



## PRECIOUS METAL BACKED CRYPTOCURRENCY IN ISLAMIC FINANCE

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### Abstract

Scholars of Islamic Economics and Finance are increasingly exploring the suitability of digital monies in Shari'ah compliant transactions. This research looked at the suitability of precious metal-backed cryptocurrencies (PMC) that are expected to offer stability in the finance and banking space. The objective therefore is to provide justification that developing a gold backed and Shari'ah compliant cryptocurrency products is feasible. Literature research method was employed, and the major findings are: there is enough evidence that gold is accepted in financial markets as a hedge against inflation and stock crisis in the long run and as a safe haven in the short run; co-existence between commodity-backed and unbacked (fiat) currencies is feasible. The key recommendations are: development of gold-backed and Shari'ah compliant cryptocurrency products aimed to enhance portfolio qualities by securing assets investments against inflation, as well as establishing exchange rates and price level stability leading to real output growth; to encourage additional works that would seek to explore more opportunities in advancing the relevance of Shari'ah compliant financial products that are necessary complements to the workings of the PMC; finally, relevant issues critical to the long run stability of the Islamic finance market should be addressed, especially issue with regard to regulations, the payment and settlement issues, and auditing & transparency, among others. It is also anticipated that a precious metal backed cryptocurrency should offer alternative to mitigate currency volatility currently suffered by both conventional cryptocurrencies and regular fiat legal tenders. In this regard, therefore, it is recommended that further studies on the legal framework on deployment of precious metal backed cryptocurrencies need to be conducted.

**Keywords:** Cryptocurrency; gold standard; AAOIF; Shariah

### 1. Introduction

Cryptocurrencies are digital money actively used in online settlements that differ fundamentally from the conventional fiat money in two ways – they are free from any form of financial intermediation and they are without government involvement (in form of either backing or regulations). Transactions are instead validated through distributed ledger protocols on blockchain backbone. It is estimated that as at March 2020, over 5,100 different cryptocurrencies were operating with Bitcoin, the precursor of cryptocurrencies, having the largest share of the market (Congressional Research Service [CRS], 2020).

Bitcoin came into being as an alternative to conventional fiat monies that proved unable to curb financial erosion (through volatility and inflation) sequel to the 2008 financial crisis. Its



pseudonymous creator Satoshi Nakamoto hoped that a decentralized currency control on a distributed ledger technology would be the solution against economic turmoil. To ensure it never happens again, he limited the supply of Bitcoin, as well as ensuring a regulated speed of the coin mining.

Variant positive and negative issues are raised in the literature concerning the structure of the cryptocurrency. It is argued that it does not have a defined jurisdiction as well as a legal framework to qualify it as a legal tender. Nonetheless, it is seen as its advantage being removed from the tripartite manipulation, control, and influence of any government. The architecture of its blockchain operational base is further seen as a core advantage, which ensures transactions on a distributed ledger across numerous computers network that eliminates interventions of central authorities. More so, it eliminates intermediation costs and has the capacity to mitigate risks. The huge market acceptance of the cryptocurrencies is reflected in its market capitalisations between 2013 and 2020. The cumulative market capitalisations of cryptocurrencies in Billions were 10.62 (2013), 5.54 (2014), 7.09 (2015), 17.7 (2016), 566.26 (2017), 128.78 (2018), 237.1 (2019). As at Thursday, 28 May 2020 13:02:00 UTC, total market capitalisation has reached \$260,913,915,895 (Statista.com). Seen from the trend, until 2016 the total market capitalisation was below 18 billion U.S. dollars (with 2017 as an outlier), thence ushering a systematic growth trajectory between 2018 and 2020. These indices indicate an expected significant influence of the cryptos that should not be ignored.

It is, therefore, expected by many players across the globe (individuals, corporations, and financial institutions) that cryptocurrencies should curb the tide of the financial instability and forestall future financial crises and mitigate losses therefrom. However, the literature has shown that this is not the case as the volatility continued within the cryptocurrencies sub-market (Abubakar, et al., 2019; CRS, 2020). Even worst scenarios exist where the instability in the value of cryptocurrencies is eight times higher compared to the S&P 500, and up to 18 times higher when compared with the US dollar. For instance, cryptocurrencies have displayed various degrees of the tide in their respective values as evidenced by their values from 31st October 2017 to 26th October 2018 (Statista.com). This has primarily been because the cryptos like the conventional fiat currencies are without commodity backing (CSR, 2020).

Under the fiat standard where the money is not backed by any asset but by the authority of a government or debt, the system is prone to many socio-economic problems. In a condition of excess money supply caused by government expansionary monetary policies, it would lead to a decline in the value of money whose manifestation is inflation. As the cryptocurrencies are also susceptible to speculators and manipulators leading to significant fluctuations in their values, they are also susceptible to inflationary pressures. The crypto sub-market then needs to have commodity-backed products (precious metals being universally accepted) and Shari'ah compliant to make it more stable.

Precious metal-backed monetary system produces real money with intrinsic value that is not easily created like its fiat counterpart. Historically, the value of precious metals has remained stable preserving their values, as well as building trust in the market. However, physical precious metals are adjudged to be an inefficient medium of exchange but an efficient store of



value. Conversely, important characteristics of cryptocurrencies are they are an efficient medium of exchange but an inefficient store of value (Kiviat, 2015).

Thus, developing a cryptocurrency product that is backed by a precious metal should produce an efficient currency in both its functions of medium of exchange and store of value, two characteristics that are very central to curbing inflation and market volatility. The Shari'ah content is adjudged to eliminate speculations and other non-morally healthy transactions to enforce market stability. Such a currency becomes ideal for emerging markets, which in response to the 2008 financial crisis are desirous of owning a diversified portfolio of investments including gold component aimed at hedging volatile financial systems. It is worthy of note that gold is not only high in store of value but is a long-term inflation hedge and a safe haven in mitigating short term risks; and could debase the fiat currencies (Ajouz, *et al.*, 2019; Bayram, *et al.*, 2018; Huang, 2019).

Given the central importance of stable financial systems, there is therefore, a justified market need, as well as an increasing impetus of academic discourse on developing viable asset-backed cryptocurrencies. The main need to hold inflationary pressures in check and delimit financial market volatility favours prioritising the development of Islamic products. Already there are several studies conducted establishing the permissibility of cryptocurrencies in Islamic finance (Ahmed, *et al.*, 2018). More so, price stability (and by implication value of currencies) can only be guaranteed if the monetary authorities focus on the value of their currencies rather than the quantities in circulation, the cost of capital or general price levels. This condition emphasises the principle of Islamic economics in its theory of value.

In this regard, this paper attempted in providing evidence that developing precious metal-backed cryptocurrencies products in Islamic finance is feasible. It also presented applications of precious metal-backed cryptocurrency (PMC) as a potential game-changer in Islamic finance contracts (that traditionally are the prerogative of banks) and which are consistent with Shari'ah rulings, as a panacea to the speculative as well as unstable values of existing cryptocurrencies. To achieve this, a qualitative methodology was adopted where relevant literature was reviewed. And to the best of our knowledge, no research gives a justification for the feasibility of Shari'ah compliant asset-backed cryptos with evidence of Islamic contracts application. Ajouz, *et al.* (2019) attempted to directly develop a Shari'ah-compliant precious metal-backed cryptocurrency mechanism through suggesting a product development process. This is different from this research which is focused on establishing that a gold backed Shari'ah based crypto is indeed feasible and would enhance the acceptability of the currency in Islamic financial markets.

The remaining part of the paper is structured into the following Sections: Section II which presents a review of related literature including review of the context analysis of gold standard currency regimes, as well as discussion on gold activities in inflationary periods, and Shari'ah perspectives regarding conventional and Shari'ah compliant cryptocurrencies. Section III presents feasible areas of application of PMC and the key issue of PMC applications in Islamic finance contracts. This is followed by Section IV with the discussion of issues in the implementation of PMC as a hedge to currency depreciation in any form of economic slowdown. The paper ends with conclusion and recommendations in Section V.



## 2. Literature Review

### *Gold and its Hedge Characteristics Recognised in Islamic Finance*

Cryptocurrencies that are backed by precious metal are the representation in electronic form of the value of precious metal in its physical form that is securely held in vault. Users are therefore in a position to move around the electronic units with an advantage of capacity to purchase, dispose and hold, earn or spend, send as well as redeem it (Gold Money, 2017). Thus, the PMC value is always determined on the basis of the spot prices of gold and also silver daily. For a better justification of a precious metal backed cryptocurrencies, viewing its implementation issues and perspectives from the lens of Islamic finance, banking and insurance is essential. As noted by Islamic Finance Services Board [IFSB] (2019), the total value of the IFSI, has attained a record of USD 2.19 trillion in 2018. Interestingly, this improvement is noticed within the context of a global financial system that is plagued by decline in growth, rising debts at public and corporate levels among others.

Inflation as a monetary phenomenon in all its various manifestations (creeping, trotting, galloping, or hyperinflation) represents a sustained rise in the general price level. Whatever is the level of intensity, inflation affects people's standard of living and the stability of economies, in general. Unfortunately, the current modern forms of money (non-commodity money/fiat or paper money) in use are widely known for their unstable/inflationary attribute. In the views of Rab (2020), conditions were forcefully created (by capitalists who are champions of interest-based finance) for most countries around the world to keep gold standard aside. This led to a large scale depreciation of currency in 1914. The consequence of this is the ushering in of freely-floating fiat money that was delinked from gold which leads to massive inflation.

There are a number of research findings indicating that gold serves as an inflation hedge (Beckmann & Czudaj, 2013; Bampinas & Panagiotidis, 2015; Van Hoang, *et al.*, 2016). This remains so even in the current global practice of fiat monetary standards where gold is no longer recognised as money. That notwithstanding, gold still remains an acceptable durable commodity in the community of investors and researchers globally.

A major thematic area in studies on gold has been in its hedging ability, and interestingly bulk of the studies correlates the US CPI to gold market values in the world's first currency, the US Dollar. The quality of gold is in its money-like status strengthened by its relatively inelastic supply in the short run caused by its limited stock. Thus, unlike fiat money whose supply can vary at will, it is not possible to increase the supply of gold without opening fresh mines. This, therefore, give gold the characteristic of hard currency that enables it to hold its value while the purchasing powers of other currencies decrease in the face inflationary spiral.

The theoretical reasons why expected inflation has a relationship with stores of value like are based, *inter alia*, because gold's value cannot diminish through abrupt increases in supply as obtained with fiat currencies (Feldstein, 1980). Thus, an increase in expected inflation will require upward adjustment of the relative nominal interest rates. In response, rational investors would require rate of return on holding gold to increase, thereby pushing up the gold's price to compensate for rising interest rates.

There is also substitution effect channel where inflation expectations induce rational individuals to convert their current fixed income assets into gold. Consequently, this rational response



would push up the price of gold as a hedge to depreciating purchasing power of that currency due to inflation. Using the substitution effect and interest rate expectations, Fortune (1987) found that a positive relationship exists between prices of gold and expected inflation. Levin Montagnoli and Wright (2006) also reported that there is evidence that after the short run effects crawl into the long run trend, inflation in the US appears to be the sole determinant of the gold price.

Importantly, hedging is an active instrument of diversification of portfolio in the current highly dynamic and complex financial markets in reducing adverse price risks. Indeed, there are researches that posit a co-integration between the price of gold and consumer price index (CPI), thereby tending to a common long-term trend. In this sense, gold would present efficient store of value, hence a safe haven to partially enable investors hedge the inflation risk (Kumar, 2016).

The first level of gold as a hedge is its ability to hedge against crisis as investors turn to it in the face of uncertainties. Its strength in this regard is in its investment value of being a real asset instead of a debt. Hedging against inflation, hence, emanates partly due to gold's faster consumption of information on commodity prices than that of consumer prices. Furthermore, it has been established that gold has the durability, transportability and worldwide acceptability different from other commodities (Worthington and Pahlavani, 2007). In a study conducted by Adrangi, *et al.* (2003), it was found that there exists a positive relationship between gold prices and expected inflation, a finding that further confirms the effectiveness of gold as a hedging mechanism against inflation, both in the short run and long run. This is confirmed by Shakil, *et al.* (2017) in their study that gold serves as a useful portfolio hedge (hence against inflation) as it is not affected by CPI.

There are many studies suggesting a long run relationship between gold and inflation. For instance, Taylor (1998) has used monthly data over 2 sets of periods (1914 - 1937 and 1968 - 1996) to establish whether precious metals are inflation hedges over both the long and short run. The Johansen (1991) long run equilibrium co-integrating techniques established a relationship between gold and US CPI to exist in both the pre and post war periods.

#### *Cryptocurrency in Sharia Perspectives*

Cryptocurrency is neither a commodity money nor fiat money, as it represents a decentralized digital currency not within the ambit of any state authority regulation unlike commodity and fiat money. The conventional crypto currency lacks both physical form and intrinsic value as it is not redeemable in any form of asset, especially gold. Divergent opinions exist on permissibility of crypto currencies in *Shari'ah* as expressed by scholars. Broadly, there are two categories of opinion on this matter. The first category of scholars have declared crypto currency as permitted (*Halal*), while the second category have declared it as not permissible (*Haram*).

To begin, we note as stated in the Islamic Monetary Theory of Value (IMTV), that the unit of account which money serves should possess value or be backed by real value such as precious metal (Abdullah, 2016a). According to Abdullah (2016b), "a usury free monetary system based on a bi-metallic commodity standard can only reflect the quantity and quality of goods and services that a society produces. Money must have a counter-value (*'iwad*) that inherently reflects intrinsic value (by specie) as opposed to extrinsic value (by tale)." Furthermore, as mentioned by Abdullah (2016b), "central to the theory of money in Islam is that the stability of



the value of money (VM) is an indispensable objective of the Islamic monetary system, and this is derived from the Qur'an.”

Arguably, there is unanimity amongst Islamic scholars on the desirability of the attribute of intrinsic value of money (Abdullah, 2016; Kiyotaki and Wright, 1993). Thus the idea of gold and silver as money has not been heavily contested in general (or specifically in Islamic) history. In his work, Muhammad (2017) mentioned that bitcoin, popularly referred to as the king in the cryptocurrency family is neither intrinsic in value, nor with a physical form as it exists only in digital form. Its supply is also determined without any central banking control and is neither issued nor controlled by any company. Furthermore, when placed on the screen for Islamic law (*shari'ah*) permissibility such as its recognition as valuable, beneficial, identifiable, can be transferred and owned, bitcoin qualifies as a permissible thing barring its failure to scale through the screen of whether it is a commodity having intrinsic value. Specifically, for anything to be regarded as a commodity, it must have an intrinsic value that can be benefited from which bitcoin does not qualify. Hasan, Hassan and Aliyu (2020) discussed the literature on fintech, blockchain and Islamic finance concluding the efficacy of blockchain and fintech technology in Islamic finance industry. On the other hand, Hassan, Karim and Muneeza (2020) compare the bitcoin within the lense of Islamic commercial jurisprudence.

Furthermore, Imam Al-Gazali and Ibn Khaldun observed that gold and silver have reflected the value of goods and services, as such have possess the quality to serve as medium of exchange (Abdullah, 2016b:240). These scholars, therefore, showed that in Islamic monetary theory, the value and function of money are different from its conventional theory perspective. Consistent with this argument, thence, the theory of value which rests on the intrinsic value of money is the basis of the theory of money in Islam. As stated in the IMTV, for a unit of account to fulfil the role of money, it must have value or backed by a good with real value in the likes of precious metals (Abdullah, 2016b:237)

As mentioned earlier, precious metal backed cryptocurrency (PMC) is simply designed as an electronic reflection of a physical precious metal secured in a vault across the globe. In a like manner of the gold standard, the encrypted electronic units would continue to exchange for goods and services, as well as store value. Another characteristic of the cryptocurrencies is the blockchain distributed ledger technology that keeps an open record of every consummated transaction across the network. The technology enables tracking the currency's pathways right from its mining point through its multiple exchanges with absolute transparency and security.

The extent of the authenticity of the blockchain technology is embedded in its real time and published products, as detailed as capturing the serial numbers. This attribute makes blockchain consistent with the architecture of mining and refining of precious metals, as well as the distribution (Dorothal, 2017). To buttress this fact, James (2019) reported that currently there are not less than 62 companies that are promoting gold-backed cryptocurrency. More importantly, and relevant to this study, there are among these companies that are *Shari'ah*-compliant, such as HelloGold and OneGram Coin (HelloGold, 2018; OneGram, 2018).

However, as an opposing view, Ahmad and Hassan (2006) have opined that in Islam, money is not to be treated as a commodity having intrinsic value as commodities can have different qualities while money has strict qualities of being a measure of value and a medium of





exchange. Also, in the same vein, Asif (2018) belong to the group of proponents of the permissibility of cryptocurrency. He states that “the author believes that cryptocurrencies and tokens in themselves are Halal and further delves into separating the Shariah-compliant and non-Shariah compliant types.”

### **3. Islamic Finance Transactions and Precious Metal Backed Crypto Currency**

As the idea of cryptocurrencies backed by precious metals is relatively a work in progress, a conceptualisation of its application to Islamic financial transactions that are outside the purview of central banks as well as commercial banks, including sukuk transactions and capital market operations, as well as takaful is indeed compelling. With emerging fintech atmosphere serving as platform of cryptocurrency transactions, a proactive discourse on cryptos bearing on Islamic finance is imperative. Abubakar and Sofian (2018) are emphatic on the global relevance of fintech as a challenging technology cum cryptocurrency architecture that would empower firms to compete effectively in the 21st century.

#### *Cryptocurrency backed by Gold in Deposit Contract (Wadi'ah)*

According to the Accounting and Auditing Organisation for Islamic Financial Institutions (AAOIFI) *Shari'a* standard 57 (2016), gold can be deposited and be in the custody of a depository in trust. Thus it is not allowed for the deposit custodian to either utilise or dispose the deposits or to mix it with its own stock of gold or any other stock except there is clear allocation. However, in a situation where there is a clear permission from a gold depositor which thus allows for mixing up with other deposits, *Shari'a* rulings that govern joint ownership as outlined under item 3.5 of the *Shari'a* standard becomes applicable. Further to this as stated in (AAOIFI) *Shari'a* standard 57 (2016) under item 5/4/2, the depository is allowed to place a charge as fees to cover gold safe keeping, and which may be determined as a percentage of the gold value deposited or as a lump sum. AAOIFI *Shari'a* standard 57 (2016) recognises the use of gold as a collateral for loan, and which shall attract fees not exceeding the cost that is actually incurred for safekeeping service. Consequently, with this, an encrypted representation in crypto currency corresponding to the value of deposited gold/silver can be evolved. The principles of *wadi'ah yadulamanah* as they relate to obligations and liabilities in the case of losses of gold stock kept in custody are thus applicable to this transaction.

#### *Cryptocurrency backed by Gold in Ijarah Contracts*

On one hand, *Ijarah* as outlined by Abubakar, *et al.* (2019) is a form of transaction in which an asset owner usually the lessor gives possession of the asset to another party (lessee) in need, in consideration of receiving an agreed periodic payment as rent. There are two types of lease in Islamic finance which are financial and operating leases. In *fiqh almu'amalat*, the term *Ijarah* literally means “to give something on rent”. The *Ijarah* instrument is very flexible and it is used in two contexts; in the first it means “to employ the services of a person on wages as a consideration for his hired services.” Under this scheme, the employer is called ‘*mustajir*’ while the employee is called ‘*ajir*’. The second application of *Ijarah* relates to the usufruct of assets and properties instead of the labour services rendered. *Ijarah* in this sense means “to transfer the usufruct of a particular property to another person in exchange for a rent claimed from him.”

Gold as an asset can as well be the subject of rent as expressed in the AAOIFI *Shari'ah* standard no 57 on gold. It is allowed for gold to be leased as jewellery or as ingots as so long the corpus



of the asset leased is not to be consumed in the course of the lease period (AAOIFI *Shari'a* standard on Gold, 2016). Further to this is that the lease rentals could be structured to be consistent with either lease in advance or lease in arrears in case of an identified asset or it is *IjarahMawsufah Fi Zhimmah*. Furthermore, under item 5/3/2 of the standard, the purchase of the leased gold by a lessee is allowed but should be at an agreed spot price at the time of purchase. Furthermore, under item 5/3/3, it is allowed for rent to be paid in gold even where the asset on lease is gold.

Arising from the above, it is therefore feasible to denominate rental contracts involving rental payments such as agricultural machinery rent, shopping malls rent, payment for wages of workers, etc and are all veritable candidates for a crypto currency precious metal backed denominated transactions. This arrangement would be devoid of the tide seen in the value crypto currencies not backed by any asset.

#### *Cryptocurrency backed by Gold in Musharakah, Mudharabah and Wakalah Contracts*

AAOIFI standard, item 4/1 gives permission in use of gold as capital in *Musharakah* and *Mudharabah* on one hand, and in its use as *Wakalah* Investment under a *proviso*. The *proviso* is that the gold must be evaluated with the monetary value determined at the contract date, in the currency the capital is raised and to be mutually agreed by all the contracting parties.

The standard further stated that the valuation is necessary to establish the shares, capital and Investment of the partners in *Musharakah*, *Mudharabah* and *Wakalah*, respectively. However, the standard noted that if the desired valuation cannot be attained, then gold cannot be used as capital. Further to this as stated in item 4/2, parties are free to distribute the profit in gold only if it is to be determined at the current and subsisting market value of gold. Also as mentioned in 4/3, the parties can choose to redeem their capital in gold in liquidation of the business arrangement, provided it is at the current and subsisting market value of gold.

From the foregoing, encrypted values of the gold denominated in cryptocurrencies are feasible for the purpose of *mudaraba*, *musharaka* and *wakalah* transactions. The financier/financiers in the *mudaraba* or *musharaka* transactions thus hold cryptocurrencies for payments for commitments while simultaneously own gold and or silver precious metals.

#### *Cryptocurrency backed by Gold in the Contracts of Salam and Istisna'a*

In the words of Asif (2018), "in *Salam*, a future contract is permissible under certain conditions. This was allowed at the time of the Holy Prophet Muhammad PBUH because after the prohibition of *riba*, it was difficult for traders and small farmers to finance themselves. In order to solve this, *salam* was allowed which is a transaction where the seller agrees to sellgoods to the buyer on a future date but the buyer must make the full payment at the timeof the contract in order for the deal to be beneficial to the seller. The buyer benefits fromthis due to getting a lower price than the market price." The prophet SAW said: "When a man involves in *salam* and pays for goods to be delivered later, the parties should settle the weight and measure and date of delivery of goods".

In the context of the scope of this paper, we note that in the AAOIFI standard on gold, it has been stated in 5/2/1 that gold can be used as a capital in *salam*, provided that the tradable item of *salam* sale (*al-MuslamFehi*) is not gold, silver or any other currencies. Conversely, the





standard outlined that under 5/2/2, gold can be purchased through a *salam* contract, as long as the settlement capital of *salam* is not gold, silver or currencies. Accordingly, PMCs as capital of *salam* can easily conform to these standards when the subject matter of the *salam* sale contract is not gold, silver or other currencies. In the same manner, when delivery of the gold is attained in a situation where gold is purchased under *salam* for which the capital is not in gold, the owner can have cryptocurrency of equivalent value as his holding of gold at the end of the *salam* transaction.

For *Istisna'a*, Asif (2018) mentioned that *Istisna* also involves future contracts with some distinct features not applicable to *Salam*. Unlike in *salam* where both manufacturing and non-manufacturing are permissible, in an *Istisna* contract, the seller must strictly be a manufacturer. The second feature of precondition of advance payment in *salam* is not required in *istisna'a*. This means it is possible to cancel the contract before the seller commences the manufacturing activity. The third feature is that the time of delivery does not have to be fixed.

Accordingly, in item 5/2/3 in the AAOIFI standard, it is stated that an *istisna'a* contract can be consummated in gold, provided the price of *istisna'a* is not gold, silver or currencies. This means a PMC is applicable to settle an *istisna'a* contract. The PMC's added advantage over the fiat money or the conventional cryptocurrency is that it is expected to preserve the value of transaction over time as with direct gold. Cryptocurrencies are thus feasible for this type of transaction.

From the foregoing discussion, provided certain rules would be observed PMCs would be applicable in Islamic finance contracts as an alternative to the existing fiat currencies as follows:

If co-mingling in deposit of gold is given by the depositor in a *Wadi'ah* transaction, at time of loss or damage, the trustee will be responsible. A fee is allowed to be charged for keeping the gold deposits safe. Leasing (*Ijarah*) of gold as jewelry or ingots is allowed as long as the leased gold is not consumed during the lease tenure. In this case the rent could be paid in advance or in arrears whether the lease is a normal lease or a forward lease. In the case of *IjarahThumma al Bai'*, at the end of the lease contract, to buy the asset under the independent sale contract, the price of such transaction could be made using gold on spot. The payment of rent in the form of gold is allowed. In *Ijarah* of a service, wage payment can be made using gold.

For *Musharakah*, *Mudharabah* and *Investment Wakalah* transactions, gold would be seen as capital with pre-determined value at the beginning of the contract. If valuation is not feasible, using gold as capital is prohibited. Redemption of capital is allowed in gold or its market value then. If the subject matter in *Salam* is not gold, gold is permissible to back the cryptocurrency. It is permissible to enter into *Istisna'* contract provided gold or silver are not the currencies.

#### **4. Issues in the Implementation of Precious Metal Backed Crypto Currencies**

In a world experiencing a growing population including the Muslim population estimated at 1.7 billion, better ways of consummating transactions settlement that are Shari'ah compliant are needed. However, for a successful implementation of a *Shari'a* compliant precious metal backed cryptocurrency, a number of issues that revolve around its total operation are pertinent as they have bearing on Islamic finance services industry. At a broad level, relevant issues and



questions that merit the consideration of all stakeholders include: what applicable financial regulations issues relevant to a precious metal backed cryptocurrency arise, the payment and settlement issues, auditing and transparency matters related to the precious metal stock records activities. Other issues are *Shari'a* audit of articles of association, contracts, and products and so on, justice/equality in terms of usury free and uncertainty free contracts of exchange.

In respect of the PMC with regard to the current financial regulations for example, it was found that it is difficult for it to operate under the current regulatory conditions (Mullan, 2016). This is more so as a number of countries that are members of IMF, which disapprove return of gold standard in their domestic monetary matters. A panacea to this, however, is the recognition that in the era of financial technology, people having been compelled by mounting uncertainties in economic and financial atmosphere, now operate at levels outside the purview of regulations and central authorities. This is so as fintech has established regulatory independence in providing solutions that is advancing financial products as well as inclusiveness across markets and income groups (Firmanshyah & Anwar, 2018). Furthermore, as noted by Muedini (2018) in the face of difficulty in storing large amounts of gold stock, since doing that is associated with transportation difficulty, cryptocurrencies give power of control to the individual. Of course, similar concerns arise in the case of paper money. But with the advent of cryptocurrencies, any such concerns are avoided given that the currency is digital, storing large amounts no longer becomes an issue. Moreover, since there are private keys available to owners, only the real owner could access the money.

As further proposed by Billah (2018), a properly planned *Shari'a* compliant cryptocurrency shall be guided by ethical principles of its management at all levels and stakeholders – market players (advisors, operators, and facilitators) and regulators (decision makers). Such principles include honesty, transparency, rights, and obligations. Billah (2018) also mentions that *Shari'a* compliant cryptocurrency operations require participants with real-valued assets and producing real-valued goods and services.

## **5. Conclusion and Recommendations**

The work established that with the fiat standard actively dominating the market, coupled with cryptocurrencies that are not asset-backed, achieving currency stability even with availability Islamic products might be far-fetched. Even if asset -backed cryptocurrency products are introduced but not Sharī'ah compliant, speculation and Haram transactions would persist.

In general terms, the *modus operandi* of both conventional banking and cryptocurrency firms are observed to be similar with only differences in methodology. This shows that even though the cryptocurrency market operates without central control and regulations, there is safety in its networks and trust is derivable. In terms of product delivery mechanisms, both the conventional and the cryptos are ICT reliant and with electronic banking system, customers would not experience differentiated services.

These nearly unified conditions make the operation of the PMC to be feasible and near-seamless from the perspectives of both the operators and customers. It is expected that when these products are developed and fully deployed, the goal of a stable market would be actualised. It is noted that other countries have expressed readiness and willingness to have asset-backed currencies co-exist with existing fiat monies. For the Islamic product being proposed, the work



has shown how using the provisions in the AAOIFI standard on gold trading would make product development easy to address different contractual needs.

It is also pertinent to note that to successfully implement *Shari'ah* compliant precious metal-backed cryptocurrency, having complementary Islamic finance services is necessary. Besides, other relevant issues are important to consider with regard to the PMC, which include applicable financial regulations, the payment and settlement issues, auditing and transparency, *Shari'ah* audit of articles of association, contracts, the structure of the products, and so on.

Amid turbulent economic scene globally, and a heightened fear of crystallisation of the subsisting faulty monetary arrangements into another economic meltdown, an intense search for veritable alternatives is necessary. In this regard, the study proffer that the development of gold backed and *Shari'ah* compliant cryptocurrency products should be undertaken by stakeholders both from the academics and the finance industry. The developers should take cognizance of the AAOIFI standard on gold trading to make the products applicable in addressing different contractual needs. As opined in the body of the work, such products are expected to enhance portfolio qualities, secure assets investments against inflation, as well as stabilise exchange rates and price level to spur real economic growth.

There is the need to also encourage additional works that would seek to explore more opportunities in advancing the relevance of *Shari'ah* compliant financial products that are necessary complements to the workings of the PMC, alternatives to both insurance and capital markets.

As stated above, there are issues critical to the successful implementation of *Shari'ah* compliant precious metal-backed cryptocurrency. Efforts should be made to address within the short and medium terms to allow confidence to be developed by the market. Some of the relevant issues are - applicable financial regulations, the payment and settlement issues, auditing and transparency, *Shari'ah* audit of articles of association, contracts, the structure of the products, and so on.

This study is however is constrained with respect to its coverage of other segments in the Islamic Finance Industry which are the capital markets and insurance companies that are *Shari'ah* compliant. Accordingly, the study recommends additional works that would seek to explore the relevance of *Shari'ah* compliant cryptocurrencies to these segments of the Islamic financial services industry. The paper further recommends that for better management of the emerging trend, a proactive measure of standards development should be initiated by the International Islamic Liquidity Management Corporation, the Islamic Financial Services Board, and the International Islamic Financial Market that would address the application of cryptocurrency asset-backed holding and a payment mechanism in respect of capital market operations.

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