**Improving methods for the regulation of cryptocurrencies and unilateral measures to prevent financial crisis**



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# **Overview**

Cryptocurrencies could have huge inherent risks for world macroeconomics and financial stability. Cryptocurrencies could be a new revolution Cryptocurrency has no restrictions, is not regulated, and is open all day, but all of these will have many advantages and disadvantages, and there will also be many additional conditions. The cryptocurrency we are most familiar with today is Bitcoin. Bitcoin could also represent a major financial revolution in cryptocurrency. Bitcoin guarantees a level of sovereignty for investors, placing individuals on an equal footing with countries or corporations. For example, banks or countries can ban someone from entering the currency system. Bitcoin's decentralised structure ensures that no country can control the system. So many investors think that Bitcoin is far more than stocks, funds, gold, bonds, or property. (1,2)

# Cryptocurrency regulation presents many different challenges, but as with every industry, the regulatory regime has many advantages and disadvantages in the crypto-asset industry. This is because cryptocurrency regulators have to create more opportunities for the industry while also working hard to protect the assets of investors and consumers, so there are many challenges in finding a balance between the two. But cryptocurrency is decentralised, so it cannot be censored, which also results in no power in the world that can reverse transactions. This is why cryptocurrencies require a higher level of responsibility from their users than they are accustomed to using the traditional financial system. Cryptocurrency has no hotline, no help desk, and no CEO you can sue. Also, there is no deposit insurance, so if you make a major investment mistake, there is a high chance that investors will lose all their invested capital. (3)

Correctly classifying existing cryptocurrencies will be the biggest challenge for regulators. The emergence of crypto-assets is a recent digital technological advancement to open new possibilities for barter, investment, and financial transactions. The inherently hybrid and transformative nature of crypto can make the rapid pace of market development and innovation difficult for regulators. However, it is difficult to have a comprehensive classification in the market. So the approach to use when these questions arise is to compare crypto assets to traditional currencies. The European Parliament conducted a study on the issue, which revealed that crypto-assets still need to be accepted as a universal means of payment. But many analysts believe cryptocurrencies represent an entirely new asset class. This classification may be true for tokens that function like securities. In general, a crypto asset is defined as an investment that has benefits beyond its value. For example, transaction costs are very low or even zero. (4.5)

According to the researchers, the main drivers of cryptocurrencies, such as anonymity and decentralisation, and the lack of centralised oversight contradict the idea of centralised regulation. And these are why cryptocurrencies have a great potential to facilitate money laundering and other criminal activities. In the short term, bitcoin regulations may create a knee-jerk reaction that dampens the value of cryptocurrency transactions. For example, China banned any cryptocurrency trading in September 2021, causing the cryptocurrency market to plummet. So in the long run, if the regulation is proper, it will be possible to stabilise the market and reduce certain risks for cryptocurrency investors. (7)

Another problem would be that as cryptocurrencies get wide, countries have a greater percentage to use cryptocurrency as the national currency. If cryptocurrencies are left unregulated and expensive, developing nations will swiftly adopt them in order to facilitate remittances and hedge against currency and inflation concerns. The recent market shock involving digital currencies has demonstrated that owning cryptocurrencies has a private risk; nevertheless, if central banks intervene to maintain financial stability, the issue becomes a public one. It is likely to endanger a nation's ability to control its own money if cryptocurrencies start to supplant national currencies on a large scale or even just informally. Stablecoins provide special difficulties in underdeveloped nations when there is a lack of reserve currency.

Despite the risks associated with cryptocurrencies, investor demand for crypto assets has been increasing. This is because of the perceived quick profit opportunities of cryptocurrencies by investors. While the crypto asset market currently represents less than 1% of the global financial system in size, it has seen significant and sustained growth since the end of 2020. Despite the recent decline, they are still the size of the mortgage market, such as securitized subprime mortgages, which sparked the 2007-2008 global financial crisis. (6)

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# **Definitions of important terms**

**Bitcoin (BTC)**

Bitcoin is a digital currency that can operate without a central bank and keeps track of transactions while generating new units of currency through the computational solution of the mathematical puzzle it can also use as payment that can exchange for goods and services.

**Blockchain**

Blockchain is a system in which a record of transactions is kept across computers connected in a peer-to-peer network, particularly those made in a cryptocurrency. An example of a blockchain would be Bitcoin. Bitcoin transactions are entered and sent to a network of strong computers called nodes. Using computer algorithms, this network of thousands of nodes competes to confirm the transaction.

**Cryptocurrency**

Cryptocurrency is a digital currency such as Bitcoin (BTC), Ethereum (ETH), Litecoin (LTC), etc, designed to act as a medium of exchange over a computer network and does not rely on any central authority to maintain or maintain it.

**Crypto assets**

Crypto assets use public ledgers over the internet to prove ownership of digital assets. The commission crypto assets include a cryptocurrency of Bitcoin, a stablecoin of USDC (USD coin), and an investment token of DAI.

**Crypto exchange**

The crypto exchange is an exchange platform where users can buy and sell digital currencies. Customers can exchange one digital currency for another, for instance, or purchase digital currency using “fiat currency”. The crypto exchange also provides storage for crypto as well as trading services and price discovery through trading activity.

**Digital currency**

Digital currency is any currency that has been designated as legal tender by a government.

**Fiat currency**

As known as fiat currency is a type of currency that a government has legalized but does not have any inherent or fixed value and is not backed by any tangible asset.

**Finance**

Finance is for any expenditure of the process of raising funds or capital. For example, investors would invest their own personal money in stocks, bonds, or (guaranteed investment certificates) GICs.

**Finance crisis**

The finance crisis is a severe shock to the financial system that impairs its ability to function. For example, the history of financial crises includes, the Stock Crash of 1929, the 1973 OPEC Oil Crisis, and The Great Depression lasted from 1929 to 1939 and it was the worst economic downturn in history.

**Regulation**

Supervise, regulate, and provide charters to banks operating to ensure the soundness of the overall system.

**Virtual currency**

Virtual currency is a type of digital representation of value that is not the U.S. dollar or a foreign currency. Such as Bitcoin (BTC), XRP, and Litecoin (LTC)

# Timeline of key events

**October 2008 Creation of Bitcoin**

The Bitcoin cryptocurrency was defined in a white paper on October 31, 2008. Created in white paper by an unknown person or group of people using the name Satoshi Nakamoto. The Bitcoin currency has been in use since 2009 when the currency was actually released as open-source software, and the crisis became a powerful driver of Bitcoin's development. With the growth of Bitcoin cryptocurrency transactions, the question "Who is Satoshi Nakamoto?" has become more and more curious among Bitcoin owners. But until now the identity of Satoshi Nakamoto is still unknown, let alone whether Satoshi Nakamoto is a pseudonym or a real name. Still, many people think that Satoshi Nakamoto is a group of people rather than one person, and it is not clear how many people Satoshi Nakamoto owns. Bitcoin, but many believe that Satoshi Nakamoto owns about 1.1 million Bitcoins.

**December 2014 Microsoft accepts Bitcoin**

On December 11, 2014, Microsoft, the world's largest computer retailer, officially announced that it would accept Bitcoin and its payment processor BitPay. But there was no news about this big news until some Microsoft users saw the blessing option and the news spread online, forcing both companies to make an official announcement. All major products can now be purchased using Bitcoin and other major coins. Microsoft said in a statement that "the use of digital currencies such as Bitcoin, while not yet mainstream, has surpassed early enthusiasts. We expect this growth to continue, and now allowing people to use Bitcoin to purchase our products and services allows us to be at the forefront of this trend." According to a Microsoft spokesperson, the news "gives people choice and helps them do more on their devices and in the cloud." And in recent years, Microsoft has not only continued to accept Bitcoin as a payment option but has also begun experimenting with blockchain technology. (8)

**June 2015 Nasdaq agrees to start using Bitcoin's blockchain technology**

Beginning June 24, 2015, Nasdaq, the world's second-largest financial stock exchange, agreed to trial a blockchain-powered version of the group's private markets for trading shares in pre-IPO companies. In partnership with API developer Chain, Nasdaq Private Market will begin issuing, cataloguing, and managing transactions of their private placement shares via blockchain technology. Chain founder Adam Ludwin said that Chain itself was one of the first companies to participate in Nasdaq's blockchain initiative and helped Nasdaq determine how to represent company stocks on the blockchain. It is also developing a blockchain reader application that allows corporate and individual shareholders to use private encryption keys to access certain information they are authorised to view. And this agreement expands the scope, awareness, and value of the Bitcoin blockchain technology, and more importantly, motivates other major financial entities to start their own research. And in 2015 it represented the beginning of payment providers and venture capitalists starting to invest such as Visa and the world's largest banks, and commercial and venture capitalists starting to invest, train and cultivate their interest in Bitcoin technology for many years to come. (8,9,10)

**December 2017 Cryptocurrency boom**

On December 17, 2017, the price of the cryptocurrency Bitcoin reached its latest all-time high of $19,783.06 in a brief period of time. At the time, the price of bitcoin rose about 20 times. Because the cryptocurrency ecosystem is dominated by individual retail investors and many are attracted to Bitcoin’s scarcity, investors are buying under “fear of missing out” (FOMO). Another reason is because of the leading of the mainstream. Many financial tycoons, including billionaire investor Paul Tudor Jones and insurance giant MassMutual, have invested heavily in cryptocurrencies, and opponents of cryptocurrencies such as JPMorgan Chase are now saying that Bitcoin may have a bright future. Bitcoin is also recognized by large payment companies. PayPal allows customers to buy, hold and sell Bitcoin directly from their PayPal account. Not only that, but Square Payments also reported in November that more of its Cash App users are buying cryptocurrencies. Also, the number of vendors accepting Bitcoin as a payment method is growing rapidly. (11)

**January 2018 Great cryptocurrency crash**

In early January 2018, the Japanese exchange Coincheck disclosed a hacking attack worth up to $534 million, which caused Coincheck to suspend trading indefinitely and accelerated the decline of cryptocurrencies. In late March 2018, Facebook, Google, and Twitter banned advertising for cryptocurrency offerings (ICOs) and token sales. On November 15, 2018, the market value of Bitcoin fell below $100 billion for the first time, and the price of Bitcoin fell to $5,500. In total, Bitcoin fell 73% in 2018. In December 2018, Bitcoin plummeted from nearly $20,000 to lows of around $3,000.

# **Position of key nations**

### The Russian Federation:

Vitalik Buterin, the creator of Ethereum, and Russian President Vladimir Putin had a brief meeting in 2017 to go about the advantages of cryptocurrencies and blockchain technology. The president and other Russian officials at the time were enthusiastic about the prospect of integrating new technology and establishing a digital economy in the nation. But, Russia did remark that there needs to be tight regulation of cryptocurrencies. Immediately after that meeting, the governor frequently emphasised that cryptocurrency has the potential to be used for illegal activities. Cryptocurrencies saw nationwide growth between 2016 and 2018. During that time, a lot of initiatives proposed various uses for cryptocurrency and blockchain technology. Nevertheless, cryptocurrencies received legal standing in 2020, making it forbidden to utilise them as a form of payment. A law forbidding the use of digital assets for payments first surfaced in Russia in January 2021. Regarding the future of cryptocurrencies in Russia, there aren't many views. It's interesting to note that the Russian Ministry of Finance and the Central Bank of Russia differ on this matter. The director of the financial policy division, Ivan Chebeskov, stated that the ministry of finance believes that Russia should find a mechanism to regulate cryptocurrencies rather than outright prohibiting them. As of now, there is no agreement on cryptocurrency mining. The Russian cryptocurrency situation is extremely controversial in Russia. Regardless of what the government thinks, Russian citizens have long supported cryptocurrencies and a growing number of Russians are putting money into the crypto industry as they see it as an attempt to avoid inflation. However, the Russian government is trying to prevent people from doing this in order to save as much Russian currency as possible. (12)

### People’s Republic of China:

The world’s centre for Bitcoin mining and trade formerly lay in China. But, the nation’s policymakers have been battling for years to control the restrain cryptocurrencies’ growth and stop them from undervaluing and displacing their fiat money. As a result, in September 2021, the Chinese government officially outlawed cryptocurrencies that were not authorised by the government. The cryptocurrency bitcoin was first made public in China in 2009, but it didn't become popular until it began trading in 2010. This cryptocurrency has gained unprecedented attention and value in China as people start to realise that Bitcoin has the equivalent value of fiat currency. As a result, early cryptocurrency investors began to see digital returns, and popularity began to spread. In 2011, the first cryptocurrency exchange BTC China started trading. Moreover, Chinese search engine giant Baidu began accepting Bitcoin as payment for website security services in 2013. Large-scale bitcoin mining enterprises soon started to emerge. Due to the substantial quantity of energy needed, mining is appealing to many people. By 2014, Bitmain, one of the first companies to produce cryptocurrency mining equipment and run mining pools, had entered China's emerging market. Bitmain is now in charge of the majority of the world's bitcoin mining activities and runs the biggest mining pool. Also, Bitmain has emerged as the industry's top supplier of application-specific integrated circuit (ASIC) mining machinery. The cryptocurrency mining sector expanded in 2016 and 2017. The popularity of digital currencies is rising as people's desire for anonymity and value growth rises. Nevertheless, the Chinese government outlawed ICOs in 2017. China dominated Bitcoin mining throughout most of 2020. A new restriction on bitcoin mining in China was declared by the Chinese State Council in May 2021. The findings showed that the mining of cryptocurrencies started to drop in October, reaching 55% of worldwide mining. Up until June 2021, when all mining in China comes to an end, it continues to drop steadily. The websites and mobile applications used by the Chinese government to trade cryptocurrencies in mainland China were shut down in July 2021. And BCTChina, which once ran the biggest cryptocurrency exchange in China, declared that it has totally stopped all operations in the sector. Trading cryptocurrencies is viewed by the Chinese authorities as an unlawful way to raise money for general criminal activity. After a general ban on cryptocurrencies, cryptocurrency exchange companies in mainland China shut their doors to new consumers in September 2021. (11)

### Japan:

Japan was a hotspot for cryptocurrencies from the beginning. Since Mt. Gox, the biggest cryptocurrency exchange in the world was a Japanese corporation, Japanese people were also among the first to start mining and using Bitcoin. Japan is the hub for millions of bitcoin transactions. Roger Ver extensively pushed Bitcoin in the early years of its existence in Tokyo and around the nation, even giving away Bitcoins for free so people could learn how to use them. The government's backing for the technology has had a significant impact on Japan's history as a pioneer in bitcoin technology. Over their careers, several government officials have worked for or managed operations at significant Japanese technology firms. They are aware of the significance of this technology for the Japanese economy and are strongly motivated to encourage further developments. Unfortunately, a significant hack on Mt. Gox in February 2014 would mark a turning point for Bitcoin and other cryptocurrencies. At the time, hackers took Bitcoin valued at $460 million. The equivalent sum now would be worth over $3 billion. Several customers lost money as a result of the attack, which hit the biggest exchange in the world. 6% of the entire global bitcoin supply is lost overall. The Mt. Gox crew made fruitless attempts to get the money back. The exchange is bankrupt after losing so much money from the corporation. The largest cryptocurrency exchange in the world went bankrupt in a few weeks. Mount Gox declares bankruptcy. (13)

### United Kingdom of Great Britain and Northern Ireland:

In 2018, the Financial Conduct Authority (FCA), the Bank of England, and the UK Treasury came together to create the "Crypto Assets Task Force." It looks at how and when digital currency assets are governed. The full PS 19/22 Crypto Asset Guideline, which governs businesses that issue, generate, hold, market, purchase, or sell cryptocurrencies, was released by the FCA in July 2019. It strives to enlighten customers on the laws, norms, and problems that concern their crypto assets. According to the U.K. government, cryptocurrency exchanges must register with the FCA or submit an application for an e-money licence in order to conduct business in the country. Similarly, as long as they have an FCA licence and are subject to its regulation, Bitcoin ATMs are allowed in the UK. Currently, the United Kingdom has more than 250 Bitcoin ATMs and the most machines among European countries. To provide consumers and companies alike trust and clarity about encrypted asset operations, the UK government will draft strict regulations in January 2023. A strong global first cryptocurrency lending regime as well as tightening regulations for bitcoin trading platforms are among the consulting ideas. The UK government has also made measures to carefully control the trading of crypto assets in order to safeguard consumers and boost economic growth. According to the government's objectives, it will work to regulate activity in a variety of crypto assets in a manner consistent with how it regulates traditional finance. (14)

# **Suggested solutions**

Taxing the fiat money that traders use to withdraw virtual tokens is the first step governments take to control cryptocurrencies. The owner of the cryptocurrency can swap to another coin to withdraw money, however, the key restriction is that this only works for that coin. Despite that, many early bitcoin users choose cryptocurrencies over conventional fiat currencies as a medium of exchange for necessities like goods and services. In practice, Bitcoin and the majority of other tokens from ICOs are decentralised. A government or central organisation does not control the number of cryptocurrency tokens available. Also, it discusses cryptocurrency as a form of exchange. Without the involvement of a third party, transactions utilising blockchain may be made, confirmed, and stored on a public ledger. The strongest action, however, has been taken by China, which has passed land-use laws that shut down local exchanges and escort miners out of the nation. Of course, neither the price of cryptocurrencies nor the speculative craze has been much impacted by this. Governments are now working to control cryptocurrencies as a result of worries about a risky speculative bubble that many fear could harm national interests if cryptocurrency commodities fall. Urge all nations of governments to change existing laws or enact new ones that would apply to crypto assets and the companies that supply their services. For all service providers of virtual assets, finance may offer a worldwide framework. Any financial group, including the International Organization of Securities Commissions (IOSCO), might urge regulatory guidelines on cryptocurrency exchanges to cover unsecured crypto assets. This may give these initiatives more traction. Moreover, there are certain severe measures for the effective control of cryptocurrencies, such as banning residents from issuing or storing encrypted assets, banning residents from trading encrypted assets, and banning residents from utilising encrypted assets for particular uses like payment. (15,16)

In order to register and approve providers of crypto asset services, entities that offer storage, transfer, exchange, settlement, and custody services must first get a licence. Furthermore, the regulations have to be comparable to those that govern these service providers in the conventional financial sector. Clear definitions of the licensing and authorization criteria, the accountable agencies, and the coordination procedures are all necessary. Also, organisations whose suppliers are required to carry out several tasks should be subject to more stringent prudential regulations. It is crucial that client funds be kept distinct from other operations since combining exchanges, wallets, and market-making services under one entity might put clients in serious danger. Second, stablecoin issuers must follow stringent prudential regulations in order to satisfy providers. Stablecoins have the potential to become common payment methods when they start to acquire recognition outside of the crypto community. Stablecoins might pose major risks to monetary and financial stability if they are not adequately controlled. Hence, stablecoins require robust banking-like supervision from governments, and given their potential role in the monetary system, central banks should lead these initiatives to gain traction. Lastly, there have to be explicit guidelines for regulated financial institutions' exposure to and involvement in cryptocurrencies. To reduce the risks associated with these tasks, it should be made clear that managed services are provided by regulated entities. In the end, successful crypto regulation requires a broad and internationally uniform regulatory response. This worldwide strategy needs to adapt to shifting conditions and the risky environment in order to be successful.

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