

# What is a meme coin? Dogecoin to the moon!

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# What is a meme coin? Dogecoin to the moon!

#### **Abstract**

The rise of cryptocurrencies has shaped the current economic landscape, while also raising many conceptual issues. The present paper will aim at an approach to one problem that has not been studied to date. One widely known fact about cryptocurrencies is the existence of meme coins, such as Dogecoin (DOGE) or Shiba Inu (SHIB), which are very popular as assets for retail investors; accordingly, their dynamics have been studied to some extent by economists. However, to date no one has attempted to focus on a basic conceptual question upon which, to a certain degree, all of these studies depend: what is a meme coin? The present paper addresses this question. Through the analysis of paradigmatic examples, I argue that meme coins should be defined as a cryptocurrency characterised by three properties: i) community before utility, ii) inverse crowdfunding, and iii) zeronomics. I then argue that these properties are not present in every meme coin; moreover, they may appear as well to some extent in cryptocurrencies not labelled as meme coins. Therefore, I argue that we should rely on two concepts, that of the meme coin and that of meme *coinness*, with the latter representing the extent to which a given cryptocurrency resembles a paradigmatic meme coin. The paper concludes with an outline of potential debates in which the concept of the meme coin could be implemented.

**Keywords:** nakamoto, memeconomy, ryoshi, blockchain, cryptocurrencies

#### 1. Introduction

The world of cryptocurrencies started with the release of Bitcoin (BTC)<sup>1</sup> by an individual or a collective using the pseudonym Satoshi Nakamoto (2008). It was supposed to be an alternative and decentralized payment system – digital cash (for an introduction, see Lewis 2021; Ammous 2018). At the moment, the use of blockchain is growing, with more and more new innovative applications, and cryptocurrencies represent an attempt to decentralise various financial instruments. Therefore, they are not limited to payments alone. In fact, at the moment new alternative blockchains with much more functionality are emerging, e.g. Ethereum (ETH), 'a technology for building apps and organisations, holding assets, transacting and communicating without being controlled by a central authority' (Ethereum Foundation 2022). As a result, users can trade on decentralised exchanges (DEXes), lend cryptocurrencies, etc. Huge growth in the use of blockchain technology in recent years has led to many interesting scientific and philosophical questions. In terms of the former, the volatility of cryptocurrencies (e.g. Sukamulja and Sikora 2018; Cheah and Fry 2015) and the relationship between cryptocurrencies and other markets (Kang et al. 2019; Mariana et al. 2021) have been studied. Additional philosophical questions have asked what is a Bitcoin (Warmke 2021), whether cryptocurrencies can function as money (e.g. Bjerg 2016; Yermack 2013; Hazlett and Luther 2020) and whether they possess any intrinsic value (García-Monleón et al. 2021); moreover, many ethical deliberations concerning cryptocurrencies have been undertaken (Angel and McCabe 2015; Dierksmeier and Seele 2018; Bailey, Rettler, and Warmke 2021).

The above paragraph clearly indicates the growing interest in cryptocurrencies at the financial and intellectual levels. Still, many issues are poorly understood. This paper will aim to provide an understanding of the nature of a certain group of cryptocurrencies, i.e. meme coins. Due to the influence of Elon Musk, who avidly advocated one famous meme coin, Dogecoin (DOGE), and to numerous stories of people who have turned a few dollars into millions, investment in meme coins is now an important part of the cryptocurrency ecosystem. The popularity of meme coins has also triggered certain academic work concerning their nature. On one hand, a large number of quantitative studies have been carried out. Some of these studied the relationship between social networks and the price of meme coins (e.g. Tandon et al. 2021; Agarwal et al. 2021; Lansiaux et al. 2022). Li and Yang (2022) studied the question of whether a radical increase in the price of meme coins tends to precede a crash in the crypto market. The relationship between gambling problems and investment in meme coins has been studied as well (Philander 2023). Other scholars have approached meme coins from a more humanist perspective. Chohan (2021) studied the history of the most famous meme coin, Dogecoin (DOGE). Nani (2022) explored the properties of Dogecoin (DOGE) and the many roles they may play in the growth and adoption of the corresponding blockchain. Additionally, multiple folk definitions of meme coins can be found on the internet (Table 1), showing that there is some interest in conceptualising this kind of financial asset. All of the above shows that defining meme coins may be well worth the effort. However, there has been no single paper that aims to answer a fundamental question relevant to all of these studies: what are meme coins?

<sup>&</sup>lt;sup>1</sup>As the world of cryptocurrency is extremely rich and varied, in the present paper the name of a given cryptocurrency is followed by its abbreviation in brackets in order to ensure clarity.

In this paper, I will attempt to evaluate whether meme coins are sufficiently distinctive to justify their consideration as a unique class of cryptocurrencies, and, if so, to determine what properties differentiate them from, for instance, Ethereum (ETH) or Bitcoin (BTC). To achieve this task, I will analyse the ways in which various cryptocurrencies labelled meme coins originated and the factors that contributed to their growth and adoption over time. For this purpose I have selected three cryptocurrencies: Dogecoin (DOGE), because it is considered the first meme coin to be launched; Shiba Inu (SHIB), because it is the only meme coin that has managed to flip Dogecoin (DOGE) in terms of market capitalisation and was the second meme coin to crack the list of the top 10 cryptocurrencies; Pepe (PEPE), because it is a very recent phenomenon that was the fastest among meme coins to enter the list of the top hundred cryptocurrencies. I think this is a fair selection, and therefore will treat these three as paradigmatic examples of meme coins.

The structure of the paper is as follows. In the next section, based on empirical data data <sup>2</sup>, I analyse the origin, development, and tokenomics of these paradigmatic meme coins. I conclude that they are characterised by i) community before utility, ii) inverse crowdfunding, and iii) zeronomics (see fig. 1 for summary). In the following section I analyse other meme coins and cryptocurrencies in the context of the developed framework, noting that, while some meme coins do not share all of the properties of the paradigmatic examples, other cryptocurrencies not generally considered meme coins bear some similarities to them. Therefore, to capture this great diversity, I introduce the concept of meme *coinness*, defining it as the extent to which a given cryptocurrency resembles a paradigmatic meme coin. I conclude with a list of potential debates in which the developed framework may be of help.

# 2. The nature of paradigmatic meme coins

# 2.1 Community before utility

One of the most interesting outcomes of the internet is crowdfunding. The idea behind it is quite simple (Short et al. 2017; Shneor and Vik 2020): a group of individuals comes up with a proposal for a certain utility they wish to deliver and presents it to the community by means of certain platforms. If the community likes the proposal, members may invest in it. Quite often they receive some benefits as a reward for their contributions. Therefore, as Short et al. (2017, p. 149) stated, crowdfunding consists of 'pooling often small amounts of capital from a potentially large pool of interested funders'. This is a very interesting way of funding a business. The entrepreneur knows at the outset that there is a target audience. Thus this method of founding start-ups has been quite popular in recent years on platforms such as Kickstarter (see Shneor and Vik 2020). Even scientists

<sup>&</sup>lt;sup>2</sup> The paper is based on digital information that has been published in various mediums: blogs, websites, Twitter posts, and .pdf documents dropped on Discord/Telegram. It would be very inconvenient to refer to them here, as the documentation would be messy. Therefore, links to all of the material presented here are included in Supplement 1. Moreover, some of these digital items may be not accessible in the future; for this reason, these links are accompanied with screenshots including essential information, in order to preserve them for future generations.

have attempted to fund their research in this way (Schäfer et al. 2018; Chan and Parhankangas 2017).

One very specific feature of meme coins is that, as in the case of crowdfunding, they successfully attract the money and attention of the community. However, the important difference is that they start without plans for any specific utility to be delivered by the founders. Here the community gathers because they are attracted by a certain memorable idea. Frequently, notable people 'ape' – as cryptocurrency investors call it – into a given project, using their money on a DEX (decentralised exchange), without knowing who the authors are or whether the cryptocurrency is safe, which often is not – for example, according to Mazorra et al. (2022), about 97% of tokens launched on UniSwap (DEX on Ethereum) are scams. Of course, the reasons for finding a given idea memorable (or inimitable, as some tend to say) are quite diverse and are widely analysed in cultural studies (Molina 2020; Huntington 2013; Shifman 2013; Arkenbout et al. 2021). Regardless of the reason, meme coins generally start with a memorable idea, without any plans to offer investors a utility. Buyers do not know what, if anything at all, will be delivered by the founders. In other words, the community invests money irrespective of whether any specific utilities are offered – thus the principle of 'community before utility'.

The previous account captures quite well the origin of the three worldwide famous cryptocurrencies, which I consider paradigmatic cases of meme coins – specifically, Dogecoin (DOGE), Shiba Inu (SHIB), and Pepe (PEPE) – as their origin is linked to memorable ideas devoid of any initial plans for developing a utility. Let us start with Dogecoin (DOGE), which is a very well-known case of a meme coin that is due to the huge impact of Elon Musk. Its history has been well studied by academics (see Chohan 2021). Dogecoin was intended as a joke. The initial success of Bitcoin (BTC) was followed by the creation of many imitations, such as Litecoin (LTC), which, except for a new logo and name, often did not expand much on the initial idea or did so very little. Some found this situation ridiculous, since new cryptocurrencies contributed no novel ideas to the world of cryptocurrency, but were merely speculative assets. To make fun of this situation, Jackson Palmer came up with the idea of Dogecoin (DOGE), which was based on the memorable meme of 'doge' and was intended to ridicule the wave of new cryptocurrencies by showing that people would trade anything, whether it had any value or not. Based on this meme, people started to buy it and thereby joined the Dogecoin (DOGE) movement. The founder offered no utility; rather, he created the coin in order to emphasise his sceptical view of cryptocurrencies, most of which are valueless. However, people found this idea of humorous cryptocurrency exciting to the extent that it led to the emergence of a large community associated with Dogecoin (DOGE).

As of today, after two years of a bear market in crypto, Dogecoin (DOGE) is still among the top ten cryptocurrencies. How was this community able to grow so large and to survive for so long? Notably, Dogecoin (DOGE) has had major support from one of the world's richest men, Elon Musk. Starting in 2021, this support led to a big spike in interest in investing in Dogecoin (DOGE) and thus to the massive growth of the community. Advice on how to invest in Dogecoin (DOGE) went viral on social media such as TikTok. Investing in Dogecoin (DOGE) became fashionable. But this is only the most recent part of the story. Dogecoin (DOGE), at the time Musk mentioned it, had already been thriving for years. One reason is that, even though it was supposed to be a joke, Dogecoin (DOGE) brought a great deal of freshness to the world of cryptocurrencies and finance.

Based as it was on the popular meme of 'doge', a funny photo of a Shiba Inu that was extremely popular on the internet (see Jeong 2007; Esteves and Meikle 2015), it became, as noted by Nani (2022), a bridge between the world of internet memes and the world of finance. The latter became much more entertaining, as the result of this link with 'fun' culture, and thus this new 'hybrid' drew the attention of individuals who then actively contributed in many ways to building the community. This led to its creation of the first social institutions based around Dogecoin (DOGE), notably, that of the Doge Foundation,<sup>3</sup> launched in 2014 and re-activated in 2021. This foundation is the oldest of its kind, associated with the mission of development and public advocacy of this first-ever meme coin. Early on, the Dogecoin (DOGE) community became well known for their charitable activities, as listed by Jeong (2007). In 2014, the community managed to raise \$30,000 as part of a crowdfunding effort to send the Jamaican two-man bobsled team to the Sochi Olympics, an amount that constituted roughly 20% of the total raised. Another example showcasing this positive aspect is the 2013 incident in which holders of Dogecoin (DOGE) were hacked by means of an attack on the online wallet Dogewallet. The community gathered and started an online campaign called 'SaveDogemas' to donate coins to those who had lost them. This initiative helped users of the hacked wallet to recoup their losses within a month. Overall, even though Dogecoin (DOGE) was created as a joke, the community that formed around it was very positive in turning investment into a fun activity, creating organisations, and becoming involved in many charitable actions. Taken together, this contributed to a very positive picture of Dogecoin (DOGE), which encouraged new investors to join the Dogecoin (DOGE) community over time.

Another example is the famous cryptocurrency Shiba Inu (SHIB), created in 2020 by an anonymous individual calling himself Ryoshi. His idea was to start a 'decentralised' experiment, mainly to see whether it was possible to build a 100% decentralised community that would not be led by any one person. He offered no utilities, leaving the community's development and direction to be addressed in the future in accordance with its own decisions. Ryoshi also decided to choose a logo and a name that would link the community's identity to a breed of dog, Shiba Inu, very likely in order to suggest an association with the success of Dogecoin (DOGE). The early days of Shiba Inu (SHIB) were focused mainly on community growth. However, the community as a whole had no any specific goal toward which it might navigate step by step. Rather, it comprised a group of people who met on social platforms, traded their coins, talked about future plans and utilities, and built and expanded the community through social media activity. Things changed a bit for Shiba Inu (SHIB) as a whole around 2021, at which time great excitement surrounded Dogecoin (DOGE) due to the involvement of Elon Musk. Many investors were making a lot of money, motivating people to look for other coins that might provide a similar or higher ROI. Many moved to Shiba Inu (SHIB), as several tweets by Elon Musk, perceived as endorsements, served to multiply interest in this coin. The community grew rapidly, reaching around 100,000 holders in April 2021. At the same time, its goal became crystallised. Community members spoke repeatedly about flipping Dogecoin (DOGE) and becoming the number one meme coin cryptocurrency. This idea became a new paradigm in the community, which attracted more and more new members. Rapid growth and change in the paradigm was followed by an altered direction of development of the community

<sup>&</sup>lt;sup>3</sup>Website: https://foundation.dogecoin.com/about/

towards becoming more expansive. It became known for organised 'raids' on social platforms of other cryptocurrencies, for instance, entering the Dogecoin Telegram group and asking holders to sell Dogecoin (DOGE) and buy Shiba Inu (SHIB), or becoming very active under posts of centralised exchanges and asking for listings. All of these changes in the community's attitude were emphasised, even, in an extreme case, in the name of a new cryptocurrency created as a part of the growing ecosystem: Doge Killer (LEASH). The community had a simple goal: to flip Dogecoin (DOGE) and become the biggest meme coin. The efforts finally paid off in October 2021, when Shiba Inu (SHIB) managed to flip Dogecoin (DOGE) for a few days, thus attaining the community's goal.

It is interesting to stop for a moment and ask why the community of Shiba Inu (SHIB), among so many meme coins, was strong enough to flip Dogecoin (DOGE) in market capitalisation. Was this only a random event that could have happened with any other meme coin? Clearly Elon Musk and some other millionaires contributed to the adoption of Shiba Inu (SHIB), along with Vitalik Buterin, who donated 40% of the supply, which he had obtained during the launch of the token<sup>4</sup> – an action which, even though it led to a temporary price crash, made Shiba Inu (SHIB) well known worldwide. Furthermore, a bull run was reaching its peak around that time. Many factors operated in favour of Shiba Inu (SHIB). However, a huge role was played as well by the philosophy behind this coin. In his first essay, Ryoshi presented his vision for Shiba Inu (SHIB),<sup>5</sup> which was supposed to be a pure experiment in decentralisation, intended to be run without the backing of any official team – meaning that there was no team responsible for work on the product or for marketing, nor any official funds to be used for any of these things. In other words, you could not complain to Ryoshi or anyone else about price decreases or any other problems, because they were not a company that you invested in, but an aggregation of individuals who had bought tokens on a free market and volunteers, like you, who wanted to contribute to the coin's growth. Ryoshi implemented his philosophy on a daily basis; when someone asked him about marketing or utility he often responded with the same question: 'When are you supposed to do the things you're asking me to do?' This response shifted the responsibility for the growth of the project to every member of the community: if you want marketing, utilities, etc. you have work on them. You are part of the 'team' just like every other person in the community. As abstract as this sounds, it contributed greatly to the growth and expansion of the community when the time came. Community members (or at least some of them) knew that they were responsible for the future of the project. Many of them undertook marketing activities; others start working on the products (see next section). This philosophy reached its practical peak when Ryoshi decided to quit. The new leader was Shytoshi Kusama, originally just an ordinary member of the community who, through hard work, became appreciated and over time grew into a leader. After the success of Shiba Inu (SHIB), this philosophy has dominated the field of meme coins. The majority of these coins currently adhere to it; their websites often feature the idea that a cryptocurrency is 'community driven', or similar phrases. See, for instance, the manifesto of A Hunters Dream (CAW). Therefore people in this field often say that Ryoshi, due to his philosophy, was as important for meme coins as Satoshi

<sup>4</sup> Ryoshi sent him 50% of the coin supply, because he wanted Shiba Inu (SHIB) to have a vulnerable point.

<sup>&</sup>lt;sup>5</sup> You can access it here: https://www.shibatoken.com/

Nakamoto was for cryptocurrencies. Whether this is true or not, clearly this way of thinking was important for the success of Shiba Inu (SHIB).

Now we can finally proceed to the last example, Pepe (PEPE). This is the most recent, created in April 2023, and enjoyed the fastest run to the top one hundred cryptocurrencies, as ranked by market capitalisation, of all meme coins. It took Pepe (PEPE) no more than approximately one month to reach over 1B market capitalisation, starting just from a few thousand dollars, thus providing huge ROI in a very short time for early buyers. The Pepe meme presents an anthropomorphic frog character from the comic series 'Boy's Club' by Matt Furie. It attracted huge interest on internet websites characterised by strong sympathy for cryptocurrency, such as Twitter or 4chan. It is not surprising that the crypto community attempted to monetise this sympathy. Interestingly, there were many attempts to launch coins based on this meme over the years, but they failed to attract attention on the level of Dogecoin (DOGE) or Shiba Inu (SHIB). This time was different, and Pepe (PEPE) was a smart mix of a popular meme combined with a generally low level of enthusiasm – especially for meme coins, which had been downtrending in the market for months – and some political associations. The meme coin Pepe (PEPE) shows a 'Pepe' frog wearing a cap bearing the phrase 'Let's make memes great again'. Therefore, it combined a popular meme, a general sense of unhappiness associated with underperforming meme coins, and an association with the Donald Trump campaign, which is perceived somewhat positively in the crypto field, where political sentiment has shifted in favour of the right wing (Golumbia 2016; Keatinge et al. 2019). All of these factors, combined, constituted a huge trigger for the biggest run in the history of meme coins.

There are, however, differences in comparing Pepe (PEPE) to Dogecoin (DOGE) or Shiba Inu (SHIB). Mainly, the two dog-themed coins, prior to going on crazy runs, had been building community for months. Thus they had built an 'army' of strong believers that could survive ups and downs. In the case of Pepe (PEPE), following its launch, it moved constantly upwards until it had reached the top hundred cryptocurrencies in terms of market capitalisation. No strong community had been built prior to this movement. So how did a meme coin without utilities and without a well-developed community achieve such successful growth in such a short period of time? It is, of course, difficult to present a simple explanation; the question requires a detailed study. Part of the story is explained by timing and the perception of the general idea as explained earlier. However, an important part was played here by people who actually did not like Pepe (PEPE) or who wanted it to fail. Since Pepe (PEPE) was launched, influencers on Twitter had been systematically saying that this was the end and that the time had come for holders of Pepe (PEPE) tokens to sell them. Every time Pepe (PEPE) reached a new high, the same comments were repeated. This was a kind of negative marketing on a huge scale. Everyone wanted to declare that the coin had peaked. However, this produced a different effect. Every time pundits failed to predict the peak, more people started to believe that the coin's worth would rise even higher, as their faith in the Pepe (PEPE) community was reassured. The negativity strengthened the Pepe (PEPE) community and over time convinced even the biggest supporters of Dogecoin (DOGE) and Shiba Inu (SHIB) to move their assets to Pepe (PEPE). As a result, the community expanded rapidly.

#### 2.2 Inverse crowdfunding

I began the last subsection by emphasising that one interesting way to fund a project is crowdfunding, which came into widespread use due to the emergence of the Internet in recent years (Schäfer et al. 2018; Chan and Parhankangas 2017). I then went on to argue that people invest in meme coins because the ideas behind them are memorable. This seems odd. Is there any connection between crowdfunding and meme coins? I believe there is. In the case of meme coins, they first attract people because of their memorability; only then may developers or community members start working on a certain utility. I call this *inverse crowdfunding*. Meme coins invert the classic creator-investor relationship of crowdfunding, whereby a certain utility is presented to potential investors, who fund it only if it gets their attention. Inverse crowdfunding is the rational next step in the development of a meme coin. Even assuming that creators can come up with memorable ideas, innumerable new ideas emerge every day. Thus, if the community is to be maintained, starting work on a certain utility is a good idea. This stands in contrast to most ways of starting a business, even in crypto, as generally the presentation of a utility to investors is the first step. In the case of meme coins, utility follows the community; hence the principle of inverse crowdfunding.

This principle is characteristic of all three of the prominent meme coins I described in the previous subsection. Let us start with Dogecoin (DOGE), which has become associated with certain utilities over the years. Even though it started as a joke, the community, as soon as it had been built, began to look for utilities and to present Dogecoin (DOGE) as something more than a joke. The very first use of Dogecoin (DOGE) was as an online tipping system, whereby users on social media platforms gave tips to other users for providing interesting or noteworthy content on blogs or, more often, on Reddit. This system contributed significantly to popularising Dogecoin (DOGE) among the masses (Jeong 2007). Dogecoin (DOGE) fit this role well due to its large supply and the low price of a single token, which enabled people to tip using a few million tokens worth a few dollars, instead of just a small fraction of a Bitcoin (BTC). This was probably the main reason why Dogecoin (DOGE) began to fill this role, rather than Bitcoin (BTC), as it seems much more rewarding to receive a few million tokens rather than a small fraction of a single token. Additionally, as Dogecoin (DOGE) is based on a popular meme, this was probably viewed more as fun than as actual expenditure or earned income.

This latter aspect, Dogecoin (DOGE) as money, was then transformed into something more serious. One major direction in which Dogecoin (DOGE) was pushed by its community was based on the argument that it could function more effectively as a method of payment than Bitcoin (BTC). Often mentioned among the many points in this argument are Dogecoin's (DOGE) low transaction fee, which makes people more prone to spending it, as compared to Bitcoin (BTC) and its inflationary nature. Accordingly, the community endeavoured to make it acceptable as payment in various places. For instance, at the moment, Tesla accepts Dogecoin (DOGE) payments for its products. Other places include AMC Theaters, where popcorn and tickets can be paid for with Dogecoin (DOGE), or the online marketplace Crypto Emporium, where customers can use it to pay for a wide variety of electronic items. Following the success of Ethereum (ETH) in enabling the creation of an application on its blockchain due to the development of smart contracts, many felt that coins such as Litecoin (LTC), Bitcoin (BTC), or Dogecoin (DOGE) were less useful and were

destined for a dim future, as their infrastructure did not permit the implementation of such an utility. Therefore, Dogecoin (DOGE) supporters spent a long time discussing how to handle this issue. The first successful attempt took place in 2022, when some community members created a new blockchain called Dogechain, using Dogecoin (DOGE) as a gas token,<sup>6</sup> thus opening the way for the creation of many potential utilities. Dogechain was also expected to create more demand, since Dogecoin (DOGE) was needed to do anything using that chain. Sadly, the chain did not receive sufficient interest due to certain problems; however, the episode showed that there were ways to utilise smart contracts with Dogecoin (DOGE), and surely this direction will be pursued in the future.

The Shiba Inu (SHIB) community has also been pushing its project towards utilities over time. As mentioned earlier, Ryoshi, when launching the project, did not suggest any specific utilities as a direction. Shiba Inu (SHIB) was supposed to be 'people crypto', meaning that the community was supposed to work on utilities, marketing, and the general direction of the project. Following in the footsteps of Dogecoin (DOGE), Shiba Inu (SHIB) made an early attempt to position itself as alternative payment method. For instance, like Dogecoin (DOGE), Shiba Inu (SHIB) is currently accepted in AMC Theaters. However, this was not carried over to utilities, since, in contrast to Dogecoin (DOGE), Shiba Inu (SHIB) is not inflationary in nature due to its fixed supply, and serves as a token on the Ethereum network (ETH), as opposed to Dogecoin (DOGE) with its separate blockchain. As result, transactions using Shiba Inu (SHIB) are characterised by high gas fees, making it a very poor candidate for use as a medium of exchange. However, its deployment on Ethereum (ETH) opened a variety of different possibilities for Shiba Inu (SHIB) for building utilities, due to the existence of smart contracts. One of the first projects run by the community was an attempt to build its own decentralised exchange, which was supposed to be a modified version of SushiSwap. As a result of community efforts in April 2021, ShibaSwap was launched, offering a number of utilities for Shiba Inu (SHIB) cryptocurrency. For instance, investors could stake their Shiba Inu (SHIB) tokens and receive rewards in the form of another token, Bone (BONE), which later became a governance token and will be the gas token of the upcoming Shibarium. The latter is especially worthy of mention. Shibarium will constitute layer 2 on Ethereum (ETH), a chain built upon Ethereum (ETH), which, while retaining its security, is supposed to have lowered fees for transactions. There are already a few layer 2s that have tried to solve this problem, e.g. Arbitrum (ARB) and Optimism (OP). Shibarium is expected to introduce its own solutions. Shibarium will increase demand for Bone (BONE), which will be the gas token, but Shiba Inu (SHIB) tokens are predicted to benefit as well, because a part of the collected fees is supposed to be used for buying and burning Shiba Inu (SHIB), thus generating constant buying pressure and deflationary tokenomics. At this moment this scheme is in the testing phase, with over 30 mln transactions and over 17 mln wallets created. At the same time the Shiba Inu (SHIB) community is building a metaverse, which is supposed to be a virtual representation of the history of the community. People will be able to buy/sell NFTs that represent lands, avatars, etc., and build their own place in the digital representation of the Shiba Inu (SHIB) ecosystem.

<sup>&</sup>lt;sup>6</sup>More precisely, wrapped Dogecoins.

All of these things are connected to building utilities on the blockchain. However, for a long time, Shiba Inu (SHIB) aspired to be something more, wishing to transcend the blockchain communities and reach regular people that might not have any interest in meme coins or even in cryptocurrencies. Therefore, the Shibu Inu (SHIB) community also worked on developing the brand outside the crypto field. One excellent collaboration established a partnership with clothes designer John Richmond in order to create a unique collection, themed for the Shiba Inu (SHIB) community, which is expected to be released soon and to be purchasable with Shiba Inu (SHIB). John Richmond's company is also supposed to play a role in the upcoming metaverse. Another area of the economy targeted by Shiba Inu (SHIB) community is food. Shiba Inu (SHIB) partnered with Welly, a local Italian brand, which agreed to re-brand in order to represent the community in terms of both theme and menu. Welly also introduced payment and burn mechanisms for Shiba Inu (SHIB). Shiba Inu (SHIB) has also entered the realm of games by releasing Shiba Eternity, a card game, based on community lore, available on iPhone and Android. Overall, then, Shiba Inu (SHIB) has been attempting not only to build its utilities on the blockchain but also to transcend it and build brands involved in food, games, and clothing. This enables people outside the crypto field to learn about Shiba Inu (SHIB) and to use the cryptocurrency in real business endeavours.

We can now proceed to the final example of a paradigmatic meme coin, Pepe (PEPE). As it is the newest, we should not expect it to have reached the level of development being achieved by Shiba Inu (SHIB), a level which is impressive for a cryptocurrency that started as a simple meme coin. However, we should expect to see at least initial ideas concerning the potential utilities of the Pepe (PEPE) cryptocurrency. As might be predicted, there are several. Immediately following its first successes and surrounding hype, some users tried to find blockchain utilities for this new meme coin. In March 2023, Pepechain (PC) was launched, its mission to build a new blockchain to utilise Pepe (PEPE) as its gas token and thus stimulate constant demand. Pepechain is not a layer 2 built upon Ethereum (ETH), as Shibarium is supposed to be, but a layer 1, an alternative blockchain to Ethereum (ETH). As of now, the project has launched its testnet and plans to release its mainnet very soon. The Pepe (PEPE) community has also managed to enter the realm of payments and, for instance, OpenSea Pro accepts payments in in this cryptocurrency. Those examples are of course less than spectacular, but no great developments can be expected in such a short period of time. However, these steps show that the community expects Pepe (PEPE) to be utilised in a certain manner in the future. Thus, it follows the path of the two big dog-themed coins mentioned in this paper.

## 2.3 Zeronomics

The last important element in the nature of meme coins is related to their *tokenomics*, a term that captures the economics of a given cryptocurrency, describing the factors that impact that cryptocurrency's use and value, including but not limited to its creation and distribution, supply and demand, incentive mechanisms, token burn schedules, etc. Generally, tokenomics are very diverse. The tokenomics of a given cryptocurrency may be characterised by a huge or a low supply, and may be deflationary or inflationary; not all coins may be in circulation, but just a fraction, etc. Great diversity is also evident when it comes to meme coins. However, it seems there is one

characteristic common to all cryptocurrencies called meme coins: their tokenomics are characterised by huge supplies, followed by a price with many zeros, which I call zeronomics.<sup>7</sup>

For instance, Dogecoin (DOGE) is the most prominent meme coin; one coin is worth \$0.06. Dogecoin (DOGE) is characterised by the fewest zeroes because it has become a top ten cryptocurrency and has experienced enormous growth, but in its early days, one coin was worth around \$0.0005. It does not have a total supply, as new coins are minted on a regular basis (explaining its inflationary nature), but the circulating supply is currently around 140 billion (DOGE) The same is true of other prominent meme coins. For instance, one coin of Shiba Inu (SHIB) is worth around \$0.00000752, whereas soon after launching, each coin was worth \$0.00000002. Shiba Inu (SHIB) has a max supply of 999.99 trillion (SHIB). As for the third most popular meme coin, one coin of Pepe (PEPE) is currently worth \$0.000005, compared to approximately \$0.0000002 at launch. Pepe (PEPE) also has a fixed supply: 420.690 trillion. Therefore, zeronomics is characteristic of paradigm examples of meme coins. Each is characterised by a huge supply and a very low price for a single coin.

Are there any factors that would explain why zeronomics is characteristic of meme coins? First of all, buying a single token of a Dogecoin (DOGE) or Shiba Inu (SHIB) is still affordable for everyone. Anyone can buy and own a few, which is not possible at the moment for many other cryptocurrencies; for instance, at the time this is being written, a single Bitcoin (BTC) is worth around \$30,000. For meme coins, this affordability clears the way for certain community activities and provides a different prospect for potential buyers. The most important thing is that meme coins with huge supplies provide better structures for community activities. This is well illustrated by the use of Dogecoin (DOGE). Even though Bitcoin (BTC) was the first cryptocurrency, the Reddit community fell in love with Dogecoin (DOGE) for its use in tipping (Jeong 2007). As mentioned before, the explanation for this is probably linked to its humorous nature. However, tokenomics probably played a role, as it is much more pleasant to receive one million tokens as a tip rather than 0.00004 Bitcoin (BTC). The same goes for the activities often organised by members of meme coin communities. For instance, they can organise meme contests, shilling contests, art contests, etc. and often offer prizes to the winners. Without doubt, a prize of ten million coins looks much better than 0.0002 of a coin, so a huge supply seems particularly suitable for community marketing reasons.

One of the reasons meme coins are currently so popular is that people associate them with **get-rich-quick schemes**, which involve nothing more than obtaining high rates of return for small investments. Shiba Inu (SHIB) in particular is associated with this narrative, as it was one of the biggest gainers in the last bull run. One lucky investor made \$6.9 million in less than eight months after investing a mere \$17 in Shiba Inu (SHIB). Many zeros in a price help to boost this view, as it

<sup>&</sup>lt;sup>7</sup>All prices in the paper are taken from dexscreener (15.07.2023), which aggregates charts of tokens launched on DEXes, or from coingecko, which aggregates charts of tokens created before the emergence of DEXes, such as Bitcoin (BTC). In the case of cryptocurrencies which predate these sources, such that their full history is unavailable there, we use other sources (see supplement 1). Note that prices might vary to some extent between sources, due to the novel character of cryptocurrencies and the lack of properly developed tools to track them. At the same time, use of the most detailed measurements is not important, as we are interested in making a general argument here.

is believed that the coin in question can reach at least \$1, seemingly a modest target for many; after all, \$1 is a very modest price for anything, right? Therefore, a buyer may believe that she/he could become a millionaire by investing only \$20, since this amount is sufficient to buy several million tokens of a given cryptocurrency. This is emphasised by the community of the most prominent meme coin, Shiba Inu (SHIB), as influencers associated with that community often ask: 'Do you believe that Shiba Inu (SHIB) will hit \$1?'.

The two factors mentioned above align fairly well when it comes to 'burning' the tokens, i.e. removing them from circulation by sending them to a 'dead' wallet. This social activity is supposed to boost the price of the meme coin. The huge supply plays an important role here; without such a supply, this activity would not be as popular. The idea is that, since the supply is huge and meme coins are community-driven, there should be an effort at the community level to burn as many coins as possible. The logic behind this idea is that if a large fraction of the supply is burnt, the value of the coins still in circulation will rise. Holders of Shiba Inu (SHIB) often reiterate that a price of \$1 can be achieved only if the vast majority of coins are burnt. Shiba Inu (SHIB) is especially known for this view, and there have been systematic attempts to burn coins, starting with people deciding on Telegram to burn some of their tokens at given times, and to frame these actions as community events called 'Friday burning', 'Sunday burning', etc. During these events, interestingly, holders burn their own private tokens, which is probably a way to socialise with the community. At present, in light of the upcoming Shibarium, the leader of the community, Shytoshi, is applying pressure to burn tokens, as justified by all community projects. Of course, a portion of transaction fees, as mentioned before, will be used to buy and burn Shiba Inu (SHIB) tokens. However, this is not enough, and Shytoshi insists that all projects expected to be built on Shibarium should include embedded Shiba Inu (SHIB) burning mechanisms.

## 3. Beyond paradigmatic meme coins

The last section introduced three principles that, in my opinion, characterise the paradigm examples of meme coins such as Dogecoin (DOGE) namely i) community before utility, ii) inverse crowdfunding, and iii) zeronomics. The worst thing any concept of meme coins could do would be to classify cryptocurrencies such as Ethereum (ETH) or Bitcoin (BTC) as meme coins. In this section, I will show that the framework avoids this error. However, I will note that some cryptocurrencies resemble to some extent paradigm examples of meme coins (see tab. 2 for a summary of this section). Therefore, I will argue it is rational to talk about not only paradigmatic meme coins, but meme *coinness*, the latter representing the extent to which a given cryptocurrency resembles a paradigmatic meme coin.

I will start with coins that are clearly not meme coins. The paradigm example is Bitcoin (BTC). Why can't Bitcoin (BTC) be considered a meme coin in the context of my framework? When the mysterious Satoshi Nakamoto (2008) published his white paper, 'Bitcoin: A Peer-to-Peer Electronic Cash System', he put forward a certain utility that he wanted people to adopt. Mainly, he showed how P2P digital money could be developed. The idea was to encourage the community to use it and to become involved in the future development of this cryptocurrency. Therefore, neither community before utility nor the principle of inverse crowdfunding applies here. What about

zeronomics? Bitcoin (BTC) was the first cryptocurrency to succeed. At the very beginning, no values were expressed in terms of fiat money. But, given the growing trend to adopt Bitcoin (BTC), at some point a group of users on the BitcoinTalk forum traded 5,050 bitcoins for \$5.02 via PayPal, in the first example of a price mediated through an exchange – a bargain-basement price of \$0.00099 per Bitcoin (BTC). In terms of zeronomics, early Bitcoin (BTC) would score high. However, I decided to make this the sole exception and give it a low score, since it derives from the fact that it was the very first cryptocurrency that started the entire industry, and thus should be evaluated in its own context. The idea behind another popular cryptocurrency, Ethereum (ETH), was to develop a cryptocurrency enabling many more activities on blockchain than in the case of Bitcoin (BTC). The founders of Ethereum (ETH) wanted to develop 'smart contracts' that enabled a substantial development of blockchain technology. As a result, decentralised finances emerged. For instance, the first decentralised exchanges (DEXes) were created so that individuals could swap coins without a third party. Therefore, Ethereum (ETH) is not described by community or inverse crowdfunding. In fact, the founders of Ethereum (ETH) ran crowdfunding to obtain money for their project. What about zeronomics? Early on, the price of Ethereum (ETH) was around \$0.4, which is inconsistent with zeronomics. There is also another cryptocurrency, Solana (SOL), belonging to the L1 (layer one) family of cryptocurrencies, which were intended to compete with Ethereum (ETH), mainly by virtue of a much cheaper transaction fee on their blockchain. Therefore, Solana scores poorly when it comes to community before utility and inverse crowdfunding. Moreover, in its early days, Solana traded at \$0.5, resulting in a low score in terms of zeronomics.

We therefore have typical examples of meme coins, such as Shiba Inu (SHIB), and examples that are not meme coins, such as Ethereum (ETH). There are also examples less similar to the paradigm cases cited above, which fall in between these two categories. The most obvious are cases in which community precedes utility and zeronomics, but no inverse crowdfunding is conducted and thus no utilities are built. These are the most common meme coins in the crypto field. Sadly, most of them are abandoned by the community after only a few weeks. For instance, Twitter Doge (TWIGE) was created as a combination of the words Twitter and Doge when Musk bought Twitter. This coin has no utilities, nor are there any plans for their development. Thus, it scores high in terms of community before utility and zeronomics, but scores poorly when it comes to inverse crowdfunding. At the moment it seems to have been abandoned. Another one is Wojak (WOJAK), based on the popular meme of a wojak, a bald man with a sad expression on his face, often used to represent feelings such as melancholy, regret, or loneliness. This meme is very popular in the cryptocurrency field. The coin is characterised by community before utility and scores high on zeronomics, as the price of a single token is \$0.00014. However, it scores low on inverse crowdfunding, as no utilities have been built or even planned. Then we have FourCoin (FOUR), based on a popular tweet by the CEO of the largest centralised crypto exchange, Binance, presenting four rules for the year 2023: education, compliance, products and service, and ignoring FUD (fear, uncertainty, and doubt). The price of a single coin is \$0.000002 and there are no utilities. Accordingly, it scores high on zeronomics and community before utility, but low on inverse crowdfunding. To mention one more, Bull Market (BULL) is supposed to be a community for people who are bullish about the cryptocurrency market. As stated on the website, it has neither intrinsic value nor utilities. Therefore it scores high on community before utility and zeronomics, as the price of a single token is \$0.0002, but low on inverse crowdfunding.

There are also meme coins that are not characterised by the principle of zeronomics, along with some cryptocurrencies that score low in terms of community before utility and inverse crowdfunding but that are characterised by the principle of zeronomics. Let's start with the former. For example, the early price of eCash (XEC) was \$0.00002, and thus it scores well in terms of zeronomics; however, as it was supposed to be a new blockchain intended to function as digital money, it scores low in terms of community before utility and inverse crowdfunding. Another example is New World Order (STATE), which was in the process of building a social app with crypto features prior to its release, and thus scores low on community before utility and inverse crowdfunding scales, but which is high in terms of zeronomics – the price for a single token at the moment is around \$0.00000005. Another good example involves tokens centred around the Cult (CULT) ecosystem, each one created by a mysterious MrO and his team. At first glance, these tokens resemble meme coins in terms of their theme (a mysterious organisation), and because they score high on zeronomics. However, each coin started with a very specific utility, so all of these coins score low on community before utility and inverse crowdfunding. The main coin, Cult (CULT), is a DAO (decentralized autonomous organization) that works as venture capital and invest in other projects. The price of Cult (CULT) is around \$0.000003. Conversely, we have meme coins that score low on zeronomics. The first example is Good Dog (HEEL), one coin of which is currently worth \$0.5, so it scores low on zeronomics. However, it scores high on the two other scales. Good Dog (HEEL) started without any utility but with a simple idea – namely, to thank Ryoshi and Shiba Inu (SHIB) for inspiration – and a wish to build a new decentralised community around the idea of a spiritual connection between dogs and humans. Over several months it added utilities, one of them being development of the application Good Dog House, for which tokens are necessary for staking and getting upgrades to NFTs.

These cases show that the world of meme coins as a whole is much more complex than that represented by the paradigmatic examples. Furthermore, some cryptocurrencies that are not meme coins may share certain properties with Dogecoin (DOGE), Shiba Inu (SHIB), and Pepe (PEPE). Therefore I suggest that we should employ two concepts: that of *meme coin* for those assets characterised by properties typical of paradigmatic meme coins, and that of *meme coinness* for those that do not possess all of these properties. Meme coinness can be defined as the extent to which a given cryptocurrency is similar to a paradigmatic meme coin.

#### 4. Conclusions

In the present paper I have analysed paradigmatic examples of meme coins in order to determine what principles drive them. I concluded that we can distinguish three such principles: i) community before utility, ii) inverse crowdfunding, and iii) zeronomics (see fig. 1 for summary). I then argued that some other cryptocurrencies may share certain properties with meme coins, but only to a certain extent, and that not all meme coins necessarily possess all of these properties. Therefore, I have suggested introducing the concept of meme *coinness*, defined as the extent to which a given cryptocurrency is similar to a paradigmatic meme coin. The two concepts should help to

distinguish typical examples of meme coins from other cryptocurrencies, but as well to enable scholars to account for possible diversity among meme coins. I believe that conceptualising the concept of the meme coin based on empirical data is itself a fine contribution to the literature, which heretofore has focused mainly on analysing single examples, usually Dogecoin (DOGE) (see Nani 2022; Jeong 2007). However, here at the close of the paper I wish to very briefly present some debates in which the concept of meme coin may be useful, thus demonstrating the potential utility of my study within the context of other issues. The selection is subjective. I will not enter into these debates here, of course, as each one would require the writing of a separate paper.

The concept of the meme coin appears to be associated with that of the meme, famously defined by Dawkins (Dawkins 1976), and currently an object of cultural studies (e.g. Molina 2020; Huntington 2013; Shifman 2013; Arkenbout, Wilson, and Zeeuw 2021). Here the question may arise: what is the relation between meme coins and memes? Do meme coins constitute a certain type of memes? This issue was recently addressed by Nani in his analysis of Dogecoin (DOGE) in the context of this problem (Nani 2022). The framework introduced in the present paper should help to frame this question on a more general level, as it presents the concept of the meme coin in a way which may be helpful in these comparisons. There are also a great number of research papers that inquire into the market dynamic of meme coins (e.g. Tandon et al. 2021; Agarwal et al. 2021; Lansiaux et al. 2022). For instance, Li and Yang (2022) studied the question of whether a radical increase in the price of meme coins tends to precede a crash in the crypto market. This kind of research could be enriched by relying on the concept of the meme coin, which would help to segregate data and help to determine which cryptocurrencies should be categorised as meme coins, which may in turn influence the conclusions of these studies. Another question, one especially relevant for the future of cryptocurrency, is related to regulations. Mainly, should we regard cryptocurrencies as securities? The answer to this question implies various legal consequences. There have been many papers on this subject, but most have focused on Bitcoin (BTC) or other prominent cryptocurrencies (e.g. Quamara and Singh 2022; Goforth 2021). The framework developed in the present paper should help to frame this question in relation to meme coins. Then we have questions concerning cryptocurrency's potential to function as money (e.g. Bjerg 2016; Hazlett and Luther 2020). Many public figures, such as Elon Musk, have suggested that Dogecoin (DOGE) can potentially function as money. This raises the question of whether meme coins in general are capable of playing such a role, or whether Dogecoin (DOGE) is unique in this respect – or is Dogecoin (DOGE) also, perhaps, a poor choice to perform this role? The developed framework should serve as a useful tool to ask this question. Finally, we can use the framework to make some comparisons between cryptocurrencies and stock markets. Since 2020 the stock market has featured stocks, such as Gamestop (GME), that has increased in price due to community efforts. These are called meme stocks (e.g. Costola et al. 2021; Nobanee and Ellili 2023). One question we might ask is: what are the similarities and differences between meme coins and meme stocks? The concept of the meme coin should be helpful in raising this question, as well as many others not mentioned in the present paper.

#### 5. References

- Agarwal, Basant, Priyanka Harjule, Lakshit Chouhan, Upkar Saraswat, Himanshu Airan, and Parth Agarwal. 2021. 'Prediction of Dogecoin Price Using Deep Learning and Social Media Trends'. *EAI Endorsed Transactions on Industrial Networks and Intelligent Systems* 8 (29): e2–e2. https://doi.org/10.4108/eai.29-9-2021.171188.
- Ammous, S. 2018. *The Bitcoin Standard: The Decentralized Alternative to Central Banking*. Wiley John + Sons.
- Angel, James J., and Douglas McCabe. 2015. 'The Ethics of Payments: Paper, Plastic, or Bitcoin?' *Journal of Business Ethics* 132 (3): 603–11. https://doi.org/10.1007/s10551-014-2354-x.
- Arkenbout, C, J Wilson, and D Zeeuw. 2021. *Critical Meme Reader. Global Mutations of the Viral Image*. Amsterdam: Institute of Network Cultures.
- Bailey, A, B Rettler, and C Warmke. 2021. 'Philosophy, Politics, and Economics of Cryptocurrency II: The Moral Landscape of Monetary Design'. *Philosophy Compass*, no. 16: e12784.
- Bjerg, Ole. 2016. 'How Is Bitcoin Money?' *Theory, Culture & Society* 33 (1): 53–72. https://doi.org/10.1177/0263276415619015.
- Chan, C. S. Richard, and Annaleena Parhankangas. 2017. 'Crowdfunding Innovative Ideas: How Incremental and Radical Innovativeness Influence Funding Outcomes'. *Entrepreneurship Theory and Practice* 41 (2): 237–63. https://doi.org/10.1111/etap.12268.
- Cheah, Eng-Tuck, and John Fry. 2015. 'Speculative Bubbles in Bitcoin Markets? An Empirical Investigation into the Fundamental Value of Bitcoin'. *Economics Letters* 130 (May): 32–36. https://doi.org/10.1016/j.econlet.2015.02.029.
- Chohan, Usman W. 2021. 'A History of Dogecoin'. SSRN Scholarly Paper. Rochester, NY. https://doi.org/10.2139/ssrn.3091219.
- Costola, Michele, Matteo Iacopini, and Carlo R. M. A. Santagiustina. 2021. 'On the "Mementum" of Meme Stocks'. *Economics Letters* 207 (October): 110021. https://doi.org/10.1016/j.econlet.2021.110021.
- Dawkins, Richard. 1976. The Selfish Gene. The Oxford University Press.
- Dierksmeier, Claus, and Peter Seele. 2018. 'Cryptocurrencies and Business Ethics'. *Journal of Business Ethics* 152 (1): 1–14. https://doi.org/10.1007/s10551-016-3298-0.
- Dwita Mariana, Christy, Irwan Adi Ekaputra, and Zaäfri Ananto Husodo. 2021. 'Are Bitcoin and Ethereum Safe-Havens for Stocks during the COVID-19 Pandemic?' *Finance Research Letters* 38 (January): 101798. https://doi.org/10.1016/j.frl.2020.101798.
- Esteves, V, and G Meikle. 2015. 'LOOK @ THIS FUKKEN DOGE': Internet Memes and Remix Cultures'. In *In: Atton C (Ed), The Routledge Companion to Alternative and Community Media.*, 561–70. Abingdon: Routledge.
- Ethereum Foundation. 2016. 'What Is Ethereum'.
- García-Monleón, Fernando, Ignacio Danvila-del-Valle, and Francisco J. Lara. 2021. 'Intrinsic Value in Crypto Currencies'. *Technological Forecasting and Social Change* 162 (January): 120393. https://doi.org/10.1016/j.techfore.2020.120393.
- Goforth, Carol R. 2021. 'Regulation of Crypto: Who Is the Securities and Exchange Commission Protecting?' *American Business Law Journal* 58 (3): 643–705. https://doi.org/10.1111/ablj.12192.
- Golumbia, David. 2016. *The Politics of Bitcoin: Software as Right-Wing Extremism*. University of Minnesota Press.
- Hazlett, Peter K., and William J. Luther. 2020. 'Is Bitcoin Money? And What That Means'. *The Quarterly Review of Economics and Finance* 77 (August): 144–49. https://doi.org/10.1016/j.qref.2019.10.003.

- Huntington, Heidi E. 2013. 'Subversive Memes: Internet Memes as a Form of Visual Rhetoric'. *AoIR Selected Papers of Internet Research*, October. https://journals.uic.edu/ojs/index.php/spir/article/view/8886.
- Jeong, S. 2007. 'Dogecoin'. In *In: Maurer B and Swartz L (Eds), Paid: Tales of Dongles, Checks, and Other Money Stuff.*, 53–70. Cambridge: MIT Press.
- Kang, Sang Hoon, Ron P. McIver, and Jose Arreola Hernandez. 2019. 'Co-Movements between Bitcoin and Gold: A Wavelet Coherence Analysis'. *Physica A: Statistical Mechanics and Its Applications* 536 (December): 120888. https://doi.org/10.1016/j.physa.2019.04.124.
- Keatinge, Tom, Florence Keen, and Kayla Izenman. 2019. 'Fundraising for Right-Wing Extremist Movements'. *The RUSI Journal* 164 (2): 10–23. https://doi.org/10.1080/03071847.2019.1621479.
- Lansiaux, Edouard, Noé Tchagaspanian, and Joachim Forget. 2022. 'Community Impact on a Cryptocurrency: Twitter Comparison Example Between Dogecoin and Litecoin'. *Frontiers in Blockchain* 5. https://www.frontiersin.org/articles/10.3389/fbloc.2022.829865.
- Lewis, Antony. 2021. The Basics of Bitcoins and Blockchains: An Introduction to Cryptocurrencies and the Technology That Powers Them. Coral Gables, FL: Mango.
- Li, Chao, and Haijun Yang. 2022. 'Will Memecoins' Surge Trigger a Crypto Crash? Evidence from the Connectedness between Leading Cryptocurrencies and Memecoins'. *Finance Research Letters* 50 (December): 103191. https://doi.org/10.1016/j.frl.2022.103191.
- Mazorra, Bruno, Victor Adan, and Vanesa Daza. 2022. 'Do Not Rug on Me: Leveraging Machine Learning Techniques for Automated Scam Detection'. *Mathematics* 10 (6): 949. https://doi.org/10.3390/math10060949.
- Molina, Maria. 2020. 'WHAT MAKES AN INTERNET MEME A MEME? SIX ESSENTIAL CHARACTERISTICS'. In *Handbook of Visual Communication. Theory, Methods, and Media. [ED] Josepson S., Kelly J. and Smith K.*, 380–94. Routledge.
- Nakamoto, Satoshi. 2008. 'Bitcoin: A Peer-to-Peer Electronic Cash System'. White Paper.
- Nani, Albi. 2022. 'The Doge Worth 88 Billion Dollars: A Case Study of Dogecoin'. *Convergence* 28 (6): 1719–36.
- Nobanee, Haitham, and Nejla Ould Daoud Ellili. 2023. 'What Do We Know about Meme Stocks? A Bibliometric and Systematic Review, Current Streams, Developments, and Directions for Future Research'. *International Review of Economics & Finance* 85 (May): 589–602. https://doi.org/10.1016/j.iref.2023.02.012.
- Philander, Kahlil S. 2023. 'Meme Asset Wagering: Perceptions of Risk, Overconfidence, and Gambling Problems'. *Addictive Behaviors* 137 (February): 107532. https://doi.org/10.1016/j.addbeh.2022.107532.
- Quamara, Sidharth, and Awadhesh Kumar Singh. 2022. 'A Systematic Survey on Security Concerns in Cryptocurrencies: State-of-the-Art and Perspectives'. *Computers & Security* 113 (February): 102548. https://doi.org/10.1016/j.cose.2021.102548.
- Schäfer, Mike S., Julia Metag, Jessica Feustle, and Livia Herzog. 2018. 'Selling Science 2.0: What Scientific Projects Receive Crowdfunding Online?' *Public Understanding of Science* 27 (5): 496–514. https://doi.org/10.1177/0963662516668771.
- Shifman, Limor. 2013. *Memes in Digital Culture*. https://doi.org/10.7551/mitpress/9429.001.0001.
- Shneor, Rotem, and Amy Ann Vik. 2020. 'Crowdfunding Success: A Systematic Literature Review 2010–2017'. *Baltic Journal of Management* 15 (2): 149–82. https://doi.org/10.1108/BJM-04-2019-0148.

- Short, J, A Ketchen, and Allison. 2017. 'Research on Crowdfunding: Reviewing the (Very Recent) Past and Celebrating the Present.' 41 (2). https://journals.sagepub.com/doi/10.1111/etap.12270.
- Sukamulja, Sukmawati, and Cornelia Sikora. 2018. 'THE NEW ERA OF FINANCIAL INNOVATION: THE DETERMINANTS OF BITCOIN'S PRICE'. *Journal of Indonesian Economy and Business*. https://journal.ugm.ac.id/jieb/article/view/30646.
- Tandon, Chahat, Sanjana Revankar, Hemant Palivela, and Sidharth Singh Parihar. 2021. 'How Can We Predict the Impact of the Social Media Messages on the Value of Cryptocurrency? Insights from Big Data Analytics'. *International Journal of Information Management Data Insights* 1 (2): 100035. https://doi.org/10.1016/j.jjimei.2021.100035.
- Warmke, Craig. 2021. 'What Is Bitcoin?' *Inquiry* 0 (0): 1–43. https://doi.org/10.1080/0020174X.2020.1860123.
- Yermack, David. 2013. 'Is Bitcoin a Real Currency? An Economic Appraisal'. Working Paper 19747. Working Paper Series. National Bureau of Economic Research. https://doi.org/10.3386/w19747.

# **SUPPLEMENT**

**Explanation:** The supplement includes links to websites and screenshots containing the information on cryptocurrencies mentioned in the text. As the links may expire over time, I accompany them with screenshots that include the essential features of the information.

**Accessed:** from 10.01.2023 to 15.07.2023

#### I COMMUNITY BEFORE UTILITY

 Interview with Jackson Palmer, founder of Dogecoin (DOGE). Beneath the text is a description of the motivation behind the creation of Dogecoin (DOGE). Link:

https://decrypt.co/101641/dogecoin-creator-jackson-palmer-i-wish-it-was-the-end-of-crypto-but-its-not

#### Jackson Palmer and Dogecoin: A Primer

Dogecoin was created by software programmers Jackson Palmer and Billy Markus in 2013, who intended the project to be a tongue-in-cheek satire of the then-emergent craze of minting altcoins that have little value except novelty symbolism.

The cryptocurrency has since picked up a rabid fanbase, however, when Bitcoin began its latest bull run at the end of 2020. They're known colloquially as the "Doge Army."

The coin's avatar is the iconic chubby Shiba Inu dog, whose face rose to prominence as a meme accompanied by adorable phrases in broken English, like "Much wow" and "Very impress."

2. An article about the TikTok challenge that enhanced the trading volume of Dogecoin (DOGE)

link:

https://markets.businessinsider.com/currencies/news/dogecoin-price-volumes-skyrocket-viral-tiktok-buying-spree-cryptocurrency-market-2020-7-1029377900?miRedirects=3#.

- <u>Dogecoin</u> trading activity spiked on Tuesday as a new TikTok challenge urging viewers to buy the cryptocurrency went viral.
- TikTok user James Galante began urging followers to buy Dogecoin in late June, claiming they could "all get rich" by pushing its value to \$1 per coin. The challenge has since garnered hundreds of thousands of views on the app and began trending on
- The meme-based coin's 24-hour volume surged above \$878 million by Wednesday afternoon, a 683% increase from its average daily volume over the past year.
- Dogecoin's price soared as much as 71% amid the trend-fueled buying spree.
- The official Dogecoin Twitter account called on followers to be wary of "the intentions people have when they direct you to buy things."
- Watch Dogecoin trade live here.
- 3. An article with evidence that Shiba Inu (SHIB) market cap was greater than that of Dogecoin (DOGE):

Link: https://decrypt.co/84592/shiba-inu-shib-flip-dogecoin-bitcoin-slumps

#### In brief

- Meme token Shiba Inu has surged in value of late, up 45% over the last 24 hours, and its market cap is now greater than that of Dogecoin.
- The wider crypto market is down 4% today, and Bitcoin has slumped below \$60,000.
- 4. Medium essay: 'All Hail the Shiba (an experiment in decentralisation)', written by the anonymous creator of Shiba Inu (SHIB), known as Ryoshi, explains his motivations. All Twitter posts and media essays written by Ryoshi were deleted when he quit the project, but have been uploaded again by community members in various places. Here is one mirror link: https://ryujihimode.medium.com/all-hail-the-shiba-e14a8719c792

Is this a fair challenge? To see if we can build a 100% decentralized and autonomous perpetual community with no leader. I am not important, and one day I will be gone without notice. Take the SHIBA and journey upwards frens.

-RR

5. One of the many tweets from Elon Musk considered as endorsements of Shiba Inu (SHIB) link: https://twitter.com/elonmusk/status/1370946514974031872



6. One of the many articles that built the narration about Shiba Inu (SHIB) flipping Dogecoin (DOGE)

Link: https://u.today/here-is-when-shib-will-flip-doge-in-market-cap-top

Based on CoinMarketCap data, the current market capitalization of Dogecoin is \$8.03 billion, and that of Shiba Inu is \$6.7 billion. Thus, the current gap in the capitalization of the two projects is about \$1.33 billion. At the same time, over the last three months of the crypto market armageddon, DOGE lost 21.6% in valuation, while SHIB, on the contrary, added almost 20%.

If you refer to the data from CoinGecko, it turns out that the gap is even smaller and equals \$850 million. The point is the difference in approaches to estimating the capitalization of Shiba Inu. What CMC considers as a fully diluted market cap is CoinGecko's estimate of regular market cap and amounts to \$7.2 billion. Nevertheless, the upward trend of Shiba Inu and the Dogecoin flip is confirmed by this information as well.

Of interest, according to CoinGecko, is that the SHIB price experienced a less painful fall than DOGE on different timeframes. From a year-to-year perspective, Shiba Inu showed 101.7% growth, while Dogecoin declined by 76.2%. However, this can be explained by the difference in the age of both projects.

# When will "dog" flippening occur?

Comparing the capitalizations of SHIB and DOGE on the basis of information from these two sources, it can be concluded that the redistribution of places between projects will occur when the price of Shiba Inu can cumulatively grow by 12%-20% above the price of Dogecoin.

However, given conditions on the crypto market, we should instead talk about who will suffer the least significant fall.

7. The manifesto of the cryptocurrency A Hunters Dream (CAW) Link: <a href="https://caw.is/">https://caw.is/</a>

```
CAW began as nothing, there was no developer, no information, no medium of communication. Simply. a contract.

Freedom given to the people to discover CAW's meaning amongst themselves. This has gone well, and so we would like to present our specification for the second phase of CAW. But before we do, some things must be said and taken note of:

1. This is a only a specification. It is up to the cawmmunity to write and deploy the protocol.

2. It is strongly recommended that a peer group is formed to develop and review smart contracts. as there is no leader in this process, all types will attempt to claim ownership of the process. there will those everso helpful who claim to be able to 'do it all' but will write the perfect code with the perfect backdoor Only a cawmmunity reviewed and accepted contract on a public github will be acceptable

3. After deployment, the deployer must renounce any keys they have to the contracts. There will be no multi-sig, no upgradeable proxyies. It will not matter who deployed because they will be equal with all with no specfic benefit nor advantage. Just get the contract right.
```

8. Website of the cryptocurrency Pepe (PEPE) Link: https://www.pepe.vip/



9. One of the thousands of negative tweets that fuelled Pepe (PEPE) Link: https://twitter.com/IncomeSharks/status/1650541592720334849



#### II INVERSE CRODFUNDING

 Many individuals – notably Mark Cuban and Elon Musk – have suggested that Dogecoin (DOGE) can potentially function as a currency, i.e. as a medium of exchange. Link a): <a href="https://twitter.com/mcuban/status/1389004117075533827">https://twitter.com/mcuban/status/1389004117075533827</a> Link b)

https://cointelegraph.com/news/dogecoin-is-better-than-bitcoin-for-payments-elon-musk-declares



Meme coins like Doge only work if they gain utility and users use them for that utility. As long as you can spend Doge, because we know it's annual inflation rate is set at 5b coins, it can gain SOME value as the utility grows. It becomes like any other currency...

Przetłumacz Tweeta

1:49 AM · 3 maj 2021

711 Tweetów podanych dalej 39 Cytatów z Tweeta 3 149 Polubień

"Bitcoin is not a good substitute for transactional currency. Even though it was created as a silly joke, Dogecoin is better suited for transactions. The total transaction flow that you do with Dogecoin, like transactions per day, has much higher potential than Bitcoin," Musk said.

The Tesla CEO emphasized that Bitcoin is more suitable as a store of value, which is why its investors prefer to hold it rather than sell it or use it for payments. "The transaction volume of Bitcoin is low, and the cost per transaction is high," Musk noted.

On the other hand, Dogecoin is not that good as a store of value, Musk hinted, noting that the cryptocurrency is "slightly inflationary." However, this "encourages people to spend, rather than sort of hoard as a store of value," he stated.

2. Due to the active community, Dogecoin (DOGE) has been accepted in certain places as a method of payment. For instance, Tesla accepts it for merchandise purchases.

# Dogecoin

# Frequently Asked Questions Show All

Link: https://www.tesla.com/support/dogecoin

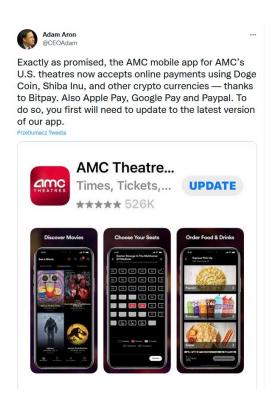
- What can I buy from Tesla with Dogecoin?
   Look for the Dogecoin symbol next to the "order" button for Dogecoin-eligible products.
- ➤ How do I buy something from Tesla with Dogecoin?
  To purchase using Dogecoin on the Tesla Shop, you will need a "Dogecoin wallet."
  A Dogecoin wallet is a device, platform, app or software that supports Dogecoin transfers. When checking out with Dogecoin, the payment page will display the Tesla Dogecoin wallet "address" in both an alphanumeric code and a QR code form for you to connect to your Dogecoin wallet to transfer the Dogecoin. It is the responsibility of the purchaser to ensure that Dogecoin is transferred to Tesla's Dogecoin wallet accurately.
- 3. In the Crypto Emporium marketplace, many things can be purchased with Dogecoin (DOGE).

Link: <a href="https://cryptoemporium.com/">https://cryptoemporium.com/</a>

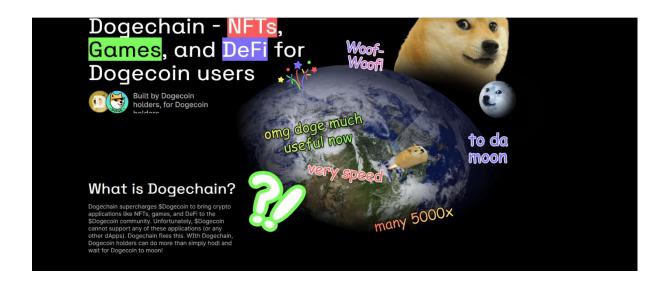


4. Twitter account of AMC Theatres CEO Adam Aron, stating that Shiba Inu (SHIB) and Dogecoin (DOGE) are now accepted as a payment method: Link:

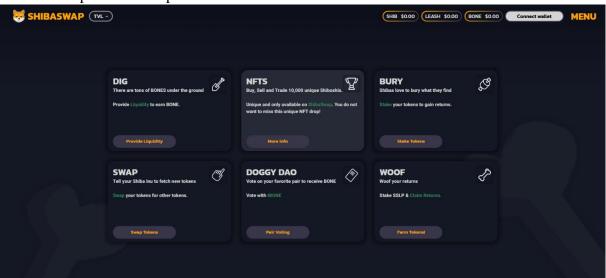
 $\frac{\text{https://twitter.com/CEOAdam/status/1515021890431164424?s=20\&t=smBuCirENUsZx0}}{0Dv\text{-}05cQ}$ 



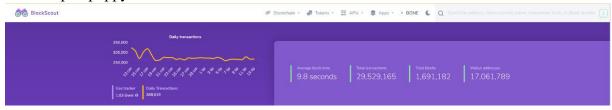
5. Website of the Dogechain, a new blockchain that uses Dogecoin (DOGE) as a gas token: Link: https://dogechain.dog/



6. Website of ShibaSwap, the first utility of the Shiba Inu (SHIB) ecosystem Link: https://shibaswap.com



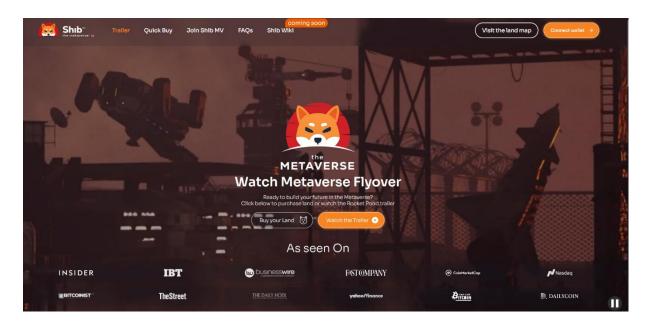
7. Website of Shibarium (testnet at the moment), with statistics Link: https://puppyscan.shib.io/



8. Preview of the burn mechanism of Shiba Inu (SHIB) on Shibarium Link: <a href="https://twitter.com/ShibInformer/status/1660123727886012417">https://twitter.com/ShibInformer/status/1660123727886012417</a>



9. The website of the Shiba Inu (SHIB) metaverse Link: <a href="https://www.shibthemetaverse.io/">https://www.shibthemetaverse.io/</a>



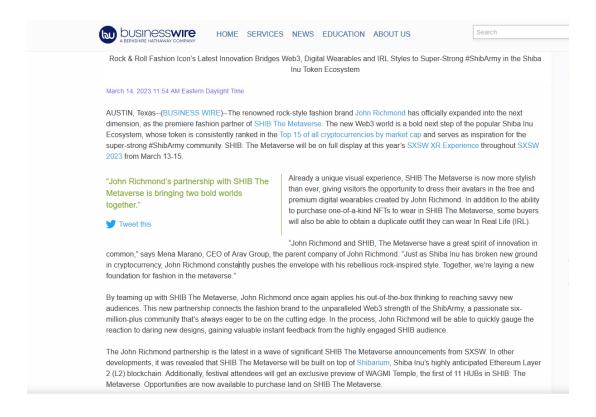
10. Sneak peeks at the collaboration of John Richmond and Shiba Inu (SHIB) Link: https://twitter.com/JRichmondstyle/status/1618351390694445059/



11. Information about John Richmond's plans to contribute to the Shiba Inu (SHIB) metaverse

#### Link:

https://www.businesswire.com/news/home/20230314005829/en/John-Richmond-Enters-S HIB-The-Metaverse-as-Premiere-Fashion-Partner



12. Essay on the collaboration between Shiba Inu (SHIB) and Welly restaurants Link: https://shytoshikusama.medium.com/chow-down-shib-x-wellys-17932137edb2



I AM RYOSHI WE EAT WELLY!

13. Official Shiba Inu (SHIB) Twitter account announcing the launch of the game 'Shiba Eternity':

Link: https://twitter.com/Shibtoken/status/1570935384598519809



Congratulations #ShibArmy @ShibaEternity launches in Australia!

Available in the Apple App Store at this time. Google Play Store launching soon!

apps.apple.com/au/app/shiba-e...

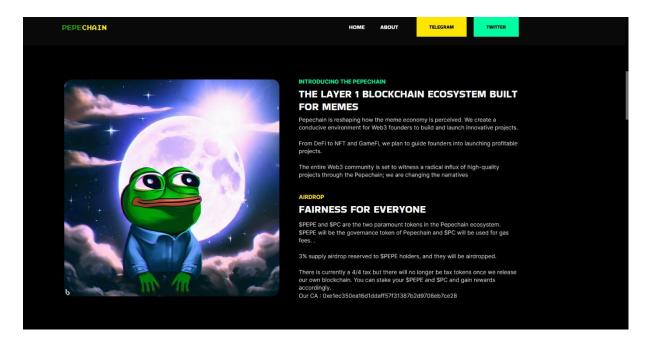
Przetłumacz Tweeta



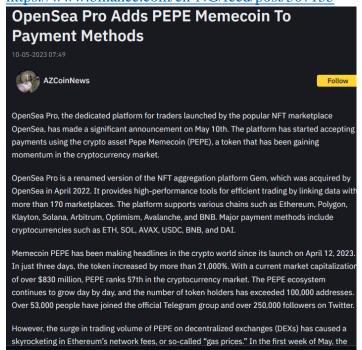
2:39 AM · 17 wrz 2022

3 185 Tweetów podanych dalej 179 Cytatów z Tweeta 9 702 Polubienia

14. Website of PepeChain (PC), which is building a blockchain intended to utilise Pepe (PEPE) Link: https://pepechain.network/



15. Information about OpenSea Pro adding payments via Pepe (PEPE)Link: https://www.binance.com/en-NG/feed/post/507155



# **III ZERONOMICS**

 Story about a lucky investor who earned \$6.9 million in less than 8 months after investing a mere \$17 in Shiba Inu (SHIB):
 Link:

https://watcher.guru/news/shiba-inu-investment-of-17-turns-to-6-9-million-in-8-months

Tales of average investors turning millionaires in a short period with minimal investments are aplenty in the crypto markets. While some lucky ones made millions within a year, others wait a lifetime to attain wealth but still fail in their mission. One such lucky investor made \$6.9 million in less than 8 months after investing a mere \$17 in Shiba Inu.

There's magic in numbers and numbers are magical in the world of cryptocurrencies. The lucky individual could have been you too if you had invested in SHIB during its inception.

2. Many influencers capitalise on human hopes and often ask whether Shiba Inu (SHIB) will reach \$1. Here is one example from Twitter:

Link: https://twitter.com/ShibInfo/status/1597725497051713538



367 Tweetów podanych dalej 24 Cytaty z Tweeta 5 006 Polubień

 Essay in which Shytoshi suggests that projects to be built on the Shibarium should incorporate Shiba Inu (SHIB) burn mechanisms
 Link: https://blog.shib.io/shibarium-the-invite

#### **Shibarium Common Values**

To achieve this, I call upon all who want to help bring this potential future to fruition. While I will be outlining my thoughts on how we can become more unified than ever during the Shibarium Beta testing, there are multiple values that must be identified and some fundamental understandings that all people, projects, companies, and entities that join or work with us should understand:

- BURN: We, the Shibarium Core (also known as early adopters), are committed to building a global ecosystem and encourage burning Shib on every Shibarium project.
- 2. PROTECT: We respect each legitimate Shibarium project and understand scams will exist on the L2 so we must Do Our Own Research ( D.O.O.R. for our own protection) and we as a community will provide feedback so others can learn about people and projects without FUD, but in truth.
- 3. HELP: Whenever possible, Shibarium projects should prioritize donating to our larger community by finding and supporting a global network of non-profit organizations. (Thank you for all who have donated in the recent and far along past!)
- 4. GROW: We encourage Shibarium projects to not only burn and donate, but also to place a portion of profits into the Shib Doggy DAO Foundation that decides how the assets in the DAO wallet can best be applied.

# IV BEYOND PARADIGMATIC MEME COINS

1. Article reconstructing the history of Bitcoin since its launch: Link: <a href="https://www.bankrate.com/investing/bitcoin-price-history/">https://www.bankrate.com/investing/bitcoin-price-history/</a>

# January 2009 – July 2013: Bitcoin is created and attracts techies

The New Liberty Standard Exchange recorded the first exchange of Bitcoin for dollars in late 2009. Users on the BitcoinTalk forum traded 5,050 bitcoins for \$5.02 via PayPal, making the first price mediated through an exchange a bargain basement price of \$0.00099 per bitcoin. In other words, the price was about one-tenth of one cent.

2. Official website of Twitter Doge (TWIGE), a meme coin created when Musk bought Twitter. A screenshot was made before the website was taken down.

Link: <a href="https://www.twigeerc.com/">https://www.twigeerc.com/</a>



#### **ABOUT**

Twige is a memecoin on Ethereum themed around Elon's acquisition of Twitter, and The Heritage Of Dogecoin. Our vision is to create a delightful and recognizable brand that can be enjoyed by everyone across both the physical and digital worlds. The world is ready for a universally loved character that will bring out the values of kindness and bring joy to the world through community, creativity, and fun art!

0x4389c9c4ff38b24ed09dc9dbea192041d178226e

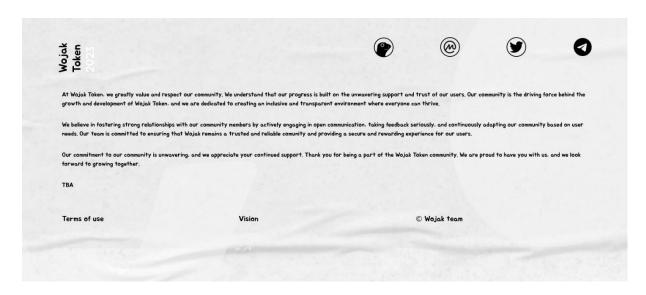






3. The website of the meme coin Wojak (WOJAK)

Link: <a href="https://www.wojak.finance/">https://www.wojak.finance/</a>



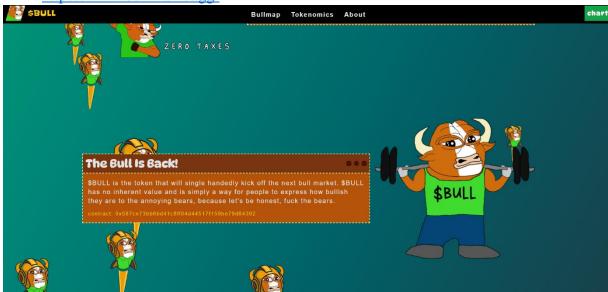
4. The website of the meme coin FourCoin (FOUR)

Link: <a href="https://www.4thecoin.com/">https://www.4thecoin.com/</a>



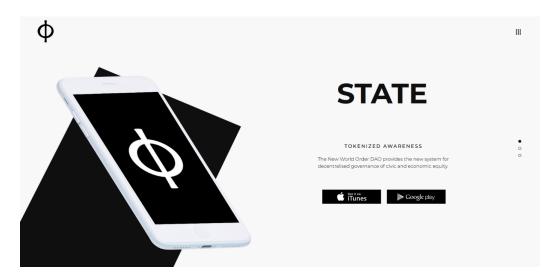
5. The website of the meme coin Bull Market (BULL)

Link: <a href="https://www.bullmarket.gg/">https://www.bullmarket.gg/</a>

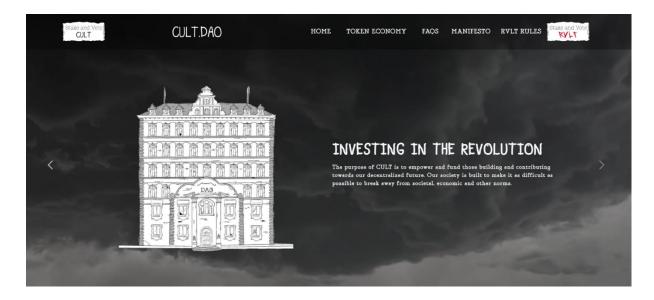


6. Website of New World Order (STATE):

Link: <a href="https://nwo.capital/">https://nwo.capital/</a>



7. The website of the meme coin Cult DAO (CULT) Link: <a href="https://cultdao.io/">https://cultdao.io/</a>



8. An essay from the developer of Good Dog (HEEL)
Link: https://medium.com/@cooldogenthusiast/heel-good-dog-2939ba769ec7

A pair of dogs led us to Valhalla from the barren wasteland we once inhabited. The way I see it, we are forever indebted to our furry frens. The Heel command means for your dog to get by your side and stay by your side. Funny thing is... we are now the ones who must HEEL to our loyal dogs, not the other way around. The culture needs a reset. Remember where we came from. Remember our origin. We absolutely cannot forget the spiritual connection between Man and Dog.

Are we done giving into the half-assed LARPs that cannot hold one single ounce of originality? Yeah, we get it. We are all forever inspired by Ryoshi and Shib. That's the point. I am certainly not Ryo; with no intention to be. Above all, I urge you to be yourself. We've collectively failed to realize... we must create our own path. If you don't respect the world around you, prepare to be humbled.

It's OK to be forgetful. I'm here to help you remember your origin.

# **TABLES**

 Table 1
 Popular definitions of meme coins

Definition	Source
'A meme coin is a cryptocurrency	https://www.investopedia.com/meme-coin-6750312
term for popular currencies,	accessed: 21.12.2022
sometimes depicted with comical or	
animated memes, that are supported	
by enthusiastic online traders and	
followers'.	
'A meme coin (also spelled	https://en.wikipedia.org/wiki/Meme_coin
memecoin) is a cryptocurrency that	accessed: 21.12.2022
originated from an Internet meme or	
has some other humorous	
characteristic'.	
'As their name implies, meme coins	https://crypto.com/university/what-are-meme-coins
are a kind of cryptocurrency inspired	accessed: 21.12.2022
by memes, interesting, or funny ideas	
captured by an image, video, or other	
forms of media'.	
'Meme coins are meme-inspired	https://academy.binance.com/en/articles/what-are-meme-coins
cryptocurrencies. They tend to be	accessed: 21.12.2022
highly volatile compared to major	
cryptocurrencies like bitcoin (BTC)	
and ethereum (ETH). This is likely	
because meme coins are heavily	
community-driven tokens'.	

**Table 2** How different cryptocurrencies score on the three principles characteristic of meme coins. Note that we have paradigmatic examples of both meme and non-meme coins, as well as cryptocurrencies which fall somewhere in between.

Cryptocurrency	Community before utility	Inverse crowdfunding	Zeronomics
Bitcoin (BTC)	_	_	_
Ethereum (ETH)	_	_	_
Solana (SOL)	_	_	_
eCash (XEC)	_	_	+
New World Order	_	_	+
(STATE)			
Cult (CULT)	_	_	+
Twitter Doge	+	_	+
(TWIGE)			
Wojak (WOJAK)	+	_	+
FourCoin (FOUR)	+	_	+
Bull Market (BULL	+	_	+
Good Dog (HEEL)	+	+	_
Shiba Inu (SHIB)	+	+	+
Dogecoin (DOGE)	+	+	+
Pepe (PEPE)	+	+	+

# **FIGURES**

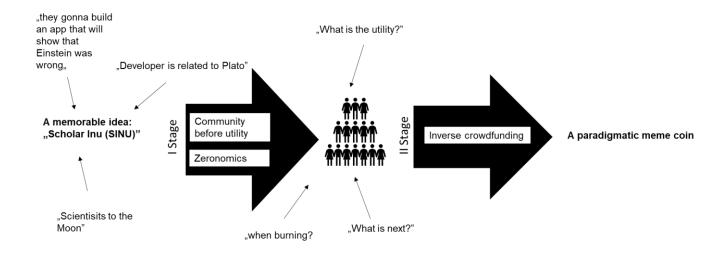


Fig. 1 The first stage of the paradigmatic meme coin focuses on building a community around a memorable idea, based on a cryptocurrency characterised by zeronomics. The second stage is characterised by the building of utilities. This scheme is typical of the best-known examples of meme coins. These two mechanisms are characteristic of all widely known meme coins, such as Shiba Inu (SHIB) or Dogecoin (DOGE).