

The Role of Islamic Crypto Currency in Supporting Economic Growth of Malaysia

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Abstract: The store of value function in monetary economics is crucial for the reliability and validity of financial activities. Usually, digital currency or crypto currencies both are influencing the world economy under the innovation of technology era, where as Islamic crypto currencies are just about to rolling on emerging economy. Hence, this paper is an attempt of the theoretical study on the role of Islamic crypto currency in supporting the economic growth of Malaysia. It highlights and discusses the issues on Islamic crypto currency specifically in the interest of financial institutions and economists with required prospective transformation from fiat currency. Accessibility, acceptance, security, regulation, and Shari-ah compliance of Islamic crypto currency are discussed based on contents from journal publications, online publications, books, news reports, seminars and workshops. The framework proposed in this study happened to be tested through empirical research in future. Recommendations for Muslim entrepreneurs are explained at the end of this paper.

Keywords: crypto currency, economy, growth, Malaysia, Shari-ah

1. Introduction

Usually, currency has taken one of the two forms: physical assets, like gold and silver, and fiat currency, like government-controlled paper and coins. There is another third category: digital currencies that run on a combination of game theory, economics, and cryptography – which is called crypto currency [1]. Game theory is the study of logical decision making which uses mathematical models and can be applied to economics, psychology, logic, computer science, distributed systems, and many more. The innovation of Bitcoin by Satoshi Nakamoto [2] and other digital currencies boost a wide range of crypto currencies like Litecoin, Monero, Ethereum, and so on. Many of these crypto currencies are classified as commodities. A commodity is a form of money which is also seen as having some form of intrinsic value. In the past this was included shells or animals [3]. But, in Islamic rules, the economic activity should be based on real, physical assets [4]. In the Muslim world, practicing Muslims do not invest in banking products that pay returns via interest. As a result, practicing Muslims do not consider Bitcoin, Ethereum, and other crypto currencies to be compliant with Islamic Shari-ah. Therefore, what we attempted to do in this article is to briefly discuss the background of crypto currency, followed by Islamic crypto currency, explored issues with traditional fiat currency from Islamic perspectives, and then argued that Islamic crypto currencies can solve many of the economic issues, making them preferred to “traditional” money.

The real problem of fiat currency started rising particularly after the end of Bretton woods agreement that used to hook the US currency to the price of Gold [5]. Since 1973, the issued fiat currency holds no intrinsic value. It was backed by the trust of the public in their government-ability to control its circulation for achieving economic stability and preventing high inflation causing the currency to devalue. That is why some Islamic scholars have advocated gold reserves for fiat to prevent inflation and also excessive risk [6]. Previous studies mostly ranging from theoretical papers and reviews were conducted on the concept of Blockchain and digital currencies. However, these two areas were not well researched due to lack of solid theoretical background from Islamic perspective. The research on Islamic crypto currency on the field of economic growth has a huge potential in providing a better alternative to current fiat currency which will be the scope of this article.

2. Literature review

2.1 What is crypto currency?

Currency is a medium of exchange and measurement of economic value. Crypto currency can be defined as “a digital asset that is constructed to function as a medium of exchange, premised on the technology of cryptography, to secure the transactional flow, as well as to control the creation of additional units of the currency” [7]. The accessibility and acceptance of crypto currency is widespread across regions. It introduced an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to

make transaction directly with each other without the need of a trusted third party [8]. This system solely depends on "Blockchain" which is a kind of Distributed Ledger Technology (DLT) that has been defined as a "distributed, shared, encrypted database that serves as an irreversible and incorruptible repository of information" [9]. A defining feature of a crypto currency is that; it is not issued by any central authority, making it theoretically protected from government interference or manipulation [10].

Transaction over internet depends exclusively on financial institutions acting as trusted third parties to process electronic payments. But, in crypto currency, it depends on three correlated elements, which are the users, the Blockchain and the miners [11]. Blockchain is the backbone of virtual currency. The backbone of this system is secured, decentralized and created by an individual known as Satoshi Nakamoto [12]. Here, transactions that are computationally impractical to reverse would protect sellers from fraud, and routine escrow mechanisms could easily be implemented to protect buyers [13]. Therefore, Blockchain consists of three main, complementary parts: a shared state, a set of rules for updating state via blocks and a trust model for time stamping [14]. Blockchain allows users to track record and verify all the transactions in network to ensure its validity and security. There are Proof of Stake (PoS) and Proof of Work (PoW) algorithms which are being used in crypto currency mining [15].

Blockchain is a decentralized database. Crypto currencies such as tokens can fit in this category since they not only can be traded, but they can also be used to build programs or applications into a Blockchain. In the case of Bitcoin, it is a cryptographic ledger shared among all the users on the network to verify transactions and add them to a block of other chained transactions to ensure the reliability of transactions and avoiding issues such as double spending [16]. But, the problem of virtual and digital currencies is that they cannot be considered as a legal tender by the monetary system which created several challenges such as its interaction with the real economy, protecting the consumer from any issues associated with these currencies and crimes and fraud that happened by using these currencies since it is not monitored or properly regulated by a suitable monetary system [17]. Moreover, Bitcoin transaction is classified as a transaction with high uncertainty [18].

2.2 Role of Islamic Crypto Currency

The main source of Islamic shari-ah is Al-Quran and As-Sunnah [18]. Hence, it might be a kind of opportunity to look after the potential of adapting these currencies and their respective payment technologies. Islamic crypto currency (ICC) must comply with the following Shari-ah requirements [5]:

- I. No elements of interest (*riba*);
- II. No elements of excessive risk (*gharar*); and,
- III. No elements of speculation or gambling (*maisir*);

In addition, ICC must be regulated by a central digital authority to provide a guarantee for safety, security and transparency to investors. Because of the very new nature of crypto currencies, there exists little discussion about the compatibility between such currencies and Islamic Sharia-ah. ICC can be of a substantial prospect to regulate it to a certain degree to protect the interest of the national economy. The advantage of Blockchain in digital currency can extend to developing a more transparent and secure payment system. The effectiveness and capability to be used by everyone made its application to be accessible by many unbanked individuals leading acceptance by more people to be included in the economic and financial activities. Henceforth, it is argued in this article that Crypto currencies based on Islamic Shari-ah could serve the world and the economy more than the concept of traditional paper money.

In the past decades, most of the literatures focused towards Gold as a better alternative to fiat money since few of functional alternatives are there to use. The monetary policy in Islamic Economy helps in achieving socio-economic goals [19]. According to Greco [20], the current monetary system is misleading to a wrong type of economic growth since it is uncontrollable and generating larger gap of power and wealth which is harming the lives of ordinary people. But, currency is not a type of commodity that can be traded and expect a return of it without engaging it in a productive activity [21]. It is believed that the current monetary system is using the wrong type of monetary instrument causing several issues in the economy. In fact, one of the major problems that crypto currency users point out with government controlled fiat (paper money) is that this paper money can continue to be printed, at little cost, by a state. This in turn will lead to inflation, given the continued addition of more and more paper money into the monetary system, thereby weakening the value of the currency. Other researchers believed that introducing an Islamic Gold Dinar (which is a gold currency) has no practical value since it cannot control the inflation level and may results a global individual uncertainty [22].

The focus on the topic of Gold comes mainly from several arguments that discuss the importance of gold and having a currency of intrinsic value and how it can prevent and keep the economic growth safe from crises and other issues like inflation. However, the issue of inflation is not a problem for maximum-supply

digital currencies. Maximum supply digital currencies are deflationary currencies; the total amount of coins/tokens is predetermined, and thus, no additional coins (outside of the specified maximum supply) can be created [23]. On the other side, crypto currencies are mined, and there is an expensive mining cost for crypto currencies [15]. Until this day, fiat money proved its inability to be a store of value which is one of the primary functions of money. Fiat currencies are getting counterfeited all over the world. This issue leads to questioning the ability of paper money to be considered secured and compatible to Islamic requirements in a currency. In addition to that, Islam recognizes only commodities with an intrinsic value as a currency such as gold and silver which paper money does not hold. Such attributes leading several scholars to deem it to be non-compliant to Shari-ah. Previous researchers discussed the effect of fiat money on the economy and the financial system leading to uncontrolled inflation and financial crises. Since the start of technological era, numerous innovations have changed the way we perceived things in the past.

In Dubai, a startup company has introduced OneGram coin (TABLE 1), a crypto currency that is backed by one of the world’s most stable assets: gold. OneGram is the first crypto currency that has been certified in compliance with Islamic Shari’ah (OneGram.org). It is intrinsically regulated by rules imposed on financial activities in the Islamic world. The value of this coin is backed by a physical gram of gold which is kept in a vault of a bank. This coin has been deemed acceptable under Islamic principles by Dubai-based al-Maali Consulting. A similar concept named HelloGold (TABLE 1) with gold being stored in a vault in Singapore was established in 2015 and headquartered in Kuala Lumpur, Malaysia (HelloGold.com). It was recently certified by Islamic Shari-ah and wants to launch into the Thai market very soon. Southeast Asia is an emerging market of Islamic crypto currency, with Malaysia and Indonesia being Muslim-majority countries. Both of these two currencies are based on Blockchain technology.

Table 1. Islamic Crypto Currency

Name of Islamic crypto currency	Token	Country of Origin	Market Capital	Backed By	Technology	Circulating Supply
OneGram coin	OGC	United Arab Emirates	516,616,745 USD	Gold	Blockchain	12,400,786 OGC
HelloGold	HGT	Malaysia	914,339 USD	Gold	Blockchain	263,034,654 HGT

2.3 Crypto currency and Economic Growth

Crypto currencies have grabbed the attention globally and it is a direct competitor of conventional fiat currency with an estimated shared market capitalization of USD \$133.23 billion and a daily turnover of USD \$3 billion [24]. INDUSTRY 4.0 is initiated by global economic leaders as the new challenge of world economy. Malaysia is one of the Asian countries have discussed Asian innovation opportunities in the Economist Events’ Innovation Summit 2017. Structured efforts are underway by Islamic Shari-ah advisory councils and national financial organizations in Malaysia to determine the architecture of Islamic crypto currency for trade, business and Islamic banking, and financial activities. In this article, the four variables accessibility, acceptance, security and regulation are adapted from the ecosystem of Bitcoin by Holdgaard [25] along with Islamic Shari-ah compliance variable to determine the impact measurement, emphasizing economic substance over legal form (Majallah art No. 3).

Crypto currency and Fiat currency are running on two different platforms, but the purpose of value is the same for the socio-economy to emerge [26]. A good measure of value means it is accepted, divisible, homogeneous, durable, mobile, rare and stable. Innovative computer technologies are testing the basics of the exceptionally managed financial area, prompting the rise of non-conventional instalment frameworks, shared cash trades and expanded turbulence in Crypto currency markets. These theories and frameworks evolved financial sector to new heights, called FinTech. “FinTech” or “Financial technology” involves the aim and freedom of financial products and services through technology [27]. It impacts banks, financial institutions, customers, regulators and businesses in different industries. Globally, financial institutions have shown eagerness by experimenting with Blockchain technologies to drive functional efficiencies towards previously unused markets [28]. Potential geographic markets in which digital currencies can be utilized to incorporate nations with less physical banks, yet high cell phone usage. For example, over half of the national GDP is utilized by a digital currency in Kenya [29]. Different nations that have encountered critical devaluation of their

national currency could take benefit by offering crypto currency in terms of moving cash-in and cash-out of the nation [29]. In Malaysia, there were eleven crypto currency exchange operating in 2017 [30]. In February 2017, the Malaysian government has come up with new legislation under the umbrella of regulation which placed check and balance system on the crypto currency. This legislation marked as the biggest history for the FinTech industry in Malaysia which reads as Anti-Money Laundering and Counter Financing of Terrorism (AML/CFT) was came to effect on 27 February 2018 [31]. The crypto currency exchange operators will require getting investor’s full name, address, date of birth and ID [32]. This is also applicable to any person offering services to exchange either form of conversion with digital and fiat money [33].

According to department of statistics, Malaysia, the economy grew 4.5 percent year-on-year in the second quarter of 2018, after a 5.4 percent development in the past three-month time frame and missing business sector agreement of 5.2 percent (Fig. 1). It was the weakest development rate since the final quarter of 2016, as net outer interest contributed contrarily to GDP development, while private utilization, venture, and government spending kept on expanding at a stronger pace. On a quarter-on-quarter basis, the GDP ascended by 0.3 percent in the second quarter, the littlest development since the main quarter of 2013. Gross domestic product Annual Growth Rate in Malaysia arrived at the midpoint of 4.80 percent from 2000 until 2018, achieving an untouched high of 10.30 percent in the principal quarter of 2010 and a record low of - 6.20 percent in the main quarter of 2009 (Fig. 1). With this low trend of economic growth rate and having a robust smart phone generation, the usage of crypto currencies based on Islamic Shari-ah principles will help to support the national economy.



Figure 1. Malaysia GDP annual growth rate from 2000 to 2018

3. Conceptual framework

Based on the literature review, a conceptual framework (Figure 2) has been designed. This framework emphasizes on economic growth as the dependent variable and Islamic crypto currency (ICC) as the independent variable. The relationship of accessibility, acceptance, security, regulation, and Shari-ah compliance with ICC has been placed to see the significance level.

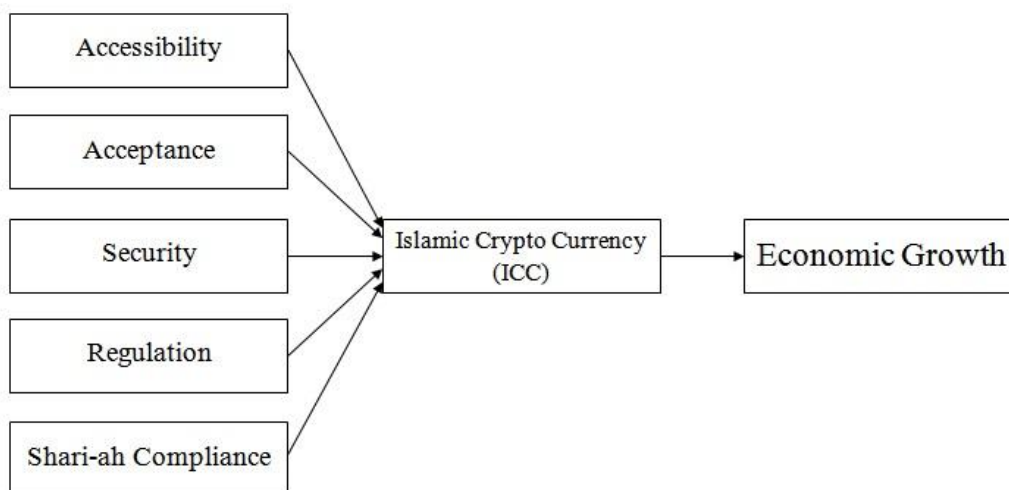


Figure 2. Framework built upon concepts

4. Recommendation & Conclusion

Malaysia is a culturally diverse nation with different race and different religions of people who "belief in God" being the national principle (Rukunegara). There are many core values having in the Islamic beliefs of the country, which are creditable. As a member of ASEAN (Association of Southeast Asian Nations), Malaysia can circulate an exclusive and single crypto currency based on Islamic Shari-ah principles in this region. In addition, Muslim entrepreneurs have profound duty on delivering Islamic prudence which will portraint a good image, so that other non-Muslims can follow. Literature review recommends us to develop and enhance the framework architecture for the crypto currency instead of traditional fiat currency. The transactions over Islamic crypto currency exchange in Dubai have a significant role in supporting their economy which can be followed in other countries. Islamic Shari'ah compliant Crypto currency can be feasible if and only if it is able to provide solutions to overcome the current vulnerabilities of Crypto currencies related to value creation and regulatory system. Gold-backed crypto currencies and payment systems with netting facilities and public regulatory systems are the best form of money for this age. The store of value function of money is a litmus test as to the validity of a monetary economics and in terms of the Maqasid al-Shari'ah, the protection of wealth (Hafiz al-mal). Islamic crypto currency can stands for globalization and can be a revolution in economic history if it is developed optimally with the store of value function with Islamic Shari-ah principles.

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