GBA

THE IMPACT OF CRYPTOCURRENCY ADOPTION ON GOVERNMENTS

EXECUTIVE SUMMARY

Why are blockchain and cryptocurrency so popular right now?

From a blockchain perspective, governments understand that the technology can be used to:

- Support public transparency and trust
- Improve accountability
- Promote innovation to foster technical and business efficiencies
- Provide value-added services that were previously unavailable to the general public.

But what is blockchain? Blockchain is a foundation, database, and network that supports the transfer of value and other purposes in a digital format. It is an independent network not owned by any institution, individual, bank, or entity.

How does this relate to cryptocurrency? Cryptocurrency is defined as a digital asset that is designed as an exchange of value operated through the issuing of tokens on a blockchain network. Bitcoin happens to be a blockchain network and a coin token. The token is the transfer of money.

So, again, why is cryptocurrency so popular right now? To answer this question, we must first look at the history of money. The concept of money is the first-use case that is becoming disrupted due to the rapid introduction of blockchain technology.

Money is a social construct that derives its value as a medium of exchange for goods and services. Currency on the other hand is a physical manifestation of money in the form of paper or coins.

THE HISTORY OF MONEY

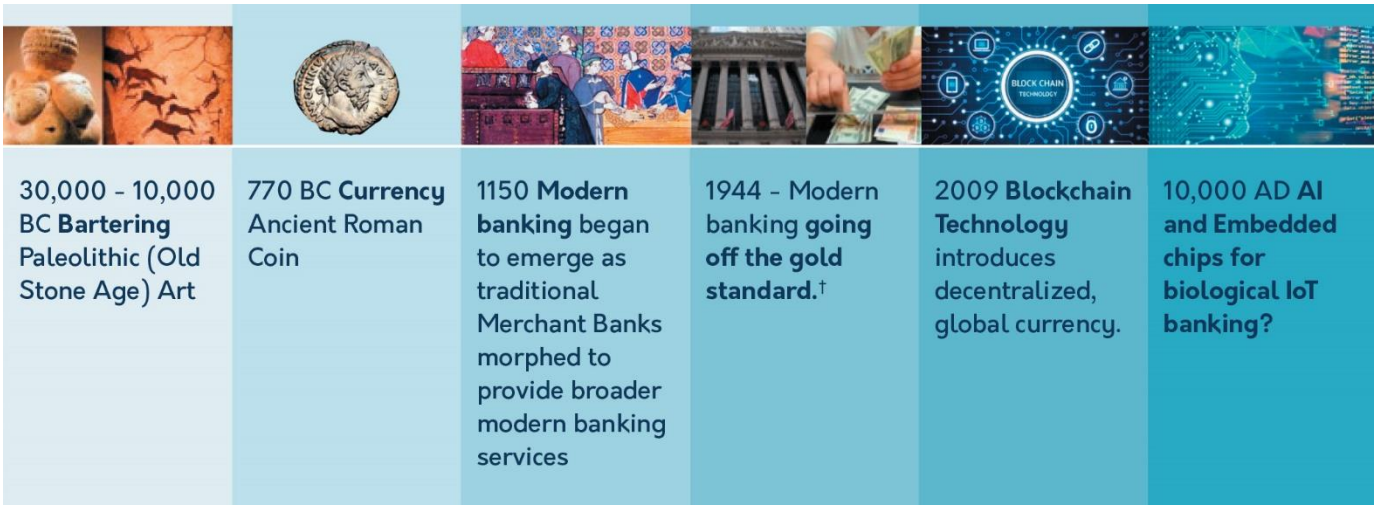
Money has a long and remarkably interesting history. Humans have been exchanging money of some form for tens of thousands of years. The concept is as old as time itself. What is new, though, are the innovations that have been seen in money over time. Over the centuries, the concept of money has mutated, from Yap stones to gold doubloons, to paper dollars. Innovations continue to reshape what we call money, and the most important of these innovations historically have been *accounting, currency* and *banking*.

Evidence suggests that accounting predates physical currency by quite a long margin. Records dating back 30,000 years have been found that show evidence of accounting. Wikipedia states that accounting dates back to ancient Mesopotamia.

Following accounting came physical currency, the earliest of which appeared in India, China, and Europe in the 7th century BC. The development of physical currency was a significant innovation that allowed merchants to have common and agreed-upon values of exchange in different locations. One of the largest impacts of physical currency was the move away from bartering.

Next came banking, which allowed merchants to store physical currency in trusted locations. This was a very significant advance.

THE EVOLUTION OF MONEY INNOVATIONS



† The Bretton Woods agreement of 1944 established a new global monetary system. It replaced the gold standard with the U.S dollar as the global currency. By so doing, it established America as the dominant power in the world economy. After the agreement was signed, America was the only country with the ability to print dollars.

SOURCE: KATHY DACHE

Within each of the three categories of innovation, there have been multiple 'micro' innovations such as paper money, double-entry accounting, and electronic payments. Each of these have delivered very significant economic benefits.

We then come to the invention of *blockchain* technology, with the first successful implementation of the technology being Bitcoin. The history of how blockchain impacts the world is unfolding as we write this document. It is almost impossible to say what impacts it will have; however, it is almost certain the impact will be massive.

Blockchain technology unifies the three concepts of accounting, currency, and banking, which in itself is groundbreaking. In addition, blockchain introduces decentralization. To date, each of these categories has been dependent on centralization of all these functions. Blockchain completely removes this dependency, the significance of which is astonishing.

The applications of this new innovation are endless, and it will take years to see examples of the full impact of this technology. If blockchain technology was applied to voting systems, could we see a new era of trust in democracy emerge?

THE ALTERNATIVE THAT IS BITCOIN, BLOCKCHAIN, AND CRYPTOCURRENCY

Bitcoin is the first-use case of blockchain technology. There are plenty of other use cases to come in the form of enhanced video streaming, real estate management and other applications.

Bitcoin has grown to hundreds of billions of dollars in market capitalization in just a few years. Bitcoin's total market capitalization has reached US$1.07 trillion[1] and is trending towards the total market capitalization of the world's largest technology companies (Alphabet US$1.2 trillion, Microsoft US$1.7 trillion[2]).

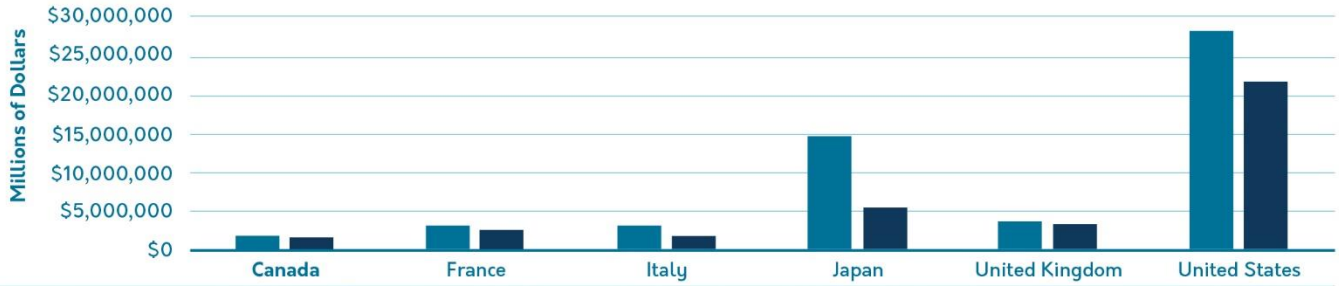
The only cryptocurrency use case in 2020 that makes practical sense is Bitcoin due to the amount of global monetary stimulus injected by global governments. The uptrend of other cryptocurrencies and their immature fundamentals appears to be supported by Bitcoin growth.

It is important to note that blockchain and cryptocurrencies are an alternative technology and investment asset class. The public needs to understand that they have access to these alternatives, which are not to be perceived as a threat. Access, communication, and education of these options are paramount in the coming decade.

THE FACTOR THAT IS WORLD GOVERNMENT DEBT

Bitcoin's extraordinary rise may be influenced by the stimulus response by governments to offset the economic impact of the global pandemic. Government stimulus packages have pushed the gross debt of the major advanced economies (G7) to exceed 141% in 2020. The increase in billion-dollar stimulus further devalues government currency and has sparked fears of inflation in economies and asset markets. Investors see Bitcoin as a sustainable investment alternative to the devaluation of fiat and a hedge against inflation.

NATIONAL DEBT TO GROSS DOMESTIC PRODUCT – MAJOR ADVANCED ECONOMIES (G7)



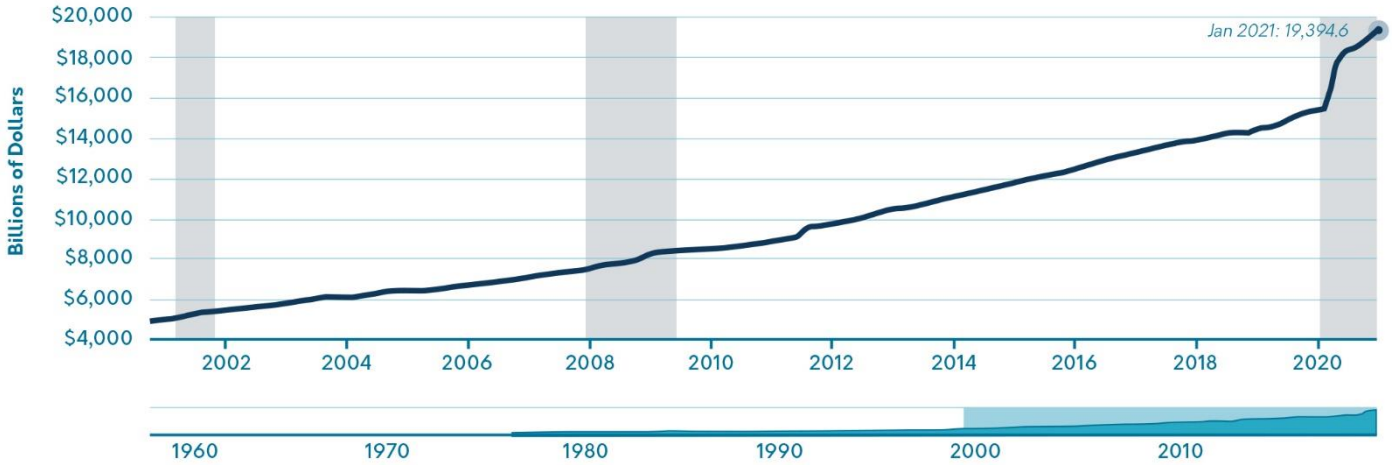
	Canada	France	Italy	Japan	United Kingdom	United States
National Debt	$1,884,685,167,640	$3,171,959,482,919	$3,178,485,124,262	$14,623,858,176,682	$3,584,079,738,680	$27,948,291,734,549
Gross Domestic Product	$1,702,363,131,405	$2,701,980,341,801	$1,937,852,241,348	$5,398,754,154,978	$3,281,429,549,230	$21,577,811,434,806

SOURCE: HTTPS://USDEBTCLOCK.ORG/

The US has the highest national debt is the world, at US$27 trillion, exceeding gross domestic product by US$6.3 trillion with a debt to GDP ratio of 129.89%.

[1] https://coinmarketcap.com/
[2] https://finbox.com/NASDAQGS:MSFT/explorer/marketcap

US M2 MONEY STOCK (MONEY IN CIRCULATION)



U.S. recessions are shaded; the most recent end date is undecided.

SOURCE: BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM (US), M2 MONEY STOCK [M2SL], RETRIEVED FROM FRED, FEDERAL RESERVE BANK OF ST. LOUIS; HTTPS://FRED.STLOUISFED.ORG/SERIES/M2SL, MARCH 10, 2021

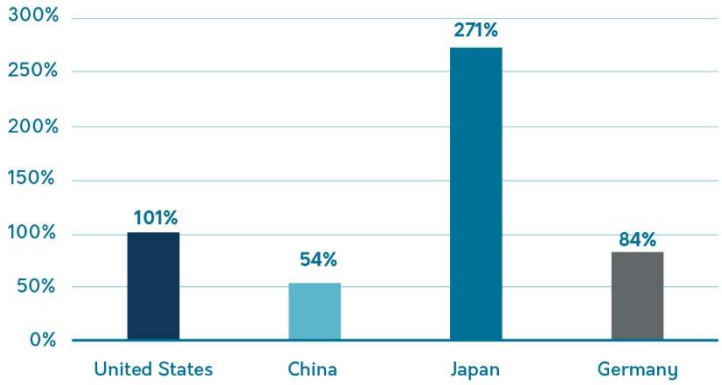
Per the above graph, it is important to note the following:

- From 2000 to 2008, the M2 USD circulation of money increased by US$3–4 trillion.
- From 2010 to 2020 (pre-COVID-19), the M2 USD circulation of money increased by US$7–8 trillion.

The GFC[3] created an immediate need to inject stimulus into the economy but was perceived to be a short-term solution. It appears this was not the case, and Reserve Bank stimulus injections into the US economy have become the norm, with the doubling of the money circulation flow compared to the previous decade post-GFC.

US$5 trillion was injected into the US economy in one year, in 2020, due to COVID-19 – basically a whole decade's stimulus over 12 months. Quite extraordinary.

PUBLIC DEBT TO GDP RATIO, BY PERCENTAGE



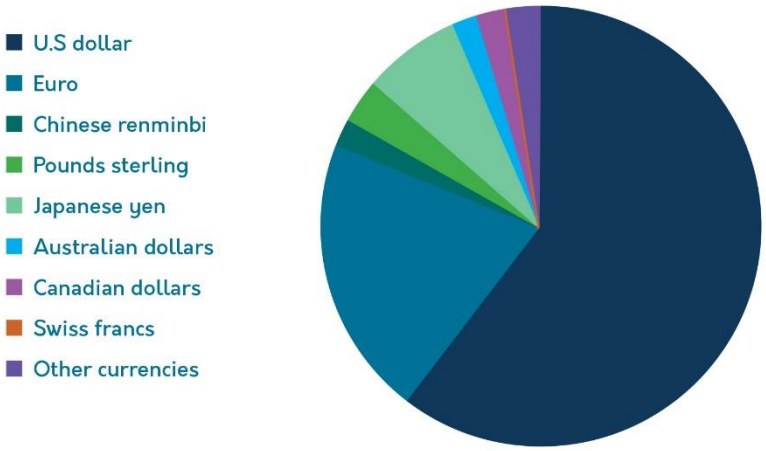
SOURCE: HTTPS://USDEBTCLOCK.ORG/

[3] GFC: Global Financial Crisis

THE IMPACT OF INFLATION

Due to the US stimulus response, US inflation has further devalued the USD in the global currency markets. The USD fell from 94.64 in September 2020 to 90.21 in February 2021. The USD makes up over 60% of the world's allocated reserves as shown in the following graph.

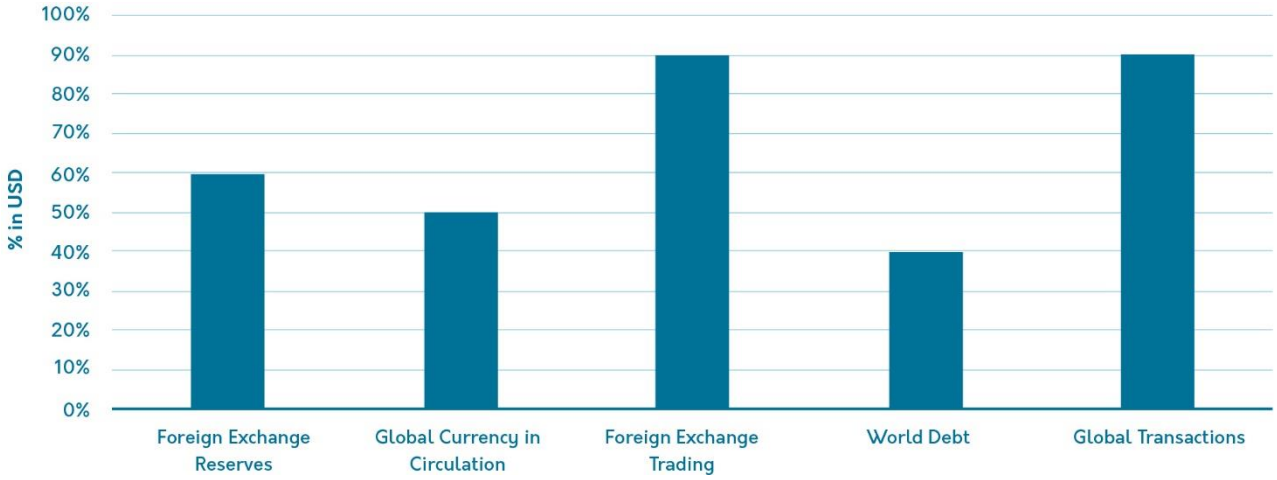
WORLD – ALLOCATED RESERVES BY CURRENCY FOR 2020 Q3



SOURCE: CURRENCY COMPOSITION OF OFFICIAL FOREIGN EXCHANGE RESERVES (COFER); HTTPS://DATA.IMF.ORG/?SK=E6A5F467-C14B-4AA8-9F6D-5A09EC4E62A4

Developed economies are much more resilient to economic concerns in the US because of existing protection policies and may be able to return to pre-pandemic growth rates. Developing economies on the other hand may not fare well with quantitative easing measures as a fear of deflation and lower consumer spending will influence profits and have a serious impact on emerging markets. As shown below, the USD is dominant in the global financial and commodity markets.

US DOLLAR DOMINANCE IN GLOBAL FINANCIAL AND COMMODITY MARKETS



SOURCE: AGFLOW; "HOW DO USD AND EMERGING MARKETS DRIVE COMMODITY PRICES?", 2020

THE ROLE OF GOVERNMENT AND EDUCATION

It is important to acknowledge the role government plays regarding the adoption and education of the public regarding alternative asset classes.

Cynthia Lummis, a US Senator from Wyoming, is an advocate of digital currencies and is the first Senator known to invest in Bitcoin. Below is an extract from a February 2021 interview with her on the Anthony Pompliano podcast, named 'The Pomp' podcast.

When asked about government adoption of Bitcoin, Lummis said:

> "I hope it will be for all the above as for a full diversified asset allocation. So, for example, if you are a postal worker, I believe a postal worker's retirement fund should have the opportunity to invest in Bitcoin. Not Bitcoin exclusively, but Bitcoin as a wide variety and array of assets, if you want to store value for the long term – sort of to protect yourself from inflation. That is where I think Bitcoin plays an important role."

When asked about education of US politicians on Bitcoin, Lummis said:

> "We are forming a financial innovations caucus in the Senate. We hope to use it as a springboard to educate members of the US Senate and their staff about Bitcoin specifically, but about other opportunities for cryptocurrencies and financial innovation and uses of blockchain."

They want to specifically see how and why early adopters choose to confidently invest in Bitcoin and cryptocurrencies and educate US senators on what worked and did not work to become confident in investing in innovation such as cryptocurrencies as an alternative asset class.

The other aspect that is important to note is how innovative the state of Wyoming has become when considering innovation, blockchain, and cryptocurrency. This is an extract from an article published on 17 September 2020 regarding the announcement of Kraken as the first cryptocurrency firm to become registered in the United States.

> "Kraken is the first cryptocurrency firm in the U.S. to become a bank.
>
> "On Wednesday, the Wyoming Banking Board voted to approve the San Francisco-based crypto exchange's application for a special purpose depository institution (SPDI) charter. Kraken is now the first SPDI bank in Wyoming. According to the Wyoming Division of Banking's general counsel, Chris Land, Kraken will also be the first newly chartered (de novo) bank in the state since 2006.
>
> "By becoming a bank, we get direct access to federal payments infrastructure, and we can more seamlessly integrate banking and funding options for customers," said David Kinitsky, a managing director at Kraken and the CEO of the newly formed Kraken Financial. (Kinitsky has run Grayscale Investments, was the first digital assets hire at Fidelity and was most recently head of business development at payments start-up Circle.)"

SOURCE: HTTPS://WWW.COINDESK.COM/KRAKEN-CRYPTO-EXCHANGE-SECURES-BANK-CHARTER-UNDER-WYOMING-LAW

WHY THIS STUDY?

In this study, the Government Blockchain Association (GBA) will look at the many factors related to cryptocurrencies and how cryptocurrency will impact governments all around the world. This summary introduces GBA's approach to analyzing this phenomenon and proposes recommendations to governments dealing with this emerging reality.

As a new and emerging area, retail consumers and institutional investors are rightly worried or scared about going beyond what they are familiar with and taking risks by investing in cryptocurrency. In this space, traditional finance has a role in developing solutions and providing the confidence for consumers to have exposure. Additionally, industry, self-regulatory organizations, and the government have a role to play in helping raise awareness of the opportunities and risks associated with engaging with cryptocurrencies as well as educating consumers on the various cryptocurrency products. In the meantime, this study seeks to provide clarity as to these issues to inform both governments as well as citizens regarding cryptocurrencies.

There are many factors that influence the adoption of cryptocurrencies for widespread use. This study is limited to the adoption of the top 10 cryptocurrencies as determined by market capitalization.

Following is a short summary of the top three cryptocurrency projects ranked by market capitalization. It is important to note the different uses associated with each project or coin:

- Store of value: This is the access and purchase of financial transaction coins such as Bitcoin, and the use of exchanges to purchase cryptocurrencies or store value on the blockchain, e.g. Bitcoin.
- Application platforms: The area focuses on supporting software applications that leverage blockchain technology and the use of smart contracts, e.g. Ethereum.
- B2B merchant: These types of blockchains focus specifically on business-to-business transactions. They can be in the form of fiat-to-fiat or fiat-to-crypto transactions, e.g. XRP/Ripple.

In addition, this study includes other factors such as ease of use, inflationary factors, and regulation. In relation to regulation, this study examines some specific types of regulation, including those related to anti-money laundering and financial crimes. The study also compares different countries' attempts to adopt tax policies for these new types of currencies.

To know where we are going with cryptocurrencies, we need to examine the past. The GBA provides background information on cryptocurrencies for those who may not be familiar with this topic, including potential future adoptions of this breakthrough technology. In Section 3, we investigate the demographics, trends, and patterns relating to cryptocurrency usage and current legislative responses to this technology, and we offer future scenarios for how governments will respond to this new world.

Based on the insights and data from Sections 1 to 3, in Section 4 we discuss the essential impacts on governments. In Section 5 we attempt to connect the dots and offer recommendations for how governments can adapt to the changing landscape of cryptocurrencies. Our discussion covers the following key areas:

- **Regulation** – understanding the new frameworks and paradigms that must be created to give governments the capability to govern in a world where transactions are peer-to-peer.
- **Ethics** – new paradigms for financial systems that consider the ethical impacts of decentralized currency systems.
- **Privacy** – how blockchain and cryptocurrency technology are impacted by existing privacy legislation and how the technology is influencing future policy.
- **Jurisdictions** – governments will need to work together to develop a governance framework that encourages technology innovation, ensures consumer protection, embraces financial inclusion, and incentivizes participants to follow the rules in this new financial monetary and economic system.
- **Economy** – how the global pandemic has impacted economies around the world and how blockchain and cryptocurrency are investments of the future.
- **Enforcement** – how blockchain and cryptocurrency technology is assisting and influencing local, state, national, and international law enforcement entities to develop new ways to ensure consumer and investor protection, including the drafting of new laws.
- **Tax policy** – governments have varying policies when addressing cryptocurrency tax due in part to the lack of common cryptocurrency definitions.

To learn more about the impact of cryptocurrency adoption on government go to www.GBAglobal.org/cmp to download the full report.