healthcare, automotive ownership, and general election. If blockchain technology is applied in banking, it is estimated that the share of retail banking in the economy will decrease by 30% in the next ten years (Woodside et al., 2017; 8-75). According to World Bank reports, banks charge up to 8% commission and expense in small payments and remittance transfers. The distributed ledger method has become possible to perform secure money transfers without a wet signature and using the banking system. Instead of a single owner of the blockchain system, the network itself is the system's owner. Peer-to-peer (P2P) transactions from user to user through the network lead to the disappearance of intermediaries. One of the biggest advantages of the system is to reduce transaction costs by eliminating intermediaries with smart contracts signed between the parties on the blockchain. Those who want to

use the blockchain should only have a wallet. These wallets allow cryptocurrencies to be stored, transferred, or used in shopping (Popular Science, 2018). The Bitcoin network is designed as a node with open source code and stores data on personal computers without a central server. Thousands of networks included in the settlement network in the Bitcoin system can control without a central system. Each node sends and receives messages and local settlement takes place simultaneously. For this reason, it is not possible to send the wrong message to the protocol. The fact that all ends of the blocks are the same means that agreement is completed on those blocks (Watternhofer, 2016; 35-36, 79). Nevertheless, only the amount is open to everyone in money transfers, it is due to the principle of privacy that not known who performed these transactions (Nakamoto, 2009; 6). Security in the distributed ledger system is provided by crypto passwords. Since all members using blockchain technology can access the records, it is not possible to falsify transactions or hack the system. Because records are not collected in a single center, it is impossible to collapse all computers and systems in the world. Cryptographic hash functions, which are digital fingerprints, generate a number independent of the input. The hash code function is used to detect if any file, document, or contract has changed. Although the same output is always obtained with the same input, the output of two different inputs is never the same. In the classical banking system, customers share the operational cost of the system. Even if there is a demand deposit account, many banks collect a significant amount of money annually under the name of an account management fee. In addition, those who want to take a safe deposit box and keep their valuables accept certain costs. However, in virtual money technology, you can preserve your assets in a safe environment without incurring any costs such as account management or safe deposit fees. While the transfer cost for Bitcoin is about 1,5-2 USD with its current value, it is less than 1 cent on average in transactions made through the Ripple network. In the classical banking system, money transfers take 2-3 days, while this time takes 1 hour in Bitcoin and only 5-10 seconds in Ripple. For this reason, already a big part of the 50 largest banks in the world, and in Turkey, Akbank uses the Ripple system. Unlike Bitcoin, there is no mining process, since the supply of virtual money is predetermined in the Ripple system. After the transactions are verified and approved, the final registration takes place and the transactions become irreversible.

Disadvantages of Crypto Coins

With the spread of information and internet technologies, the importance of cryptology has increased in the last decade. In its public statement in December 2013, the European Banking Authority (EBA) stated that the public authority does not issue cryptocurrencies or central banks and those that carry unknown

risks (EBA, 2014; 4). The main risks of this system are the possibility of the code that works as a closed system to host a hidden door and the capture of the keys by others (Walport, 2015; 12). In addition to these risks, it is also possible for organizations providing digital wallet services to be attacked by cyberattacks. The hacking of Coincheck customers' accounts opened an account to buy, sell, and store cryptocurrency and lost 530 million dollars. (Inside, 2018). In addition, the organizer of Thodex's Faruk Fatih Ozer approximately cheated 400.000 persons and took \$2 billion of investors' funds in Turkey. Zhao, the founder of Binance, claimed that he invested \$ 1.6 billion in the LUNA cryptocurrency only a month ago, and the investment failed after the collapse of this cryptocurrency in May 2021. In reality, the fact that cryptocurrencies sent to wrong accounts cannot be returned and those who have a large amount of crypto money in their accounts have been physically attacked recently show that the system has a weak protection mechanism. In the case of computer loss, memory crash, or falling into the hands of bad users the investors might lose all their money. Due to some of the risks, the entire wealth may be lost if the wallet operator is fraudulent or hacked. Other criticisms such as the fact that the system has not yet completed its development, volatility is high and the falsifying money transfer cannot return. Another weakness of the system is that crypto money can use in transactions such as money laundering, defrauding small savers (Doğan, 2018), terrorist financing, betting, drug, and gambling, and cannot be taxed. Since there are no central banks and public authorities behind today's virtual currencies, the users of these currencies are limited. In virtual currency, the most significant cost element of mining is electricity. It is stated that the daily electricity consumption of miners operating in this field exceeded millions of dollars. Energy spent on BTC mining activities in many countries is more than household energy consumption.

Regulations on Cryptocurrencies

There are three approaches to cryptocurrencies in world applications. The first approach in which trading and mining of cryptocurrencies are prohibited by some governments. In the second type of countries, supervisors do not explicitly forbid or release, but only warn their citizens about the risks. In the last approach, the rest countries and governments regulate cryptocurrencies as an alternative currency and allow buying and selling such as trade (Abu-Bakar, 2018; 1-22). Such as the Central Bank of France, the Netherlands, Belgium, China, India, BRSA, Singapore, Malaysia, and Indonesia and many financial authorities stated that Bitcoin and virtual currencies are very risky, can be used in money laundering and terrorist financing, and do not have any state guarantees. On the other hand, the French Ministry of Finance has decided that income earned from virtual money transactions should be taxable. The

German Ministry of Economy stated that it evaluates Bitcoin as a measure and is accepted as private money that can be used for shopping or exchange platforms in the country. Although many European countries have no regulations on cryptocurrency, but Europe Union wants to establish digital currency within the following 4 years. (Güldal, 2017; 34-42). Economists state that cryptocurrencies can replace paper money soon. The governments of New Zealand, Israel, South Korea, Estonia, and the UK, as the Digital 5 (D5) countries, invest in using blockchain technology and control the possible damages to the system (Walport, 2015; 7). The Japanese Financial Authority implemented the first legal regulation on Bitcoin in 2017. Recently, the Central Banks of China, Canada, Sweden, Germany, Uruguay and England have started serious studies on virtual currency issuance and blockchain technology (Üzer, 2017; 100-102, 113, 114). While it is hard to discover a reliable legal methodology, the United States (US) remains to improve in developing cryptocurrency legislation. Cryptocurrency exchange service providers in the US must register Securities and Exchange Commission (SEC) and submit reports to the authorities. (Cryptocurrency Regulations around the World, 01.08.2020) The Estonian government has started to export the world's first official cryptocurrency, Escoin. The Chinese government states that cryptocurrency applications have been launched in four cities and will be used in the 2022 Winter Olympics. El Salvador, Sri Lanka, Venezuela, Panama, and the Central African Republic are the countries that officially recognize Bitcoin. After Covid 19, some financial authorities recently want to make new regulations worldwide or authorities are trying to create local cryptocurrencies. However, the issue of which jurisdiction should carry out the legislation, supervision, surveillance, and implementation activities in this issue has not yet been clarified. Cryptocurrencies might influence financial and capital markets, so financial authorities should define a specific framework for blockchain technology and cryptocurrencies. (Schinckus et al., 2021) Supervising and auditing authorities need to make in legislation urgently in two different areas called legal code and technical code. The legal code is a set of rules coming from legal obligations and consists of elements such as minimum capital requirement, liquidity management, and organization structure. The technical code consists of software, hardware, and protocols. There are some expected and unexpected risks in the design, implementation, and management of distributed ledger, and blockchain technologies. Legal infrastructure should be established in the world and in our country to reduce risks, minimize conflicts of interest among stakeholders, and control the system. In addition to central banks, multinational institutions such as the Islamic Development Bank (IDB), the International Monetary Fund (IMF), and the World Bank (WB) must play a leading role in this field.

CRYPTOCURRENCY PROPOSAL FOR ISLAMIC MARKETS: ISCOIN

Islamic religions regard trade as *halal* and *riba* (usury) as *haram*. It is permissible for the entrepreneur to purchase and sell goods or provide services, as it is a type of trade. Ways such as trade, inheritance, donation, and payment for services are legitimate transfer methods in Islam. In the Islamic religion, it is prohibited that goods and services change hands in illusory ways. In general, transactions, which are not prohibited in the Qur'an and Sunnah, are considered permissible. Despite the freedom brought by Islam to economic transactions, there are also some restrictive rules. In commercial transactions, the prohibition of interest, *garar*, seizure, *gabin*, and stocking ban and goods and services should not violate religious guidelines. Besides, the customer should know the quantity, price, and characteristics of the goods, and weighing should be done in full fairness, and the terms and conditions of the payment should make clear if the purchase and sale will be in the future. (AAOIFI, 2015, 41-87) The most important factor that distinguishes organizations working according to Islamic principles from conventional organizations is the asset-backed finance model. The most commonly used products in Islamic finance are *Murabaha* (cost-plus financing), *Musharaka* (capital partnership), *Mudaraba* (labor-capital partnership) *Ijara* (financial leasing), *Selem*, *Istisna'a*, and *Sukuk* (lease certificate) transactions. The Islamic crypto model should be based on *Maqasid al-Sharia* compliance. Qualified sharia board must screen Islamic crypto assets to be in harmony with Islamic principles. Thus, Islamic crypto-asset implementing, acting, supervising, auditing and all other activities are compliant with sharia rules. (Billah, 2021) It has become highly significant to export cryptocurrencies following Sharia Governance to spread Islamic finance in Muslim countries following ten years. The fact that governments and central banks are behind Islamic crypto money, the structure is designed in a simple, transparent, visible, and reliable way. Thus, usage in commercial payments and established easy settlements will increase the trust in this crypto money. In the cryptocurrency market, mining is the most significant factor in terms of cost. The inclusion of the Islamic Development Bank in the fiscal architectural design of Islamic crypto money and without the mining process will result in low charges.

Evaluation of Crypto Money in Terms of Islamic Law

Evaluating cryptocurrencies in terms of jurisprudence, the Palestine Fatwa Institution, the Egyptian Fatwa Institution, and the Supreme Board of Religious Affairs Turkey state that it is not permissible to buy and sell bitcoin and other cryptocurrencies. There are several reasons that cryptocurrencies traded in the market are not *halal*. Cryptocurrencies are not regarded as *halal*

for causing garar, gambling, fraud, excessive fluctuation in prices, being used as a method of drug, smuggling, and money laundering, not being used outside the internet, initiating unfair competition in trade, lack of government supervision and guarantees, waste of electricity (Kaya, 2017; 1-19). According to Islamic jurisprudence, attributing value to something is related to accepting crypto money as goods and property. There is no clear definition of goods in the Quran and Sunnah. According to some Islamic scholars, goods are merely the things seen, while others state that property can also include invisible things. If one thing is not precisely prohibited in Sharia is acceptable as halal. (Abu-Bakar, 2018; 5-6). Kaya (2017) claims that if cryptocurrencies are used to purchase goods or services, provide money functions, and are not used for smuggling, manipulation, money laundering, and illegitimate payment, they are halal and should pay zakat for revenue. As can be understood from the above explanations, it is possible to use cryptocurrencies if they are designed according to Sharia compliance, are not subject to speculation, or manipulation, are supported by state or internationally reputable organizations, and are used in areas where the religion of Islam permits. Blockchain technology has emerged intending to solve the problem of trust without an intermediary party in transactions made by parties that do not know each other. While the global blockchain technology market only was a few million USD in 2016, it reached \$ 5.9 billion in 2021 and is expected to increase its compound annual growth rate (CAGR) by 85% from 2022 to 2030. (Grand View Research, 2022) Although many initiatives have been carried out on blockchain and cryptocurrencies, it is unthinkable for IDB to remain irrelevant to these issues. For this reason, it would be appropriate for IDB to work on smart contracts based on blockchain technology to develop financial products under Islamic law.

Islamic Coin Proposal as an Alternative Payment System

Using local currencies in commercial transactions between some Muslim countries might reduce dollar dominance and increase the reputation of local currencies. It is indicated in the previous sections that the benefit of trading in local currencies is relatively limited, even if a currency based on gold or oil is selected in international commercial transactions, the prices of these commodities are largely determined by the USD. Thus, the design of "IsCoin" as a cryptocurrency has been proposed in this study to reduce dollar dominance in commercial transactions and to establish a fair trading environment. Such as Euro and special drawing rights (SDR), a basket called Islamic Coin (IsCoin) would be created as an internationally accepted currency. While setting up the IsCoin basket, the trade volume and GDPs of the countries are taken into consideration, besides the currencies of the four significant Muslim countries. The currencies in this basket are US Dollar, Euro, Chinese Yuan, British

Pound, Japanese Yen, Saudi Arabian Riyal, Turkish Lira, Indonesian Rupee, and Malaysian Ringgit. Besides, gold should be involved in the basket due to its high reliability, acceptance as an investment, and reserve currency by many governments. The final effect was calculated by multiplying the annual volatility of the currencies in the basket against the dollar by the determined percentages.

Table 1: IsCoin's Volatility Against the Dollar

No	IsCoin Basket	Volatility to Basket (3 Year)	Percentage (%)	Impact
1	Dollar (USD)	0	15%	0
2	Gold (AU)	7,74	25%	1,94
3	Euro (EUR)	5,82	15%	0,87
4	British Pound (GBP)	7,79	10%	0,78
5	Chinese Renminbi (RMB)	3,42	10%	0,34
6	Japanese Yen (JPY)	6,06	5%	0,30
7	Saudi Arabian Riyal (SAR)	0,51	5%	0,03
8	Turkish Lira (TRY)	26,06	5%	1,30
9	Indonesian Rupee (IDR)	6,61	5%	0,33
10	Malaysian Ringgit (MYR)	3,89	5%	0,19
			Total Impact	6,08

Source: <https://www.ratesfx.com/predictions/pred-usd.html>, 04.05.2022.
<https://vlab.stern.nyu.edu/analysis/VOL.RUB%3AFOREX-R.GJR-GARCH>, 04.05.2022

Volatility is the degree of change in the price of an asset. As could see from Table 1, the lowest volatile currency against the dollar in the last three years is the Saudi Arabian Riyal. On the other hand, the highest volatility currencies are the Turkish Lira, British Pound, and gold. In the original study, we consider the Russian Ruble with the five percent in the calculation of IsCoin. After Russia invaded Ukrainian territories, such as the Europe Union and the United States of Amerika (USA), many countries expelled the Ruble from the international monetary system. Of course, the volatility of the Russian currency is high, and for the same reasons, we prefer the Malaysian Ringgit instead of the Ruble. We prefer Malaysia as a critical Muslim country to develop Islamic finance in the region of far east Asia. Without considering the volatility impact of the Turkish Lira, the total other instrument volatility is a

bit over 4%. The low volatility means that the basket design is suitable and efficient. Since gold has a higher reputation than other currencies, its weight in the basket is determined to be 25%. The weighing of the US dollar and Euro in the basket are 15%, the portion of the Renminbi and British Pound is 10%, and the shares of other currencies are 5%. As of 2015, while 42% of international debt securities are in USD, 37% are in Euro, and 12% are in GBP, 85.6% of letter of credit transactions are in USD (IMF, 2015; 25-26). That is the reason why the higher weight of the US Dollar and Euro is determined; financial stability ensured, they have a high share in the world trade volume, interest rates and inflation are lower in the USA, Europe, Britain, and China. Cross rate and percentage, weight calculations of the currencies in the basket are demonstrated below.

Table 2: Current IsCoin Price (15 Nisan 2022)

No	Unit	Exchange Rate	Exchange Against The Dollar	Basket
1	0,001 ONS	1,9734	25%	0,49335
2	1 USD	1	15%	0,15
3	1 EUR	1,0812	15%	0,16218
4	1 GBP	1,308	10%	0,1308
5	1 RMB	0,1569513	10%	0,01569513
6	1 JPY	0,00790701	5%	0,000395351
7	1 SAR	0,2672	5%	0,01336
8	1 TRY	0,0684	5%	0,00342
9	1 IDR	0,00006972	5%	0,00000349
10	1 MYR*	0,23024	5%	0,011512
1 IsCoin				0,9807 USD

Source: <https://www.xe.com/currencyconverter/> 15.04.2022 daily exchange rates used.

* We prefer the Malaysian Ringgit instead of Russian Ruble after Russia invaded Ukraine.

According to the calculations, on April 15th 2022, the total value of the basket that is one IsCoin value is found 0.9692 USD. Instead of Russian Ruble to prefer Malaysian Ringgit, it is founded that the value of IsCoin is 0,9807 USD. We observed the value of the IsCoin in the last four years. If we established this coin in April 2018, and the value of the IsCoin was calculated as 0,782 USD. The value of IsCoin demonstrated with USD and Turkish Liras (TRY) for the last four years is in the below table.

Table 3: IsCoin Development Price (Period of April 2018- 2022)

Dates	1 IsCoin/USD	USD/TRY	1 IsCoin/TRY
18.04.2018	0,782	4,06	3,17
01.07.2019	0,831	5,82	4,84
30.09.2020	0,933	7,52	7,01
15.04.2022	0,981	14,71	14,43

Note: The earliest original IsCoin basket was calculated on 18 April 2018. Therefore, we could observe the IsCoin trend in the last four years on different dates randomly.

By 15 April 2022, the value of the IsCoins is appreciated 25% and reached 0,9807 USD compared to April 2018. The result demonstrated that IsCoin is a good basket for alternative payment and investment systems. Also, we calculated the value of IsCoin by Turkish Liras to calculate the return on investment. If somebody invested 3,170 TRY in April 2018, he increased his money by 14,430 TRY. To think about other financial investment instruments, we claim that the return investment in IsCoin is better than many other instruments. This instrument has earned 355% in the last four years by Turkish Liras. So, it is a good way for Turkish investors to protect their Turkish money depreciation against other foreign currencies. The value of the IsCoin basket is not under the control of any country, and the volatility is very low so the system balance is work-appropriate without high fluctuation. Despite the large instabilities in the gold ONS prices and Turkish Lira, the fluctuation in IsCoin was minimal. For these reasons mentioned, it should be accepted that the design of the IsCoin basket has a very effective weight distribution. Muslims who have a good financial situation in Islamic society have financial obligations such as zakat and charity. On the other hand, one of the assistance instruments recommended within the scope of the social responsibility project is the karz-i Hasan (good debt). Karz-i Hasan is the return of the loan amount given to a person in financial difficulties at the same value at the end of a definite term, without any expectation of interest or benefit. Some part of the income from IsCoin issuance and commissions in trading transactions should distribute to people in need within the scope of social responsibility projects. Such applications will increase the reputation of the system owner organization and its currency. IsCoin will play a significant role in improving the investment environment and enhancing trade volume. With IsCoin applications downloaded to smart devices, it will be easier to transfer money safely. The easy use of IsCoin in payments will eliminate the need for letters of credit and letters of guarantee, thus reducing financial intermediation costs.

Return of IsCoin and Other Alternative Investment Instruments

According to the classic approach, while money has functions of the transaction, exchange, and value storage in economic systems, Keynes expresses that money demand is formed with the motive of prudence and interest. Savers will prefer to keep the cash if interest rates are low and expect to rise in the future. (Keyder, 2002). Households, companies, government institutions, foreign actors, and other players appraise surplus funds in the financial markets to invest their money in instruments for interest or dividend income. (Çetin, 2018) Since gold is a common commodity and maintains its value against inflation in the long term, it is accepted as an important financial instrument and preferred especially in times of crisis. (Çelikdemir and Çetin, 2015; 11-32). Individuals have two options to spend their wealth today to buy goods and services or invest for the future. The first alternative to consuming their money is to buy tangible assets such as buildings, land, factories, machines, and commodities. The second investment way is to spend money on financial assets such as stocks, bonds, or derivatives instruments. (Bodie et al., 2011, 30). Since the borders of Muslim countries are geographically separate, and some of them have not yet formed their political unions, it is challenging to establish a single monetary system. Instead, to research the best solution for Islamic countries, the IsCoin may be accepted as the second-best solution for the crypto money system. By the time the IsCoin may be developed or find a better solution for the Islamic cryptocurrency design in the following years. The achievement of IsCoin is based on clarifying the structure technic and legal codes. If IDB supports the system, it will increase reliability, transparency and operate effectively and efficiently. In the crypto money system, we recommend building a model with all the functions of money. It seems more appropriate for Muslim countries to use IsCoin instead of their local currencies in commercial transactions in terms of both stability and fairness. Since the system designs the inclusion of control of public authorities, malicious people will be hindered by defrauding citizens. Initially, the total amount of "IsCoin" supplied in the market should be determined based on the trade volume between Islamic countries. Although designing this digital currency has little effect on countries' money supplies and monetary policies, it will contribute positively to the financial stability of these countries. Apart from foreign trade, IsCoin might be used in commercial and individual transactions. The most important task of the IDB is the economic development and social progress of Islamic countries. The design of IsCoin, a new cryptocurrency under the umbrella of IDB, will assign to this institution as a central bank for interest-free financial institutions. Thus, in addition to IDB's liquidity and monetary policy management responsibilities, it will also undertake duties such as issuing, monitoring, and managing cryptocurrencies.

International rating agencies such as Moody’s, Standard & Poor’s, Fitch, and The Islamic International Rating Agency (IIRA) give Islamic Development Bank the highest AAA rating, which means that this organization has a high reputation. IsCoin crypto money designed by IDB will increase usage of this money, the trade, and the confidence of Muslim countries between each other. I compared the IsCoin with TRY, EURO, and USD deposit interest rates, Nasdaq and Borsa Istanbul Stock Exchange return, gold return, Bitcoin (BTC), and Ethereum (Ether) return in the following table in the period between April 2018 and April 2022.

Table 4: Alternative Incomes of Various Investment Instruments

Date	TRY Deposit Interest*	Bist Return**	EURO Deposit Interest**	USD Deposit Interest**	IsCoin Return	Gold Return	Nasdaq Return	Bitcoin Return	Ethereum Return
Interest Yield /Return	80	133	3,41	8,76	25,4	43	97	227	386
Currency Adjusted Return	80	-36	217	263	355	402	653	1050	1610

* Turkish deposit interest return is only calculated by Turkish Liras.

** The return of BIST by Turkish Liras is 133% profit, but when we considered the USD currency there is 36% loss.

In the first line, the TRY interest yield is more than Euro, USD interest rate, BIST return, and gold return. Nominal returns analysis is insufficient to give better opportunities for the best investment instruments. To make an effective comparison, we should consider the real return of all the investment instruments. In the second line, we made a currency-adjusted return for all investment instruments by Turkish Liras. The return of deposit TRY interest and BIST returns are the lowest return among the investment instruments. EURO and USD deposit interest rates are significantly higher than the TRY interest rate and BIST return but lower than the return of IsCoin. If IsCoin established and invested in this instrument, it would benefit the investors more than the TRY, EURO, USD interest rate, and BIST return. Of course, this return is lower than Gold, Nasdaq, and other cryptocurrencies. The return of Bitcoin and Ethereum is higher than other investment instruments, but there is a doubt about this gain due to not sharia compliance. However, there was a big shock for many cryptocurrencies in the second week of May 2022. Suppose we compare the Ether and BTC between 2022, 5-12 May. We calculated the loss of 35% and 29%, respectively. Investment in these instruments is risky as gambling, and the investors may lose one-third of their money in a few days. One of the ten colossal crypto money, Terra (Luna), was issued crypto money

in January 2018. Even though the value of Luna increased from 4 dollars to 119 USD in the last ten months, May 11 crashed from 87 USD to zero. There are many reasons we explain above that many of the cryptocurrencies are not halal and sharia compliant. On the other hand, as it needs to develop in the following years the return of IsCoin is acceptable halal to many scholars. It is coherent with sharia compliance, and it makes a significant contribution to making an easy international payment system and investment tool.

CONCLUSION

With the advantage of reducing costs and making transactions faster, crypto money has attracted the attention of financial institutions, countries, regulatory authorities, central banks, and the private sector. It has been argued that local cryptocurrency, gold-based, and oil-based cryptocurrencies have limited benefits to the money market. In this article, an Islamic cryptocurrency is proposed as an alternative monetary system to use as a payment instrument in international commercial activities. The IsCoin basket is proposed as a crypto Islamic currency, consisting of gold, US dollar, Euro, British Pound, Chinese Yuan, Japanese Yen, Malaysian Ringgit, Turkish Lira, Saudi Arabian Riyal, and Indonesian Rupee. The issuance of Islamic Coin (IsCoin) will strengthen the commercial relations between Muslim countries and contribute to their growth. IsCoin designing will create the best alternative solution for problems caused by access to local currency in financing trade between Muslim countries that will use this money. Unlike Bitcoin, the amount of IsCoin could continuously increase without mining, based on the trade volume between Islamic countries, after a certain amount has been exported in advance. On the other hand, offering IsCoin is not directly affect countries' money supplies and monetary policies but contributes positively to the economic stability of countries. The Islamic Development Bank should issue IsCoin crypto money. Using some of the seigniorage revenues to obtain from the issuance of crypto-Islamic money for development or profit will contribute to the Bank's mission. Expanding IsCoin in commercial transactions will help the development of trade, economic development, and social progress in Muslim countries. Although the large fluctuations in Turkish Lira and gold in the last two years, the IsCoin basket fluctuated lesser. The value of the IsCoin basket in April 2018 founded 0,782 USD, and by the date of April 15th, 2022 the value of IsCoin appreciated more than 25% and reached 0,9807 USD. This result shows that the IsCoin basket has a very effective weight distribution, and it is an excellent alternative payment and investment instrument. To sum up, when we compare the return of IsCoin and other investment instruments, we find that its return is significantly more than TRY, EURO, and USD deposit interest rate and BIST return. Many Islamic scholars do not approve of buying, selling, and mining other cryptocurrencies because they may be used in

gambling, garar, speculation, manipulation, and money laundering. Of course, IDB Sharia Board should check and enable the halal system. IsCoin investment is less risky than other cryptocurrencies, and it is wholly sharia compliance revenue.

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AUTHORS' PERCENTAGE-BASED CONTRIBUTION

The contributions of the author to the study by percentages are as follows:
The percentage-based contributions of the author are %100 respectively.

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 Scientific Research and Publication Ethics” were taken in the study.

