**Bitcoin Consulting Outline**

**Any questions you would like to me to address?**

**Setting the stage**

* What is money? How do you define it?
* 3 functions of money:
  + Store of Value
  + Medium of Exchange
  + Unit of Account
* 5 traits of money:
  + Scarcity
  + Divisibility
  + Portability
  + Durability
  + Recognizability
* US Dollar system as it stands
  + Centralized management of money, issuance, policy, etc.
  + Explain the history of its backing
    - Gold standard
    - Fiat backed by gold
      * Gold banned for private ownership in 1930’s
    - Paper fiat post 1971
  + Global reserve currency status
* Current Macro trends
  + WTF happened in 1971? <https://wtfhappenedin1971.com/>
  + Fallout from 2008 financial crisis
    - Stimulus, ~$800 billion
  + Stimulus cannot stop, for fear of markets crashing
    - 2013 Fed issues statement intending to raise interest rates
      * Market threw a fit, Fed quickly reverses course
    - Fed got interest rates back up to 2.5% between 2017-2019
  + COVID
    - Immediate drop of interest rates to near zero (~.25%)
      * Fed stating they will begin raising in 2023, believe it when we see it
    - Money Printer go Brrrrrrr
      * ~30% of all dollars in circulation today printed in the last 18 months
      * Multiple rounds of stimulus, like drug addict, each round needs to be bigger to have the same effect
      * Inflation (CPI numbers do not paint the whole picture)
    - Unilateral government control, globally

**What is Bitcoin?**

* Decentralized P2P digital monetary network with no single point of failure
* Allows anyone with an internet connection to transact in a network that is:
  + Permissionless
  + Censorship resistant
  + Seizure resistant
  + Borderless
  + Operates 24/7/365
* Bitcoin has a fixed supply cap of 21 million bitcoin
  + Enforced in the code run by all the node participants in the network
  + This is the only asset that is provably scare with a fixed supply cap to ever exist
  + Each bitcoin is divisible into 100 million units, called “Satoshis” or sats
  + The supply issuance is predetermined, steady, and reduced by half every ~4 years
* Who is Satoshi Nakamoto?
  + The importance of Satoshi remaining anonymous and removing himself from the project

**How does Bitcoin work?**

* The bitcoin network is supported by two groups of computers around the world
  + Nodes – store a copy, and verify all transactions on the blockchain
  + Miners – compile transactions into blocks, and compete against one another to cryptographically solve the nonce, and thus complete the Proof of Work
* Proof of Work
  + The bitcoin consensus algorithm
  + Energy (electricity) and computational power are exchanged for solving the blocks
    - Tradeoff in creation of new coins to derive its value (just like gold mining)
    - You need to expend work to prevent inflation of currency
  + Miners are financially incentivized to operate in good faith due to upfront cost of ASIC equipment and electricity
    - Being a malicious actor would undermine the network and thus, the price
* Completing a new block and the subsequent coinbase reward, ~10 min block times
  + Mining reward halved every 210,000 blocks (~4 years)
  + Last bitcoin will take almost 40 years to be mined, will be completed in 2140
  + Miners sell bitcoin to cover electricity costs, disseminate bitcoin into the network
* Nodes do not require heavy computational power, just enough disk space to store a full copy of the blockchain (~350 GB)
  + Keeping the cost of running a full node minimal is VERY important to keep the network decentralized and easy for anyone to access
* Bitcoin utilizes private/public key pairs and SHA256 encryption
  + Private key (HOLDS ALL THE POWER) generates public key
  + Public key can generate wallet addresses
  + Bitcoin lives on the blockchain but is associated with your key pair on the open ledger
  + Need private key to digitally “sign” a transaction when sending bitcoin from a wallet
    - Digital fingerprint does not reveal your private key to the network

**Why is Bitcoin Important?**

* Bitcoin is or has the potential to possess all 3 functions of money (Store of Value, Medium of Exchange, Unit of Account)
* Easiest to compare bitcoin as a digital version of gold, lets see how they stack up against each other along with the US Dollar:

|  |  |  |  |
| --- | --- | --- | --- |
| **Monetary trait** | **Gold** | **US Dollar** | **Bitcoin** |
| Scarcity | Semi-scarce (~2% supply growth per year) | Printing trillions every year | Provable scarce, max supply 21 million |
| Divisibility | Not easily divisible, must melt down or divide somehow | Easily divisible down to a penny | Easily divisible down to a sat (0.00000001 BTC) |
| Portability | Not portable outside of small quantities | Easily portable up to ~$10k across borders | Easily portable, if you have the keys, you can recover BTC anywhere |
| Durability | Very durable | Not durable (as cash) | Very durable, only need internet or satellite |
| Recognizability | Very recognizable, but must be verified through testing | Very recognizable, but counterfeiting measures need to be updated consistently | Very recognizable, can easily digitally verify with a copy of blockchain |

* Bitcoin is the antidote to all the macro issues discussed previously in our current fiat system
* Money is the base layer to everything in our society
  + Trade
  + Labor
  + Innovation
  + Basic Survival, etc.
* The money is broken
  + Once taken off the gold standard, we introduced deceit and greed into the monetary issuance
  + US Debt is over $28 trillion <https://www.usdebtclock.org/>
  + In 2019, the US collected $3.5 trillion in tax revenue
  + The Federal Reserve has no choice but to print money to pay today’s debts now, at the expense of the future generations
  + We are in a never-ending debt spiral, that will slowly grow before the inevitable collapse of the US Dollar. Timing on this is impossible to predict, but it is a foregone conclusion to happen
* The US Dollar will eventually lose its status as the Global Reserve Currency
  + What will replace it?
* CBDCs will be introduced by nation-states
  + Opens the door to easy surveillance on how, when and where you spend your money
  + Allows government to have direct access to your account and automatically deduct what they say you owe them (taxes, liens, etc.)
  + Governments can censor your transactions
  + Governments can enforce spending by putting an expiration date on your dollars
* Bitcoin is economic freedom; it is hope for the billions of unbanked and a lifeline for the vast majority of people who are impacted by MMT and irresponsible central bank manipulation of the monetary supply

**Future of Bitcoin**

* Bitcoin is being built out in layers
  + Bitcoin L1 – the main chain
    - Large financial settlements
    - Transaction times depend on block confirmation times
  + Bitcoin L2 – Lightning network, Liquid sidechain, etc.
    - Lightning network operates outside the bitcoin blockchain, albeit connected
    - It allows instantaneous transactions for near zero fees by utilizing a network of payment channels to connect all the users
    - To exit back to mainchain, you broadcast the most recent copy of your ledger to mainchain, the final balance is confirmed in a block and you receive your sats
    - While mainchain fees can become rather expensive as the price appreciates, lightning offers a significantly faster and cheaper alternative
    - Lightning adoption has MASSIVE ramifications for:
      * Instantaneous merchant transactions (like buying a cup of coffee)
      * International Remittances, cuts out 30% Western Union fee and the transaction goes straight to the end user in seconds, not days
    - Most transactions in the future will be lightning transactions, it is how the network will scale as adoption and fees grow
  + Bitcoin L3 – VPN/Tor applications integrated in lightning
    - Still very early ages, but there are applications being built out on lightning allowing for global decentralized internet access with integrated lightning payment channels
* Bitcoin is being adopted by corporations as a treasury reserve asset, this trend will continue
* Bitcoin is being adopted by nation states as legal tender
  + El Salvador was the first country to do this
  + Many other LATAM countries have expressed interest in doing the same
  + Smaller, economically disadvantaged countries will be the first dominoes to fall as this is a better alternative for them than relying on the IMF, World Bank, etc.
* Eventually, central banks will be forced to hold bitcoin in their reserves (like they do with gold)
* Bitcoin will become the global reserve currency due to its sound economic properties and value appreciation. This will take a long time to play out. Likely at least a decade if not longer.

**Alt Coins**

* Term refers to every other cryptocurrency besides Bitcoin
  + Examples: Ethereum, Binance Coin, Cardano, Dogecoin, XRP, Litecoin, Bitcoin Cash, etc.
  + Stablecoins: Tether, USDC, TrueUSD, DAI, etc.
    - Pegged to dollar 1:1 in reserves to retain its ~$1 value all the time
* Alt Coins aim to improve upon certain areas of bitcoin or specialize in other areas besides what bitcoin does
  + LTC with 4x transaction speed, lower fees
    - BTC counterpoint: Lightning network arguably rules this obsolete
  + BCH with larger block sizes allowing quicker transactions and lower fees
    - BTC counterpoint: larger block sizes mean less people have ability to run full nodes, leads to centralization of power
  + ETH, ADA, BNB, etc. all run on or will transition to PoS consensus algorithm
    - Replicates fiat system, address that hold the most of each currency gain more power in mining, transaction verification and the wealth gap grows as they harvest majority of mining rewards
* Overarching theme is that Alt Coins must sacrifice *something* to “improve” upon bitcoin, there is always a tradeoff
* In some scenarios, you may agree with these tradeoffs, people are very opinionated about their belief in certain cryptocurrency projects
* Bitcoin ultimately sacrifices nothing, and as its layers get built out on top of it, it rules all Alt coins obsolete
  + It has the mass adoption, which 99% if alt coins will never achieve
  + It has network effects that move the entire crypto market
* There are over 10,000 cryptocurrencies today, only a handful hold any merit, and there is only one that is the signal in the sea of noise

**But how high will the price get? \*\*NOT FINANCIAL ADVICE\*\***

* If Bitcoin is *just as good* as gold, using market cap as a comparison, Bitcoin would be ~500k in 2021 USD value per coin
* If bitcoin is a 10x improvement on gold (for all reasons above), that is $5 million USD
  + However, by the time it could feasibly reach this appreciation, the USD will be significantly more inflated, so a 10-20 million price point is not out of the question
  + Bitcoin becoming a $100 Trillion asset is roughly a 200x from today’s price point, this would be ~1/4th of global wealth in today’s dollars