

Venezuela: From Hyperinflation to Hyperbitcoinization

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Abstract

Hyperinflation is not a new phenomenon. Throughout humanity we have witnessed how the leaders have made the same mistakes over and over again. Today, Venezuela is one of the most affected nation-state in the world because of bad economic and monetary policies. Unlike in the previous cases of hyperinflation, Venezuela has the solution within reach today because Bitcoin IS sound money. The passage of time has shown us that at some point the individual is corruptible, and through Bitcoin we eliminate the human factor in the production and management of money.

Introduction

To talk about the value of Venezuela's national currency, the Bolivar, and really understand what has happened to it, we must stop comparing it with the US dollar, which although it is true that it is the world's reserve currency today, it has also lost a vast amount of value in the course of the years. During the period between 1931 and 1971, the dollar was pegged to gold as a standard but the exchange of paper money for gold could only be done under certain conditions, which made it practically impossible for the average Joe to have access to the physical gold regardless of still having the banknotes in his possession. In 1971, Richard Nixon makes official what they had been doing in practice and abolishes the gold standard of the United States currency, which allowed the Federal Reserve to issue dollars without the need to buy gold, backing it on the faith of the people in the government.

The most used government currency in the world, the USD, also loses value against gold. In 1971, an ounce of gold was worth 34 dollars, and at the time of these writings, you need 1385 dollars to buy the same ounce of gold; that is why to have a real idea of the loss of value of Bolívar, we have to look at how its value has changed in terms of ounces of gold.

To not go so far in time, let's analyze the last 30 years, in January of 1989, 37.30¹ bolivars were equivalent to 1 dollar, at that very moment the ounce of gold was worth 391.60² dollars, to buy an ounce of gold required Bs. 14,606.68, currently the currency is quoted in 7,251 sovereign bolivars (VES) per dollar, if we return the 5 zeros eliminated by the government in 2018 and another 3 zeros in 2008 we have the figure of 725,100,000,000 bolivars to the dollar, read seven hundred twenty-five thousand one hundred million bolivares for a single dollar.

¹ Historical quote of the bolivar with respect to the dollar

https://es.wikipedia.org/wiki/Anexo:Cotización_histórica_del_bolívar_con_respecto_al_dólar

² Gold historical data <https://es.investing.com/commodities/gold-historical-data>

Although it may be a bit difficult to read, it is necessary to devour zeros eliminated to the currency to be able to compare with 1989's values, so, if we want to know how many bolivars we need to buy an ounce of gold at present, we simply multiply the value of the bolivar / dollar for the price of an ounce of gold currently in dollars.

$$\text{Gold oz} = 725,100,000,000 * 1385 = 1,004,263,500,000,000$$

This ridiculous amount of "money" reads, one thousand four trillion two hundred sixty-three thousand five hundred million bolivars per ounce of gold.

The question that arises at this moment may be, what makes government currencies lose value? Answer is simpler than it appears: money is used as a tool by politicians to finance themselves. Each sovereign currency loses value at a different rate, but what they do have in common is that they all lose value and it tends towards zero, as in the case of Venezuela, where politicians have always tried to get out of the economic problems caused by their own actions, by printing money like if there is no tomorrow.

The printing of inorganic money can be described colloquially as putting your hand in the pocket of the coin holders. With this traditional practice, the population is impoverished, which results in the population not trusting in their currency and, as much as possible, exchanging it for any reserve of value within their reach, which generates a loss of confidence in the currency and leads to a greater loss of value of the currency, this cycle of catastrophic consequences is well known to Venezuelans. This creates a negative feedback loop.

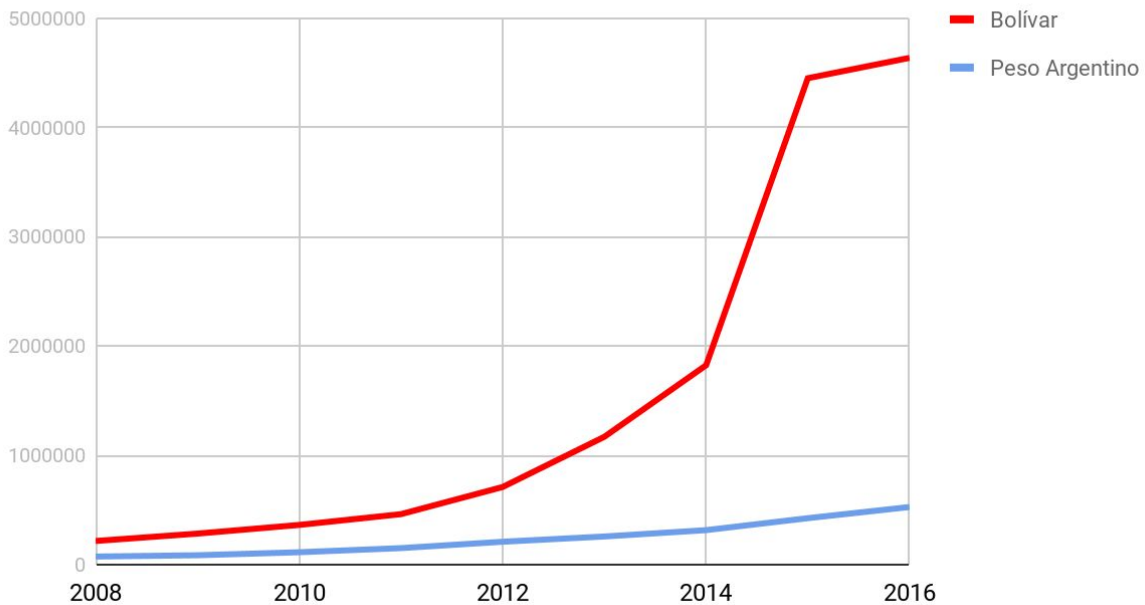
Cause

The emission of inorganic money is not something that can happen under the table, the central banks are obliged to publish these figures, for some reason, nobody reviews them, does not appear in the media, public, private, or in digital media. Nobody talks about what would be the determining factor in the origin of economic crises, they only speak of the consequences, according to official figures of the Central Bank of Venezuela³, from 2008 to 2016, the amount of money circulating rose an average of 8,252 % every year, the graph shows the increase in annual circulating money and we compare it with another currency that has been severely punished by the decisions of the politicians of their country, the Argentine Peso⁴, the years 2017 and 2018 were intentionally omitted, that by including them distorts the graph to such an extent that it is difficult to read, only from 2016 to 2018 the Central Bank of Venezuela, from now BCV, increased the money supply by 1,330,537%.

³ Banco Central de Venezuela <http://bcv.org.ve>

⁴ Banco Central de la República Argentina <http://www.bcra.gov.ar>

Liquidez monetaria anual



Graph 1: Annual monetary liquidity of Bolívar and Argentine Peso currencies
Source: Central Bank of Venezuela and Central Bank of the Argentine Republic

To avoid that money can be created from nothing, as politicians have used to do, is vital for our society. Civil society must work in many ways to reverse this situation. It is not a matter of changing one ruler for another, nor of ideologies, it is a question of protecting the population from the consequences of the manipulation of money by a dome, money should not be controlled by anyone.

As a society we need solid money, resistant to the whims of a few, for years the gold standard brought stability to the societies that used it, but unfortunately using gold has some weak points, which were exploited by bankers and politicians, which It brought us to the current situation, one where no currency has any kind of support.

Bitcoin as a national currency

Since January 3, 2009, Bitcoin has started to operate, a currency that bases its security on mathematical algorithms that are near impossible to break. Bitcoin can not be manipulated by anyone, it is *open source*, thanks to this it is constantly audited, it is *resistant to censorship*, there is no authority capable of preventing anyone from using it and trading Bitcoins whenever they wish, it is *public*, we can all see the transactions that occur in the Bitcoin ledger, better known as blockchain, and last but not least, it has a *fixed supply*, there will only be close to 21 million bitcoins. Currently there are 17,808,550 Bitcoins in circulation and the last fraction of the total supply will be issued in the year 2140.

The use of Bitcoin as daily currency implies a drastic paradigm shift in the population. To carry out the whole process of implementing this currency system implies doing so slowly and thoroughly, without forgetting all the social sectors and in this way trying to avoid outcomes such as resistance to change or the simple fact of living in remote areas worsening the quality of life of citizens.

In order to carry out hyperbitcoinization, an intense process of education within the population is needed. Teaching why money has value and what this value is and when and why it ceases to have it, is as or even more important than technical training on the use of Bitcoin.

Once the citizenship becomes progressively aware of the importance of having control over their own money, understanding the technical details of Bitcoin becomes more intuitive, which will allow the users to truly own and preserve their wealth. The population must be encouraged to create and keep their private keys under their custody. These keys are very large numbers generated randomly, impossible to guess with current technology, guaranteeing the individual to have absolute ownership of their money, a money resistant to any type of government meddling or intervention.

A new Central Bank of Venezuela

As the BCV must accumulate bitcoins as well as gold and incorporate it into its reserves, its work as instrument for the impoverishment of the population ends from the moment that the emission of inorganic money is abandoned, for this reason, Bitcoin as national currency must be adopted for all types of transactions, salary payments, taxes and commerce in general without any restriction or control.

Today there are companies that practically do not use cash, an example of what is shaping up as the first country without cash is Sweden. Currently only 1% of money exchange operations are carried out with cash in Sweden, but even Swedish society has not been able to completely get rid of cash, *1 million inhabitants of that country do not feel comfortable using computers or mobile phones to perform processes related to money*⁵.

In the Swedish example the two sides of the coin are appreciated, on the one hand an unstoppable process by which more people use digital money, but it is also notable that for a part of the population these changes are being made too fast. This trend is probably far from reaching Venezuela, but it makes it clear that the use of a digital currency, in this case, a cryptocurrency is entirely feasible, without forgetting that there are citizens to whom the use of technology is difficult like senior citizens, inhabitants of remote populations, cases of people with some type of disability that hinders the use of electronic devices, among others.

It can not be ignored that the electricity and telecommunications infrastructure currently in Venezuela is deteriorated, which is why, in parallel with the recovery of infrastructure, efforts should be made to support and encourage the use of mesh networks, such as the Locha

⁵ Sweden's Push to Get Rid of Cash Has Some Saying, 'Not So Fast'
<https://www.nytimes.com/2018/11/21/business/sweden-cashless-society.html>

mesh open source project⁶ which allows citizens, through small and relatively inexpensive devices, to communicate, send and receive payments in Bitcoin, without having to be directly connected to Internet, even if the electric service has been interrupted since this type of networks use radio frequencies to transmit and receive information.

Working on the development and popularization of the use of mesh networks is very important, with a very low investment the use of mesh networks would allow populations away from large cities to communicate or exchange money, but would also be of great help in places affected by natural disasters where local infrastructure has been affected.

Using only means of digital payments is the long-term goal and although we should work to eliminate paper money in the future, one must make a slow transition in which the past coexists in harmony with the present; paper and bits, the BCV must use part of its reserves in Bitcoin to back national banknotes and coins, and in this way create a new government money, one that does have backing on a Bitcoin Standard.

⁶ Locha Mesh Project <https://github.com/btcven/locha>

Bitcoin on paper

The use of gold as currency and storage of value, maintained economic stability for years. The invention of paper money led to greater use of paper money, checks and vouchers as a means of monetary exchange instead of gold coins.

When the exchange of paper for gold began, people were aware that real money was in fact gold, and for people to accept to use bank notes, they had to be able to exchange them for gold in the bank whenever they needed it. For everything to work correctly the amount of money that existed in papers represented the same amount of gold stored in banks, this system worked well for some years and people were so comfortable with the portability of the papers that they didn't need to withdrawal the heavy metal.

In the long run, this comfort in the population caused the bankers to start printing paper without backing in gold. As a consequence, the wealth of the citizens who saved by accumulating paper money was transferred to the bankers, without negative consequences for the latter. When money is issued out of nowhere the consequences are not palpated instantly as the population has had no means to realize what is happening at that time; with Bitcoin this situation can change.

One bitcoin today is priced at just over ten thousand US dollars, but this price is not an impediment to make very small payments, it is possible to buy a candy with bitcoin, one of the properties of Bitcoin is to be divisible by 100 million units, facilitating the payment of very small fractions, the smallest unit of a bitcoin is called *satoshi*.

Although each citizen has their own private key, by means of which only that person and nobody else can spend their money, sometimes they may need to do offline trades, this is when banknotes enter to the scene, the new BCV must issue new banknotes in which the unit of account is the satoshi, the amount of satoshis for each note and coin is something that should be studied and reach a consensus upon, but it can easily be thought that the lowest denomination banknote would be 10,000 satoshis, little more than 1 dollar, from here we can complete the banknotes series with 20,000, 50,000 and 100,000 satoshis, as well as coins of 500, 1000 and 5000 satoshis.

What differentiates this paper money from traditional paper money is that this will be backed by solid money, in each note in addition to the serial thereof, you can appreciate the unique identifier of the transaction in the blockchain of Bitcoin, this identifier is known as hash, in which it is verified that the amount indicated in the banknote exists in the blockchain.

To link banknotes and transactions, the BCV, with the Bitcoins in its possession, must create for each banknote an *Unspent Transaction Output* in the blockchain, better known by its acronym, UTXOs⁷ with the corresponding amount and print on the respective banknote the hash of the UTXO in hexadecimal and in QR code. The holder simply scanning a QR code

⁷ UTXO, Transaction of exit not spent <https://bitcoin.org/en/glossary/unspent-transaction-output>

on the banknote will be able to verify in real time that the money has not been spent and remains in receipt of the BCV, therefore that paper has value.

The BCV's Bitcoin reserves must be managed with multisignature⁸ technology. Wherein, to spend the money it is necessary to digitally sign the transaction with several private keys, this measure prevents a single person or institution from having control of the money. A protocol must be established for the handling of these keys, which indicates among other things that each key must be physically separated from the rest, the vault protection of the keys, how often each key must sign a document of public access with the purpose that any citizen can verify that the keys are safe, etc.

The population can deposit and withdraw paper money from banks and ATMs. Money on paper is not a substitute for the money accumulated by each citizen and insured by his private key. It is important that the citizen has knowledge that even having this money issued by the BCV in his hand, this money is really guarded by a third party, who has the private keys necessary to spend it. The population must protect their savings with their private keys and "rent" this money in paper money when they need to make transactions offline.

The use of Bitcoin as a daily currency offers countless advantages compared to the use of paper money to make payments. The citizen, who will already know the difference between using money guarded by third parties and their own money, together with all the technical advantages, will see the adoption of Bitcoin as a natural process and will abandon the use of cash in custody by the BCV.

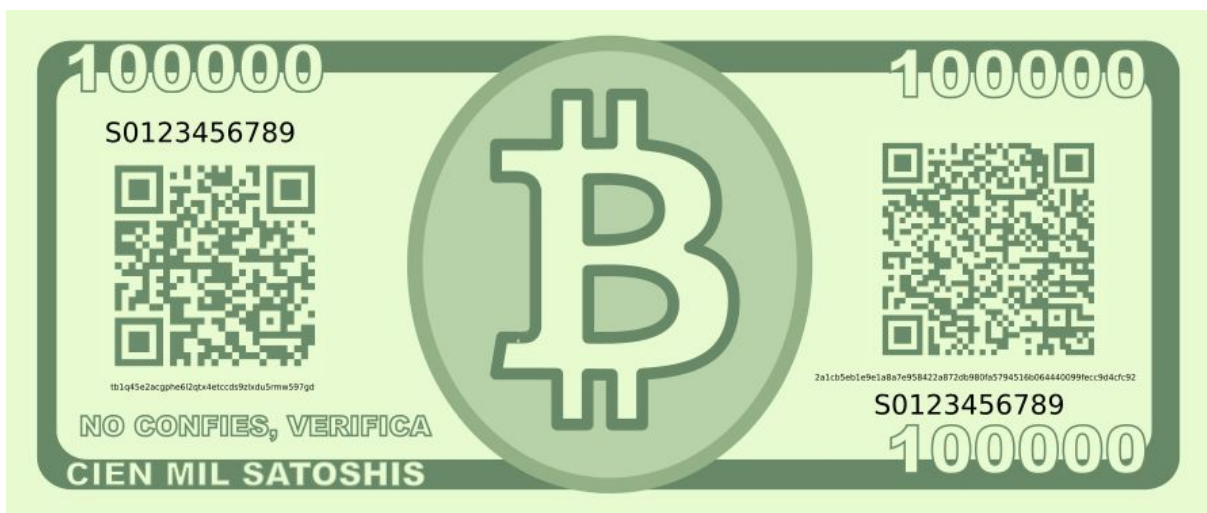


Image 1: Sketch of One hundred thousand satoshis banknote

⁸ Multisignature <https://en.bitcoin.it/wiki/Multisignature>