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Crypto Currency – Regulatory Challenges and Opportunities

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(2022)

Policy Paper, 2022

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Executive Summary

The changing world of technology is redesigning and reshaping the future of economies. The rate of change of disruption in Financial markets is faster than ever. The immense progress of Web 3.0, Machine Learning, NFTs, Artificial Intelligence, Metaverse and Block chain etc. has bypassed the geographical boundaries and opened up the world for unlimited opportunities and challenges. In this critical time of change, Pakistan needs to adopt a more progressive approach to become part of this technology driven world. For the first time in history, Pakistan has been ranked third on Chainalysis' 2021 Global Crypto Adoption Index and with the huge technology driven young population, the conventional systems (e-commerce, mobile wallets, app-based lending, mobile banking etc.) has already changed.

Now it's high time for the government to step up and create an ecosystem for new technology driven initiatives like block chain and crypto currencies. In order to create a conducive ecosystem for developing the cryptocurrencies, the three founding support pillars include technology, finance and political buy in. For this purpose, cohesive and well-integrated efforts are required for developing different segments of the ecosystem such as exchanges for trading of cryptocurrencies, lending platforms, analytical and informational tools, crypto BOTS and portfolio management tools etc.

A supportive and conducive regulatory framework should also be developed with the help of all the stakeholders and stress testing can be done through regulatory sand box before offering it to public. Venture capitalists can also play a critical role in supporting these initiatives, however, political buy in would be the key to make these efforts sustainable and successful. The fear factor for Cryptocurrencies is no more than any other technological change, but time has proved that all these fears fade away gradually and risks are compensated against the rewards.

Keywords: Web 3.0; Metaverse; Blockchain; Cryptocurrencies; Technology; Pakistan

1. Introduction

The concept of trading in human history started with barter system, in which goods and services were exchanged among two or more people. With the passage of time the barter system fell out of popular use, because of some flaws like people's requirements must coincide, lack of common measure of value or store of value etc. Due to these short falls, the concept of currency went through a few iterations: In 110 B.C., an official currency was minted; in A.D. 1250, gold-plated florins were introduced and used across Europe; and from 1600 to 1900, the paper currency gained widespread popularity and ended up being used around the world. The currency as we know today, includes paper currency (Pak Rs. US Dollar, British Pound etc.) plastic money (debit and credit cards), and digital wallets (Easy Paisa, Jazz Cash). All these currency related activities are controlled by banks and central banks, meaning that there is a centralized regulatory authority that manages its policies and operations.

With the emergence of World Wide Web, humanity took a giant leap in its history and like other fields of life, trading and commerce are no exceptions. The businesses jumped in the cyber space and so does the financial systems of the world, started moving from fiat money to digital currencies.

Cryptocurrencies have become increasingly popular over the past several years. [1] As of July 2022, there are 20,268 cryptocurrencies in existence. There are upwards of 300 million cryptocurrency users across the globe and approximately 18,000 businesses now accept a form of crypto as payment.

The acceptance by the governments of different countries is of utmost importance for the growth of cryptocurrencies. [2]El Salvador is the first country to adopt Bitcoin as official currency followed by Central African Republic (CAR) in 2022. The CAR's parliament passed a bill to legalize bitcoin and it will now be considered legal tender alongside the regional Central African CFA franc. [3]In another international development, Iran made its first official import order using cryptocurrency. This will enable Iran to circumvent the sanctions imposed by USA that have crippled its economy.

[4]According to international media reports more countries are likely to adopt crypto currencies as legal tender in 2022. deVere Group, one of the world's largest independent financial advisory, asset management and fintech organisations, is ultra-bullish in its predictions over adoption of crypto currencies as legal tender by different countries. Considering the similar circumstances faced by other countries the possibility of adopting crypto currencies as legal tender is increasing in countries like Panama, Paraguay, Guatemala, and Honduras.

Pakistan has a youth bulge of 65 per cent with rapid technology adoption in almost all the fields like education, health, social media marketing, trade and commerce, internet banking, mobile wallets, and financial markets etc. The recent pandemic of COVID 19 has considerably changed the use of internet in Pakistan. The development of Web 3.0 has changed the business landscape altogether and offered widespread opportunities to unleash the immense potential of internet. Although the pandemic of COVID 19 has adversely affected the world economies in terms of production and supply chain management, however, on the other hand it offered an unconventional opportunity to the business

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[1] CoinMarketCap, investing.com

[2] https://www.cnbc.com/2022/04/28/central-african-republic-adopts-bitcoin-as-legal-tender.html#:~:text=The%20Central%20African%20Republic%20has,the%20same%20step%20last%20year .

[3] https://www.reuters.com/business/finance/iran-makes-first-import-order-using-cryptocurrency-tasnim-2022-08-09/

[4] https://itbrief.co.nz/story/more-countries-to-adopt-bitcoin-as-legal-tender-in-2022-expert

world. The use of internet, which was previously, more commonly used for entertainment or social information sharing, has now turned into a big business opportunity. The interest in crypto currencies is on the rise in Pakistan and many overseas platforms like Binance, KuCoin, Crypto Blockfolio, OKeX, are the top cryptocurrency exchanges in Pakistan. [5]It is encouraging to note that for the first time in history, Pakistan has been ranked third on Chainalysis' 2021 Global Crypto Adoption Index.

The 2021 Global Crypto Adoption Index Top 10
The table below shows the top 10 countries in the 2021 Global Crypto Adoption Index.

Country	Index Score	Overall Index ranking
Vietnam	1.00	1
India	0.37	2
Pakistan	0.36	3
Ukraine	0.29	4
Kenya	0.28	5
Nigeria	0.26	6
Venezuela	0.25	7
United States	0.22	8
Togo	0.19	9
Argentina	0.19	10

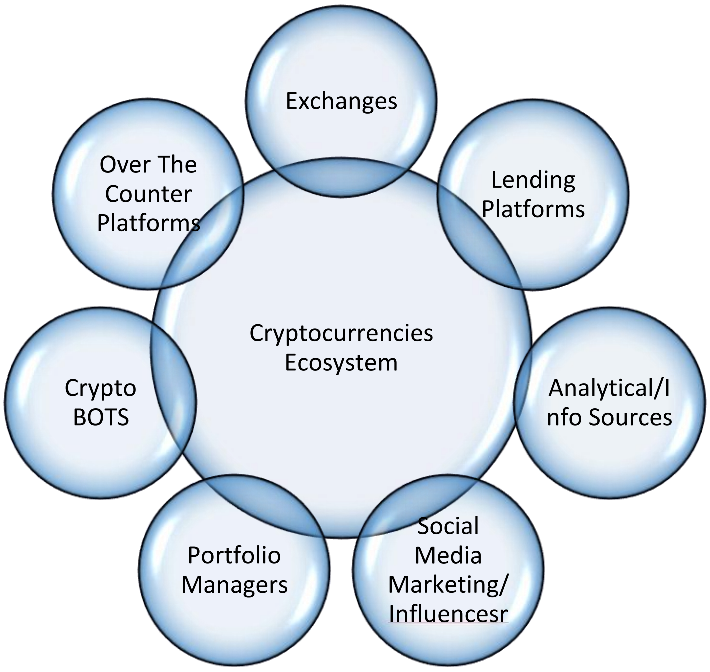
[6]Localbitcoins.com is one of the leading platform on crypto exchanges, which facilitates most of the Pakistani investors.

The present and the past governments have been trying to enable a technology driven and business-friendly legislative framework in all the areas, particularly in the financial markets. The regulatory perspective of the two financial sector regulators i.e., State Bank of Pakistan and Securities and Exchange Commission of Pakistan will be discussed in the upcoming part of this paper.

2. Cryptocurrency Ecosystem

An ecosystem is a community of interacting beings (living or virtual), communicating with each other to create a conducive environment for the development and growth of mutual benefits of all the stakeholders. It can differ in size and complexity depending upon the nature of participants and the intended benefits and outcomes. For cryptocurrencies, the ecosystem is not that simple and can have multiple variants depending on needs of investors and the virtual world. However, most common components or base components of cryptocurrencies are as under:

[5] https://blog.chainalysis.com/reports/2021-global-crypto-adoption-index/
[6] https://localbitcoins.com/



i. Cryptocurrency Exchanges

Exchange is a marketplace for trading stocks, derivatives, or any other financial instrument. The core functions of an exchange include fair and orderly trading practices through an organized platform, price discovery and organized information dissemination. Like in any financial market crypto currencies are also traded on exchanges. The core of crypto's ecosystem are the Exchanges like Binance, OKEX, Waves, IDEX, BITFINEX, Bancor etc. There are two types of exchanges working in the crypto world centralized and decentralized. A centralized crypto exchange is one that is created and run by a company. These exchanges are considered centralized because one company oversees all the transactions and sets the exchange's rules and fees (holding of funds and providing custody). A decentralized exchange is an exchange platform where no third-party intermediary holds the funds of the transaction participants at any stage. In other words, it is a peer-to-peer marketplace where investors can trade without the need for an intermediary to facilitate the transfer and custody of funds.

ii. Cryptocurrency Lending Platforms

Financing has a pivotal role to play for providing liquidity in financial markets. To meet these needs lending platforms or crypto loans are an important part of the crypto ecosystem. They allow crypto holders to deposit their cryptocurrencies as collateral and borrow fiat money instead. Some of such platforms include SALT, NEXO and ETHLend.

iii. Over the Counter Platforms

Over-the-counter platforms are those in which the buyers and sellers trade directly between each other, without the use of a central exchange or broker/intermediary. These platforms provide crypto buyers and sellers with ability to purchase crypto assets in substantial amounts and with reduced costs.

iv. Crypto BOTS

BOT/Internet bots/web robot, is a software application that runs automated tasks over the Internet, with the intent to imitate some activity, such as messaging. Such software programs perform automated, repetitive, pre-defined tasks on large scales and being automated, they operate much faster than human users hence saving time for customers. They conduct useful functions, such as customer service or indexing search engines. They are cost effective, available on real time basis, customizable, have greater outreach capacity, multipurpose and can offer better user experience. They are essentially digital tools and used for many purposes like signaling about the market moments (bullish or bearish) or automating trading processes. Nowadays there are many bots that are actively used by crypto traders as a supporting tool. BOTs can help an investor in executing trades on the exchanges on his/her behalf, by setting up specific parameters.

v. Analytical and Info Sources

Information is the life blood of financial markets. Access to information is the key to success in financial markets, as is one of the most critical part of price discovery process. Crypto markets change rapidly, and investors must be timely updated on the current and upcoming news items. To stay updated with rapidly changing crypto market, investors must monitor and analyze the latest news and real-time information. The modern resources for such information are not only restricted to news items but also provide analytical tools for the investors to monitor and analyze the markets. Loads of information updating on real time basis cannot be managed without such state-of-the-art analytical tools. These tools include technical charts, large and diverse indicators, historical snap shots, future projections, and limitations etc. An interesting aspect of these modern sources is that they also function as social media platforms, where professional investors can share their experiences and strategies and beginners can sharpen up their investing skills.

vi. Social Media Marketing/Influencers

Theoretically speaking an influencer is someone who has the power to affect the purchasing decisions of the others because of his or her authority, knowledge, position, or relationship with his or her audience. He or she has a following in a distinct niche, with whom he or she actively engages. It is important to note that these individuals are not merely marketing tools, but rather social relationship assets with which brands can collaborate to achieve their marketing objectives. **Influencers in social media** have built a reputation for their knowledge and expertise on a specific topic. They make regular posts about that topic on their preferred social media channels and generate large followings not only for themselves but also for the products they endorse. In the virtual world of crypto currencies, the use of social media and influencers have taken the lead in every aspect starting from basics of crypto currencies to advance level of technical analytics. They are a major source of disseminating the information about the latest trends in the crypto markets, and provide tips on trading and investments. Although social media is making waves in the virtual world, however, it is difficult to segregate the authentic and unauthentic information. The information overload often leaves the investors bewildered and makes it difficult for them to make right decisions. This outburst of cluttered information is also a key reason that many people lack true understanding of the crypto products which ultimately creates an overhyped and unrealistic picture and generate false expectations for the public. This lack of understanding and hyper connectivity of the social media in the crypto world open doors for the fraudsters to lure the public which ultimately results in their losses and reduces the chances of its genuine growth in the economy. It is interesting to note that in Pakistan most of the knowledge about crypto currencies is provided by the social media influencers and is a major source of learning for the investors. These are the most popular and easily accessible sources of information for public whose prime focus is on gaining the attention rather than development of a sustainable marketplace for cryptocurrencies in Pakistan.

vii. Portfolio Management

Portfolio management is a "make or break" point for investors in any financial market. Keeping track of all investments is a difficult but most critical issue for active investors. In the virtual world of crypto currencies where markets fluctuate in brief time and the information flow is faster than ever, it is necessary for an investor to have efficient tools for its portfolio management. In crypto markets use of Portfolio management apps is quite common and they help the investors in not only monitoring their portfolios, but also to check the investment's performance. They allow to see the accurate statistics and profit/loss information about investments. Some apps also provide options like newsfeed, customizable interface, and options for considerable number of coins, so that investors can get the maximum benefits as per his/her preferences.

3. Opportunities for Investors

i. **Fractionalization** – Investors one of the key advantages of digital assets is the ability to fractionalise each asset. Digital assets can be broken into more affordable and transferable units that create an opportunity for greater liquidity and investor diversity.

ii. **High Liquidity -** Fractional ownership and trading of digital assets in secondary markets unlock liquidity in previously illiquid markets, creating entirely new tradable assets - such as real estate tokens - and enabling a more standardised form of trading for currently illiquid assets, such as corporate bonds. Moreover, the barriers to issue an asset or security are significantly lowered opening greater opportunity for smaller issuers, while existing issuers benefit from new forms of securities. The digital asset landscape has matured significantly, and momentum is now being fueled by innovation in areas such as custody, settlement, and post-trade - which remain critical functions in regulated financial markets.

iii. **No regulatory burden –** Compliance with the regulatory requirements itself is a cost. In case of Cryptocurrencies the investors do not have to bear the regulatory cost.

iv. **Easy entry and exit –** Since Cryptocurrencies are not centrally governed or regulated by a central authority, the entry and exit is far less complicated compared to other financial products.

4. Challenges for Investors

i. **Price discovery -** Price is what you pay to buy or sell some asset. Generally, the prices are governed by demand and supply and in any free economy market forces determine the price of financial assets. With established financial assets, to a certain extent, it is easy to determine the potential demand and supply. Although the same mechanism applies to crypto currencies, however, with the heightened uncertainty, unknown market width, lack of understanding about the product, high level of speculation and being universal in nature without any jurisdictional limits makes it difficult to discover the right price of crypto currencies.

ii. **Managing volatility -** Speculation breeds volatility which ultimately brings liquidity into the financial markets. Without a certain amount of volatility, no financial market in the world can bring in liquidity for the investors. However, unchecked volatility is also a huge threat to markets' stability and is one of the leading cause of shaking the investor confidence. Markets for crypto currency are no different in this regard and the real threat for investors is its unchecked volatility due to its decentralized nature.

iii. **Portfolio Building** - To manage the risks in financial markets, diversification is the simplest and most recommended strategy. The negatively correlated financial assets are included in a portfolio to make it diverse enough so that investors can secure their investments and gain profits. Diversification on one hand helps you in increasing the chances of profits at the same time reduces the chances of losses and is an important risk management tool. For an investor to build a portfolio to build he needs a variety of assets to be included in each portfolio. For crypto currencies, the width of market with negatively correlated assets is either not there or are not readily available. In addition, it is extremely difficult for the investors to assess the fundamentals of a certain crypto currency and establish its correlation with other currencies. Therefore, portfolio building in crypto currencies is a hard rock to climb for investors and a sort of blind gamble.

iv. **Awareness** – Generally in Pakistan the best source of getting the information about crypto currencies is the social media. Investors learn the processes of account opening, methods of funds transfer, buying and selling of crypto currencies from different internet platforms like YouTube channels and other social media sites. If you look closely, you will find that most of the hype created about crypto currencies is due to these channels and social media sites. The investment tips, use of high-tech jargons and fancy animations attracts a lot of attention especially for the younger generation. However, as in many other areas of social media, the authenticity of the information provided by these channel operators or social media influencers is difficult to establish.

v. **Shariah Observations** – Some shariah scholars have raised concerns about legality of crypto currencies considering Shariah principles. For instance, Bai-Al-Gharar is prohibited as per the Sharia principles, which means that any sale transaction with substantial element of chance or uncertainty in its outcome is not allowed. In such transactions, buyers are at a disadvantageous position by not being able to determine the quality, and features of the asset. Another aspect of Bai-Al-Gharar is that it may lead to illegal appropriation of other's wealth since the other person cannot take possession of the subject matter of sale. Some scholars are of the view that the financial assets must be backed by gold/silver, or some asset held by government and in case of crypto currencies there exist no such thing. Another perspective is that since the buyer cannot hold possession of the crypto currencies therefore, they should not be allowed. Some shariah scholars says that all the issues which have a collective impact on the whole economy must be decided by state or taken up by the governments, if governments or any authority accepts responsibility then there is no harm to adopt them.

5. Regulatory perspective (State Bank of Pakistan & Securities and Exchange Commission of Pakistan)

State Bank of Pakistan (SBP) is responsible for money management in the country and to safeguard the public interest. In line with its objectives SBP issued a Public Notice regarding risks of virtual currencies highlighting various risk involved with the virtual currencies like high degree of anonymity and its potential use in the illegal activities. An important risk factor highlighted in the said notice was that due to its ambiguous nature, no legal recourse is available in the event of any loss. In order to protect the general public from the potential losses in this area, SBP vide circular no. 3 of 2018 also issued a prohibitory order stating that Virtual Currencies (like Bitcoin, Litecoin, Pakcoin etc.) are neither recognized as a Legal Tender nor has SBP authorized or licensed any individual/entity for the issuance, sale, purchase, exchange or investment in any such Virtual Currencies/Coins/Tokens in Pakistan. Accordingly, the SBP directed all Banks/ DFIs/ Microfinance Banks and Payment System Operators (PSOs)/Payment Service Providers (PSPs) to refrain from processing, using, trading, holding, transferring value, promoting, and investing in Virtual Currencies/Tokens. Further, banks/DFIs/Microfinance Banks and PSOs/PSPs are restricted from facilitating their customers/account holders to transact in VCs/ICO Tokens.

In line with the directive issued by the SBP, Securities and Exchange Commission of Pakistan (SECP) the regulator for the Non-Bank Financial sector also issued a directive in August 2020 directing all Companies and Limited Liability Partnerships (LLPs) to ensure compliance with the aforementioned Circular of the SBP. Furthermore, Regulated Persons are also directed to immediately report to Financial Monitoring Unit (FMU) any transaction in this regard as a suspicious transaction.

6. Concerns of the Financial Regulators

SBP and SECP being the financial regulators of the Pakistan economy have shown their concerns about virtual currencies. Some of the risks foreseen by the regulators while cautioning the public can be broadly expressed as under:

a) The Financial Regulators around the world adopt different regulatory approaches to regulate the financial sectors with one common objective of "investor protection." This one common factor is not only the center of all regulatory frameworks but also the biggest challenge and performance indicator for the regulatory bodies. The same concern becomes many fold when it comes to Crypto currencies. Who will be held responsible for investor losses? What will happen in case of investor grievances? Which forum can be used for arbitration in case of disputes? etc. Failures of any new asset class approved by the regulators ultimately becomes the failure of the concerned regulators and hence none of the financial regulators in Pakistan has approved the crypto currency in Pakistan.

b) Financial assets come with lots of disclosures so that investors can safeguard themselves against the potential risks. Crypto currency platforms do give some disclosures; however, they do not address the products, rather more about market fluctuations. For regulators, the minimum or standardized disclosures are far more important than any other issue and therefore international regulatory bodies pay close attention to proper disclosures and their efficient dissemination to the investors.

c) High price volatility due to its speculative nature makes it a highly vulnerable asset class.

d) Virtual currency exchanges are not organized and regulated by any regulatory authority without any given legal framework, therefore, taking the virtual currencies beyond control and oversight. Any such platform offering trading of virtual currencies are most prone to closure due to any reason either by themselves or by any law enforcement agency.

e) Although the market players of the virtual currencies claim that high cyber security measures are in place to protect the investors, however, regulators are of the view that number of instances have been recorded around the world where huge amount of funds have been lost due to hacking or online fraud.

f) Pyramid style investment schemes and coins and promising high returns (like Ponzi schemes) to the public in Pakistan.

Interestingly as such the regulators have not been able to substantiate their concerns with some empirical data. The regulatory risks identified by the regulators like price volatility, loss of investment due to the absence of any organized exchange or losses to investors due to hacking or online fraud are subjective statements and can generally be applied to other areas as well. For instance, all these regulatory concerns can evenly be applied to real estate market or auto market in Pakistan or to any other sector which is not regulated.

7. Policy Recommendations

To yield the true benefits of crypto currencies, the most important thing is the political buy in, without which no big shift is possible. At the government level a clear understanding needs to be developed with its objective and quantifiable pros and cons. For creating an enabling environment for Cryptocurrencies in Pakistan some of the policy recommendations are as under.

i. Regulatory Sandbox Approach

To start with, the financial regulators can allow the development of Cryptocurrencies through the "Regulatory Sandbox Approach." This approach allows live, time-bound testing of cryptocurrencies under a regulator's oversight in a controlled environment to assess their viability to be launched on full-scale. This approach is used world-wide by different Regulators primarily for new products, services or business models which have not been addressed under existing laws and regulations. This approach helps the Regulators to understand the latest ideas which brings innovative approach to the market but there exists considerable uncertainty in terms of unexpected adverse outcomes. Potential participants can apply for inclusion in a cohort which will be a complete lifecycle of the regulatory sandbox implementation to evaluate their innovation in a specified time. Based on continuous monitoring at each step and the ultimate results, a compatible and enabling regulatory environment can be created for its further development. Regulatory sand box will be a great forum to connect the startups, technology providers, entrepreneurs, business analysts, tax authorities and Regulators to come forward and work as a team for creating a successful crypto currency model. SECP has already launched its Regulatory Sand Box and many innovative business models like P2P Lending, Crowdfunding, Robo Advisory etc. are already in process.

ii. Shariah Based Concerns

The issues highlighted by the shariah experts in earlier part of this paper are valid, however, are manageable and can be addressed by understanding the very nature of Cryptocurrencies. The substance of these objections is "uncertainty or vagueness." Therefore, if we can address the true "substance" of the issue than different "forms" can be developed for developing Cryptocurrencies in Pakistan. For instance, in shariah law "possession" and "constructive possession" both are acceptable, so in case of Cryptocurrencies, the objection about non-possession can be addressed by having "constructive possession." Similarly, the issue of Bai-Al-Gharar can be addressed by having a broad framework (to start with) to reduce the elements of uncertainty of outcome of the transaction. Another important thing to understand here is the concept of Al-Mal in shariah law, which can be described in many ways such as

a. Any thing what gives benefit, in the shape of material objects or usufructs.
b. Thing that is owned by someone Or all things which are capable of being owned.
c. Which has the status of being stored for the purpose of beneficial use during the time of necessity.
d. Which has been created for the goodness of human beings.
e. Whatever is capable of being under possession, protection and customarily recognized to have beneficial use.

In the field of Cryptocurrencies, most of the features of Al-Mal are covered with some caveats such as it is constructively possession able, it is for the benefit of the people, it has certain value (depending on the demand and supply), it is protected (decentralized) but not centrally governed etc.

iii. Transition from Rules based approach to Principle based approach

To promote Cryptocurrencies in Pakistan, we need to make transition from “Rules Based” regulatory approach to “Principle Based” regulatory approach. A Rules-Based regulatory approach to regulation gives a set of rules like, how to behave whereas a Principle-Based approach focuses on outcomes and principles are set and the controls, measures, procedures on how to achieve that outcome is left for each organisation to determine. Principle-based approach brings along certain challenges for the regulators. Foremost challenge before adopting this approach will be the clarity of the desired outcome and the permissible variance. The Regulators must work on some prominent issues like quantification of the results, the degree of variation that can be allowed, stage wise benchmarking and risk alerts at various levels etc. Another challenge will be the inconsistent approach towards its implementation, which is generally not a preferred way the regulators conduct their business. Usually, the regulators prefer a consistent approach for all the sector and avoid variation on case-to-case basis, however, to start off with crypto currencies this approach needs to be adopted. Another connecting issue for the regulators will be the lack of standardized controls mechanism for the market participants, which again needs to be accommodated by providing them a broad framework. For this purpose, the regulators can use the comply or explain based methodology for the market participants Since this approach varies from the traditional methods of regulatory controls, therefore, the regulators will have to be watchful and vigilant with justifications and recording reasons behind the varying conducts. Last but not the least is the capacity building of the regulators to manage such kind of products. For this purpose, international experiences can be shared at the government level among different countries so that collective wisdom can be generated to oversee such issues.

iv. Involving the Venture Capitalists

A venture capitalist is a private equity investor that provides capital to companies with high growth potential in exchange for an equity stake. This could be funding startup ventures or supporting small companies that wish to expand but do not have access to equities markets. Since crypto currencies are regarded as a high-risk area for general investors therefore, Venture Capitalists are best suited for making investments in this field. In Pakistan, we have private equity and venture capital fund.

Finally, we must understand that Technology itself is not halal or haram, it is the medium through which a virtual world is being created where the "form" has changed, however, the underlying concepts of welfare, profits and losses, risk and returns etc. are the same.

8. Conclusion

The time is changing faster than ever, and a parallel virtual world has already been created. Web 3.0 Metaverse, NFTs, Artificial Intelligence and Cryptocurrencies etc. are the future and acclimatizing with them, is the only way forward for the countries. Challenges whether they are technological, financial, and regulatory or shariah based, needs to be taken as an opportunity for growth, if Pakistan wants to have a place in the future business world. The appetite for this change is already there and the evidence of which is the Chainalysis' 2021 Global Crypto Adoption Index where Pakistan has been ranked third.

[7] SBP's report for the first quarter of 2021-2022 shows that the digital payments are on the rise and overall e-Commerce transactions recorded a Quarter-to-Quarter growth of 87% by volume and 21% by value. During the quarter, 12.7 million ecommerce related transactions amounting to PKR 22.3 billion were conducted using digital payment channels. These figures speak for themselves showing the growth trend and the immense untapped potential. SBP's "National Financial Inclusion Strategy" which was launched in 2015 was made with the objective of achieving financial inclusion in Pakistan and aimed to enhance formal financial access. By regulating the Cryptocurrencies market, the objective of achieving the financial inclusion can be achieved at a lot faster pace.

The Shariah based observations are valid and provides food for thought for the Islamic financial market experts to come up with practical solutions under the Shariah laws. Pakistani Islamic scholars can contribute to the Islamic financial jurisprudence by addressing the core issues of "uncertainty and vagueness" in the Cryptocurrencies. If the underlying "substance" is addressed than developing different "forms" will not be an unresolved issue. Pakistan is an active member of the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) which is an Islamic international autonomous body that prepares accounting, auditing, governance, ethics, and Shariah standards for Islamic financial institutions. Through this internationally recognized forum, the Shariah based issues on Cryptocurrencies can be addressed and implemented quite effectively.

To create a conducive ecosystem for developing the cryptocurrencies, the three founding support pillars includes technology, finance, and political buy in. For the technological support, Pakistan has enough technical resources to come with IT infrastructure of exchanges, lending platforms, BOTS, analytical and information sources etc. For the financial pillar, venture capitalists are the best option, who can be invited to take the lead in this area, and they must be incentivized through tax benefits. Last but not the least is the necessary political support for stepping in the world of cryptocurrencies. The fear factor for Cryptocurrencies is no more than any other technological change, but time has proved that all these fears have faded away gradually. This does not mean that Pakistan should play a blind bet on Cryptocurrencies, but by using the Regulatory Sandbox approach, many of the risks can be properly identified, monitored, and addressed in a controlled environment.

We must understand that Technology itself is not halal or haram, it is the medium through which a virtual world is being created where the "form" has changed, however, the underlying concepts of welfare, profit and loss, risk and return etc. are the same. Eventually technological advancement will

[7] https://www.sbp.org.pk/psd/pdf/PS-Review-Q1FY22.pdf

eventually take over the world, with new norms and new ways of life. It is up to us to adopt it either by force or by choice, and being forward looking policy analysts, we will go with the later one.