

The background of the slide is a collage of US dollar bills and Bitcoin coins. The bills are in shades of blue and green, with some text like 'THIS NOTE IS LEGAL TENDER' and '1776' visible. The Bitcoin coins are in shades of gold and black, with the word 'BITCOIN' and the Bitcoin symbol clearly visible. The overall image has a dark, textured appearance.

The future of cryptocurrencies

Cryptocurrencies have foreshadowed a potential digital future for money. Graham Bright sees blockchain as an enabler in the growth of the financial system and digital money

From their inception in the early 2010s, until their meteoric rise to fame in 2017 on the back of Bitcoin's astronomical bull market, digital (crypto) currencies were relatively obscure and only for speculators.

Cryptocurrencies such as Bitcoin have foreshadowed a potential digital future for money, though they exist outside the traditional global financial system and aren't legal tender like cash issued by governments.

Despite this, the blockchain technology behind them has robustly demonstrated its potential for use in financial services. As a cryptographically secured decentralized ledger system, it is ideally suited to the transparent and incorruptible recording and facilitation of global financial transactions quickly, cheaply and securely.

In fact, cryptocurrencies and networks such as Ripple¹ and RippleNet² have been used as alternative settlement mechanisms for international trade transactions for some time now.

However, rarely have the vagaries, person attitudes, whims and comments of so few radically influenced the fluctuation, value and trust in crypto for so many.

After a few tumultuous weeks, there has been a fundamental shift in perception, value, security and sustainability of crypto currencies.

From the lofty heights of Bitcoin valued recently at nearly \$60000 crashing to \$31,000 in a matter of days, it appears that the opinions of a few individuals can spook markets such that any thoughts of crypto being a viable long term stable alternative to fiat currency are clearly suspect.

And one quote captured the sentiment:

“Unless and until Bitcoin can be used to buy a sandwich, or be accepted by your friends when you pay them back for a restaurant meal, then it is likely to remain just a playground for geeks and gamblers.”

Just as in the 1990's when George Soros famously influenced market dynamics by shorting sterling, moving the UK government to withdraw from the exchange rate mechanism and requiring the Bank of England to prop up the Pound, so the recent tweets of Elon Musk have had a profound effect.

As cash ceases its grip on day-to-day transactions in favour of plastic, we will see more crypto currencies becoming commonplace

But problems are still apparent, namely a lack of sound legal frameworks with no way to enforce debts and, cryptocurrencies remain very volatile with huge price fluctuations even within a single day; an important component of a reliable currency is a relatively stable value.

Overcoming these two hurdles will put digital currencies firmly on the road to mainstream, and with over 4,000 different cryptocurrencies and tokens in operation, crypto payments are fast, cheap, secure, with easy set-up, enabling global funds transfers in minutes, not days.

Little wonder traditional financial organisations and governments need to take stock.

Why are banks and financial firms embracing crypto?

Since cryptocurrency is a virtual currency accessible via the internet, it is regulated not by a national regulator but by cryptography, giving it complete security and anonymity. It operates outside the analogue preserve of traditional banks, and without active moves to create an operating environment inside a tight regulatory framework, banks will not be competitive versus more agile alternative financial providers in future.

To avoid missing out on potential revenue streams, banks need to be involved, but also need to exercise caution.

The biggest exchanges in the world are in the USA, Japan (and China, before the government banned them), leaving the UK behind with overbearing legislation and basis lack of education on the impact of crypto. Even Ukraine and Malta have a greater understanding and operating infrastructure to compete with and supply crypto services.

The UK needs to up its game to re-establish itself as the crypto financial capital, with the first issue to develop policies to regulate the technology.

As stated by the London Stock Exchange *“the UK government needs to understand cryptocurrencies in order to place City of London and the nation at the centre of a ‘reputable and safe’ financial market.”*

It is all down to control of assets, and banks need to take a pro-active approach to ensuring underlying technology, accessibility and choice are available for all types of investors and clients.

These organisations rely on management and control of fiat currency within a given jurisdiction, with the aim of profit and a charge for additional services, such as cross border transfers.

Key points that will enable banks to participate include assistance with immediate, simple, transparent exchange from crypto to fiat currency stored on a memory card or wallet, using mobile technology, making it easier to exchange into and out of accounts seamlessly.

Secondly, building on a legacy of security, where banks can offer the benefits of cryptography in protecting the asset in a public key infrastructure prohibiting fraud, copy or misappropriation. Also, as transfer does not require correspondent complex international banking arrangements, with the cost and time implications of such services, all transfers are fast, easy and inexpensive.

Positioning is everything, and whilst the role of financial and technology companies becomes increasingly blurred, Bank of America reportedly holds more blockchain-related patents than any other company, even beating tech giant IBM.

Currently payments are expensive, take days and may require multiple hops to achieve delivery.

Ultimately transfers between wallets and much quicker more cost-effective for cross-border transactions, and with banks losing customer loyalty, without immediate action may find their clients looking for alternative applications and cheap payment mechanisms.

What about governments?

The greatest fear for any government is uncontrolled speculation affecting a home currency.

Cryptocurrencies, such as stable coins, pegged to other assets such as the US dollar, can now act as a safer and more trustworthy way of safeguarding people's assets.

Ultimately, governments wish to control money supply and where cash is moving. This is especially the case where high rates of cryptocurrency adoption have also been recorded in developing countries, like Vietnam, Turkey and South Africa. And with these different cultures, acceptance, handling, and regulation of crypto across the globe are quite different.

A primary method to regain control is the power of taxation, always a major weapon in a governments' armoury of revenue-generating measures. By exerting regulation in this area authorities can prevent loss of monetary control and revenue, taxing any fiat money used when buying, selling, or exchanging virtual tokens.

Whilst traders use cryptocurrencies as medium of exchange for basic goods and services in the natural course of commerce, cases are already emerging of the IRS chasing investors over non-reported trades and profits, making it subject to either income or a capital gains tax.

Rather than merely accept the thousands of coins, tokens, and assets in circulation, many of which have no value, governments are looking to introduce their own digital assets. These are totally under their control, backed and pegged to the fiat currency, using underlying blockchain technology, with immediate value, trust, and portability, without the speculative risks.

In China, the digital Yuen backed by deposits held by China's central bank has been tested in shops and used to pay bills and is essentially the first digital currency accepted as legal tender.

Importantly, China has also mandated those exchanges will need to be registered and regulated as ownership of crypto is still permitted, but any non-Yuen cryptocurrency payments are banned along with mining and trading, but possession is not yet affected.

In the authoritarian state of China, digitized programmable money, could easily identify criminal activity, source and destination of funds, spending patterns and facilitate instant fine deductions.

In other countries, take up of crypto is far greater than immediately thought, particularly in jurisdictions not normally associated with speculative assets.

In Nigeria, cryptocurrency use is on the rise in Nigeria, with 33% of Nigerians either using or owning cryptocurrency, primarily using it as a cheaper solution to send expensive FX across borders.

Nigeria has banned banks and financial institutions from providing exchange services and threatens to close bank accounts found using cryptocurrency exchanges. In the Philippines where remittance and transfers companies are common with a large expat community, the Central Bank has approved several crypto exchanges.

However, by imposing draconian measures against the population with the risk of major fines, imprisonment and sanctions, countries can prohibit mining coins they cannot control. And, in some countries, fear of the effects and implications of crypto has led to outright bans on buying, owning, and trading altogether including Algeria, Bolivia, Morocco, Nepal, Pakistan, and Vietnam.

Examples of other country bans include the central bank of Turkey, banning cryptocurrency payments with far tighter restrictions on the cryptocurrency exchanges due to lack of regulation and a central authority for the coins.

The view was taken a) that it is in the public interest to prevent opportunities to fund illegal activities, and b) protecting investors especially where wild fluctuations would affect investors who can't recover any losses and have no legal redress.

In Saudi Arabia, to control foreign exchange, financial institutions have been warned from using Bitcoin although penalties are not yet clear.

With the anticipated introduction by the Indian central bank of the digital rupee, just how far India is prepared to legislate is illustrated by the terms of a proposed bill, which criminalises possession, issuance, mining, trading and transferring crypto assets.

In the UK the FCA banned the offering of crypto derivatives products to retail users due to a number of inherent risks that the regulatory body believes could negatively affect retail customers. Other regulation will come.

Recent events have indicated just how fragile, volatile and erratic the markets can be, with regular rises and falls which would years ago have been classified on exchanges as 'significant' market events.

As a result we expect many more countries to look at introduction of own taxable digital currency assets, and review and place firm restrictions on exchanges, activities, mining and unregulated use of crypto currencies such as Bitcoin.

Are currencies such as Bitcoin a good or bad thing?

Whilst we have seen wild speculation, adverse risk and price fluctuation, the technology is sound and has proved itself; it is convenient, cheap, fast and extremely reliable.

If banks can embrace the technology and provide standardisation, rationalisation and reusability with the same or similar cost schedule and client experience that payments infrastructures should offer, this will be a positive.

The one area where Bitcoin and other cryptocurrencies will always differentiate themselves in the anonymity it provides to the holder. And security is an additional issue and personal responsibility is key.

You may have read about a UK investor who mistakenly threw away a hard drive containing the crypto key enabling access and spending of 7,500 Bitcoins, equating to more than \$280 million.

He sought permission to search a council refuse facility, offering a 25% donation if he was able to recover the data. Permission was refused and the potential monies lost. Other cases cite lost or forgotten passwords effectively leaving the unfortunate owners with zero value.

Just remember if the firm or exchange you've used has gone out of business and can't pay your claim, there is no equivalent of a financial services compensation scheme to cover losses, no helpdesk, no legal precedent or legal remedy.

The power game

Much has been written about the amount of energy required to run crypto mining operations. As the primary method of earning coins, miners run powerful arrays of computers that verify blocks of transactions made with cryptocurrencies, all competing in a global, decentralised computer network. This needs considerable resources, with estimates of required power equivalent to the total consumption of Denmark.

And countries which heavily subsidize electricity costs (such as Iran) are hosting facilities for China and other jurisdictions. This is earning large sums for the miners but having a significant impact on pollution and global warming on Iran, with little additional economic benefit for the state.

According to the BBC³ Bitcoin uses more energy than Argentina, and if Bitcoin was a country, it would be in the top 30 energy users worldwide. Perhaps a carbon tax on CO₂ emission is the next step to controlling or at least monetizing the immense power requirements of mining operations globally.

Conclusion

Love them or loathe them, crypto currencies, coins and tokens, valued in billions of US Dollars, will play an increasing role in complementing and competing with monetary systems globally. Designed to work autonomously and independently of central banks, regulators and governments, they provide an anonymous, secure, low cost, globally accessible, borderless mechanism for payment, underpinned by riskless DLT technology.

We can expect to see increased uptake of crypto in international trade, with the use of barter tokens, promoting financial inclusion with lower points of entry and easier payment exchange, especially in countries with rampant inflation and unstable banking systems.

As cash ceases its grip on day-to-day transactions in favour of plastic, we will see more crypto currencies becoming commonplace.

However, whilst the number of coin offerings, price, value and faith in them will rise and wain, governments and banks will embrace controlled regulated digital assets, the biggest impact on the finance industry and economies as a whole will be through the active technological advancement in global use of what one may classify as a by-product, namely blockchain. ■

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Endnotes

1. [https://en.wikipedia.org/wiki/Ripple_\(payment_protocol\)](https://en.wikipedia.org/wiki/Ripple_(payment_protocol))
2. <https://ripple.com/rippenet/>
3. <https://www.bbc.co.uk/news/technology-56012952>