DOI: https://doi.org/10.31686/ijier.vol10.iss6.3778

BRAZILIANS' PERSPECTIVE ON CRYPTOCURRENCIES

Débora Pereira de Mattos
(Universidade Veiga de Almeida)
deboramattos007@gmail.com

Daiane Rodrigues dos Santos
(Universidade Veiga de Almeida/UERJ)
daianesantoseco@gmail.com

Alberto Eduardo Besser Freitag
(UCAM/CEFET/RJ)
alberto.besser@professor.ucam.edu.br

Osvaldo Quintella Jr
(UERJ)
osvaldoquintellajr@gmail.com

Fabrício da Costa Dias
(Universidade Veiga de Almeida)
fabricio.dias@uva.br

Abstract

The advance of science and technology combined with the development of the Internet offer new options for the use of money. Economic agents are beginning to lose physical contact with money and to carry out transactions through electronic channels. The debate on the subject is of international relevance and foresees the manifestation of the monetary authority, which shows the importance of the subject. This paper sought to present the theories of demand for cryptocurrencies, to discuss the perspective of Brazilians in relation to digital assets, and to show the role of cryptocurrencies in the current economy. This study aimed to identify how the growth in demand for cryptocurrencies can impact the financial system and the globalized economy. The methodology employed is bibliographical, documental, and field research on the monetary evolution and the perspective of Brazilians in relation to crypto assets. Based on the online questionnaire conducted with 170 respondents who answered about what they understand by digital assets, it was observed that most of them are not used to the theme in question, however, there is a great interest in learning. It is concluded that compared to sovereign currencies, cryptocurrency meets monetary demand in isolation, in each context and period.

Keywords: Demand; Cryptocurrencies; Economics, Monetary Alternative.

1. Introduction

The economic engineering makes use of techniques to assess the value of services and goods intervening in decision making in investments at companies in various segments, according to their economic potential, investor and cost, and risk manager. Also based on financial mathematics, it analyzes economic factors and transforms strategies to solve problems (DIAS, 2015). In view of this, having knowledge about cybercurrencies is already necessary, because being a decentralized payment network, users can manage the system on their own (BITCOIN, 2019).

The digital revolution, which began with the advent of the internet, entered a new phase of development with the emergence of blockchain. Faced with this scenario, considering that the tokenization of assets is already a reality (RIBEIRO, SANTOS E ALMEIDA, 2020).

According to Sanfins, Santos, Nacif and Rodrigues (2021), blockchain can be termed an innovative digital technology that combines four distinct elements: cryptography, data management, networking, and incentive mechanisms to support the verification, execution, and registration of transactions between the parties. Blockchain is basically a ledger book or ledger, where records are "annotated". That is, they are blocks with records of information. Hence, the name Blockchain, which would be chained blocks or chain blocks.

The advancement of science and technology together with the development of the Internet offer new options for the use of currency. Economic agents begin to lose physical contact with money and conduct transactions through electronic channels and peer-to-peer (P2P) methods such as Paypal, PagSeguro, Picpay, or Samsung Pay (PELLINI, 2019).

In the definition of the European Central Bank (EBC), cryptocurrency is considered digital money, issued, and controlled by the developers, unregulated by a government body, and accepted among members of the virtual community (ECB, 2012, p. 5).

Thus, in January 2009, during a subprime crisis that devastated the U.S. economy, the first Bitcoin transactions were made, alerting the world that changes were coming. Like any transformation of great impact, the cryptocurrency was treated with much suspicion, but it continues as a great solution for economic distances and will certainly be responsible for a reinvention in the financial market (PREVIDI, 2014).

Bitcoin is the successful application of blockchain and is the first decentralized global cryptocurrency. As this technology advances, the expansion of its disruptive potential through different business models and tokens, decentralizing not only currencies but also other tradable assets (TAPSCOTT; TAPSCOTT, 2016).

Satoshi Nakamoto, the anonymous creator of the network, sent 10 BTC to computer scientist Hal Finney. This transaction proved that the was effective as a currency network, paving the way for future growth. This happened after Nakamoto started running the Bitcoin network on his computer system (NASCIMENTO, 2021).

Considering the facts, this study aims to do a literature review, show the demand for cryptocurrencies, its advantages, and disadvantages, and apply a questionnaire to assess how people believe in this new market.

2. Evolution of crypto active market behavior

Although some enthusiasts have proposed a link between the algorithmic growth rate of cryptocurrencies and the monetary orthodoxy espoused by Milton Friedman, the crypto protocol does not target any optimal rate of monetary growth. Instead, the rate will tend towards zero by the year 2140, the estimated year for the last Bitcoin to be mined, meaning that its circulation will not be affected by any monetary policy, such as that of the central bank controlling the money supply and growth rate (CAMACHO, 2018). Ulrich (2014) reports the announcement of the first Bitcoin sale on October 5, 2009, when 13 units were equivalent to one cent (1 BTC = 0.000769 USD). The first purchase, which took place in May 2010, was for two pizzas, sold at a price of 10,000 BTC. According to the September 27, 2021, quote from Coinmarketcap (2021) it was $435,877,000.00.

Villaverde (2018) cites data from May 2018 that indicates Bitcoin's capitalization at another $123 billion, figures higher than some companies listed on the Dow Jones Industrial Average. As early as September 2021, Bitcoin's market cap reached over $813 billion, thus showing that cryptos are increasingly popular and attractive to new investors.

2.1 Theories of cybercurrency demand

It is worth noting that the higher volatility of the main asset was mainly due to the start of trading with futures contracts. According to a survey conducted by the Federal Reserve Bank of San Francisco, the rise in prices coincided with the day Bitcoin futures began trading on the CME (ALEMI, 2017).

Therefore, the first six months of 2018 may serve as an adjustment period. The influence of large institutional participants on the digital asset market has increased, and on the regulatory process as well, just as hacker attacks continue to have a negative impact on the market. The issue of network security is still a real problem, which increases the risk and reduces the attractiveness of the crypto active market (BITCOIN PORTAL, 2018).

To treat cryptocurrencies as a means of payment, they need to be widely accepted during the purchase of goods and services. The website "coinmap.org" gathered merchants that accept cryptocurrencies and recorded the expansion of this means of payment. In 2015, only 6,000 institutions worldwide accepted it, and by October 2021, it pointed to more than 23,000 (COINMAP, 2021). Although the current movement indicates a strong expansion of cryptocurrencies, this number is still very insignificant on a global scale.

2.3 Crypto actives as a monetary alternative

In this topic, four country cases will be shown - Argentina, Uganda, Greece, and El Salvador, in which cryptocurrency has met the desire and demand of these societies for currency. These cases were the first and only ones up to the time this research was written.

Argentina is a special case of crypto active use. This is because the use of cryptocurrencies has increased greatly as an alternative to the crisis that the country began to experience in the 2000s. The problems of inflation and devaluation of the national currency made life difficult for Argentines, so they started looking for new alternatives that could ease this situation (MARQUEZIN, 2017).

In another report that cryptocurrency has improved people's lives, involving the simplification and reduction of transaction costs for sending value between countries, in this case Uganda. According to Bitcoinfilm.org (2013), about 700 million US dollars are sent each year from countries around the world to family members living in the country. Before the emergence of Bitcoin, the fees of the traditional system of sending value abroad were 10% to 20% and with a time frame of about two days. In addition, Uganda's bank charges a conversion fee of 40% to 50%.

The third scenario where cryptocurrencies are notorious is the recent Greek crisis. Due to the difficulties faced by the Greeks and the mandatory measures imposed by the government on the movement of the euro, some people started converting the euro into cryptocurrency, since their financial resources would be safer because the government does not have access to the population's cryptocurrencies (MARQUEZIN, 2017).

El Salvador, on the other hand, was the first country to accept Bitcoin as an official currency. The government claims that the use of cybercurrencies can save the country about R$2.1 billion per year in transaction fees on funds received from abroad, as they rely heavily on foreign remittances. The president states that: "the country will break the paradigm and move towards the first world" (SILVER, 2021).

2.4 Brazilian perception of cryptocurrency

As cryptocurrencies mature, fewer online currencies are needed to continue motivating people. According to Chainalysis ranking, Brazil ranks 13th among the most profitable countries with Bitcoin in 2020, leading all South American countries, with an estimated profit of $300 million (CARAM, 2021).

According to Caram (2021), another Latin American country on the list is Argentina, with a profit of $200 million. Argentina, Uruguay, Colombia, and Chile are the main markets that use cryptocurrency as a store of value (CHAINALYSIS, 2020).

Recently in Brazil, theme funds and Exchange-Traded Funds (ETFs or index funds) for cryptocurrencies have emerged. Currently, four of them are traded on stock exchanges and replicate the behavior of indexes backed by these digital assets (LEWGOY,2021).

The first to be traded on the Brazilian stock exchange was the Nasdaq Crypto Index (HASH11), launched in April 2021. Which "replicated" the performance of the Nasdaq Crypto Index (NCI) to reflect the market trend on a global scale. QR CME Bitcoin (QBTC11), meanwhile, is the first 100% Bitcoin-focused ETF in Latin America, based on the "CME CF Bitcoin Reference Rate" futures contract index of the world's largest derivatives exchange CME (INVESTNEWS, 2021).

In August 2021, two other cryptocurrency ETFs joined B3: The QR CME CF Ether Reference Rate (QETH11) has 100% exposure to the digital currency Ether and is used on the Ethereum blockchain platform. The second is the Hashdex Nasdaq Bitcoin Reference Price, 100% focused on Bitcoin, (BITH11). This is the industry's first green ETF, it follows the Nasdaq Bitcoin Reference Price (NQBTC), the price starts at $50.00 per share and is charged a management fee of 1% per year (INVESTNEWS, 2021).

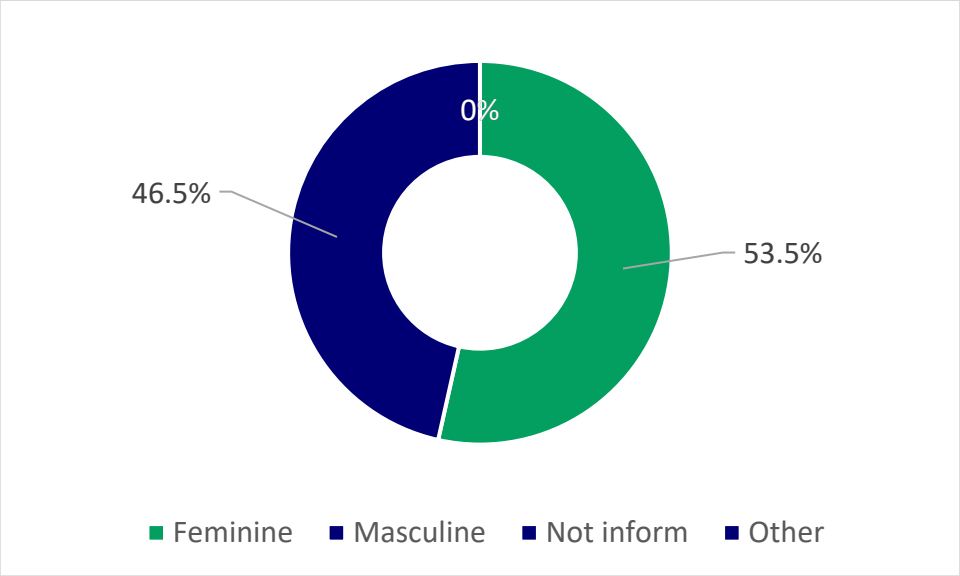
3. Questionnaire

A questionnaire was prepared on google forms to identify the level of knowledge and perception of Brazilians about crypto active assets. It brings information about gender, age group, family income, and

more specific information, about the percentage invested, which cryptos they know, if they understand the subject. The disclosure was through social networks from September 3 to October 30, 2021.

It stands out in general terms based on the total of 170 respondents, where all responses are anonymous and for statistical purposes, to generate survey data. In Graph 1, it is shown that 53.5% of the survey participants are male.

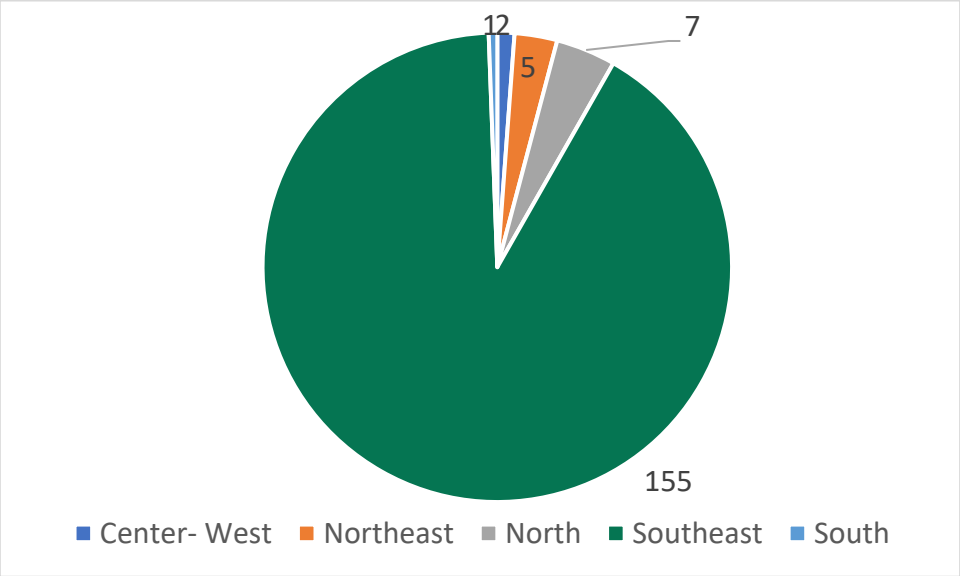
Graph 1 - Gender of Respondents



Source: Authors based on data from respondents.

In Graphic 2, the region in which the interviewees live is observed and shows that the Southeast is the predominant region. This is mainly due to the form of disclosure. The form was passed on by the network of known authors who live in this region. As can be seen, 155 respondents, 91.2%, are from the Southeast region of Brazil; the rest of the respondents, 8.8% of the total, are from the other 4 regions of Brazil.

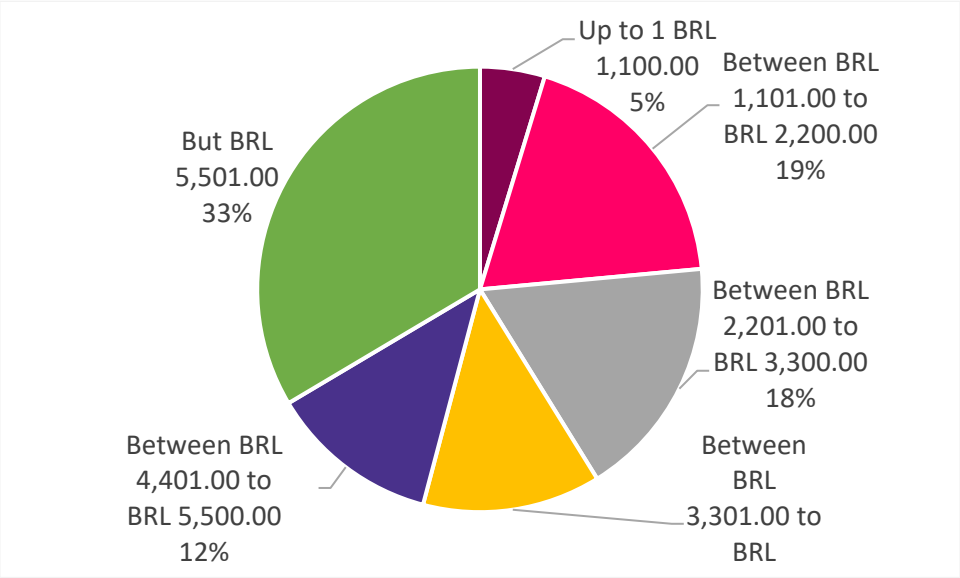
Graph 2 - Region of residence



Source: Authors based on respondents' data.

As evidenced below, 33% have incomes above 5 minimum wages, showing that the social class of people and their knowledge of the subject can be directly related.

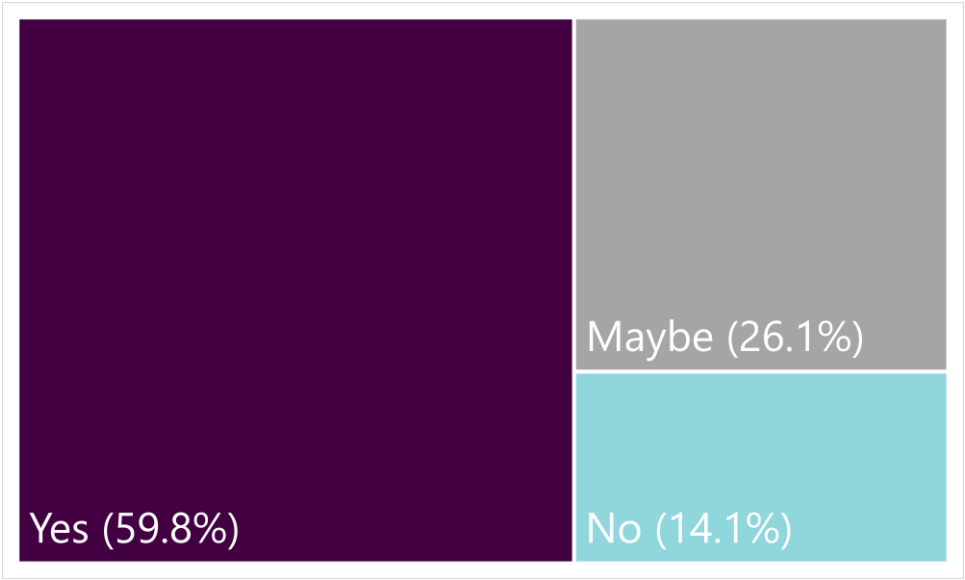
Graph 3 - Family income range of respondents



Source: Authors based on the respondents' data.

Graphs 4 and 5, are related to the questions about income and knowledge in crypto active. Graph 4 presents the results of respondents with salaries up to R$4,400.00. In this case, 59.8% of the respondents would like to know more about crypto active products.

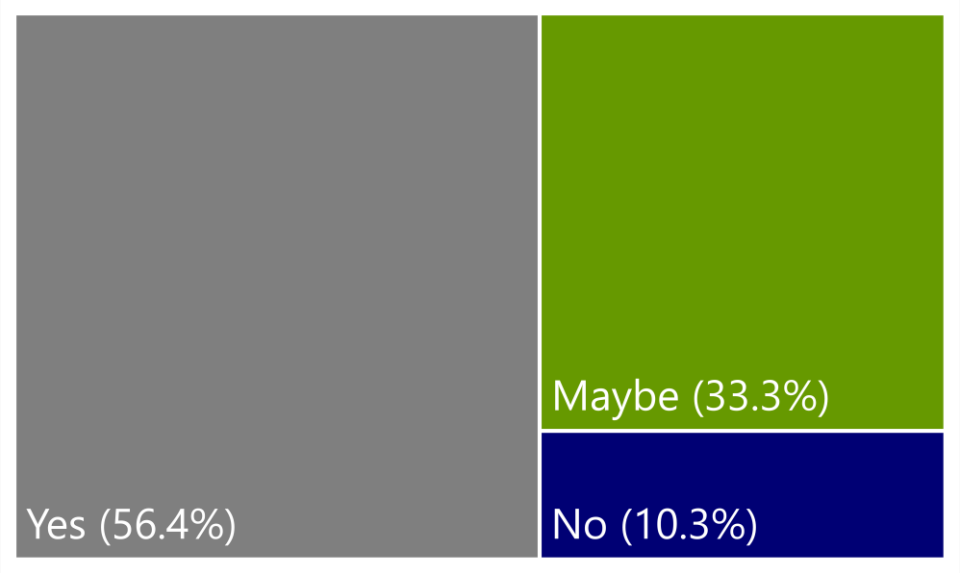
Graph 4 - Respondents with salaries up to R$4,400.00.



Source: Authors based on the respondents' data.

The survey showed (Graph 5) that 10.3% of people with incomes above 4 minimum wages would not like to know about the crypto active "universe" and 56.4% would like to know about it.

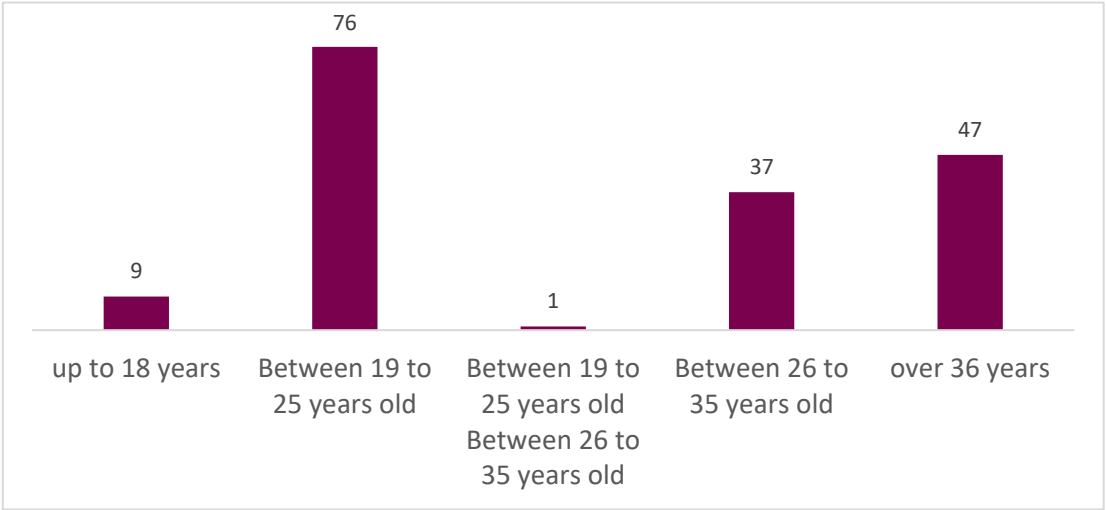
Graph 5 - Respondents with salaries above R$4,400.00



Source: Authors based on the respondents' data.

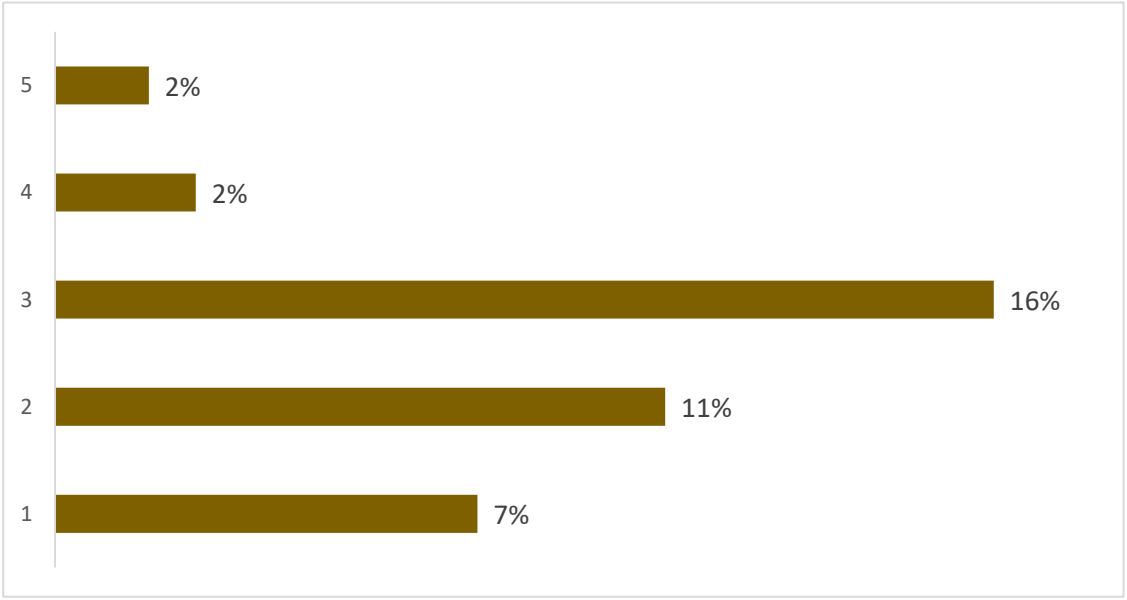
Graphic 6 presents the age group of the 170 respondents of the questionnaire, in which, in its majority, 72.4% are people up to 35 years. As can be seen, 27.6% of respondents (47 respondents) are 36 years old or older. Graphic 7 shows how reliable they believe investment in cryptoassets is. As can be seen, most interviewees aged 36 years or older consider this type of investment to be unsafe, very unsafe, or with medium security. It should be noted that for this question we used the Likert Scale, which was used to measure and understand the attitudes or behaviors of the interviewees. The possibilities were from one to five, one being nothing safe and five totally safe.

Graph 6 - Age range of respondents



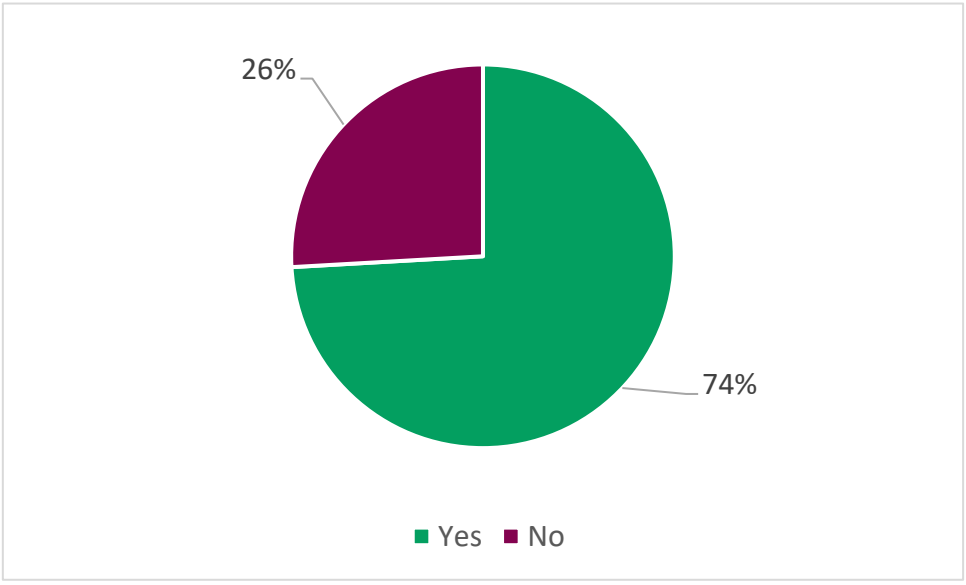
Source: Authors based on respondents' data.

Graph 7 - Age group: from 36 years - How safe do you think it is to invest in cryptocurrency?



shows the respondents' knowledge about cryptocurrencies.

Graph 8 - Knowledge of Cryptocurrencies for the Respondents.



Source: Authors based on respondents' data.

Based on Graph 8, it is notable that 74 % have heard of and know about the subject, and 26% do not know about the topic of cryptocurrencies. Thus, this survey demonstrates that cryptocurrencies are known by name, but their in-depth "science" may be unknown to the respondents.

Graphs 9 and 10 present the breakdowns of responses by age group with respondents' recognition of crypto activities. Graph 9 is for the age group up to 35 years old. As seen, 72.4% of the respondents revealed that they know crypto active, while 27.6% consider themselves to have no knowledge.

Graph 9 - Age bracket: up to 35 years old

Source: Authors based on respondents' data.

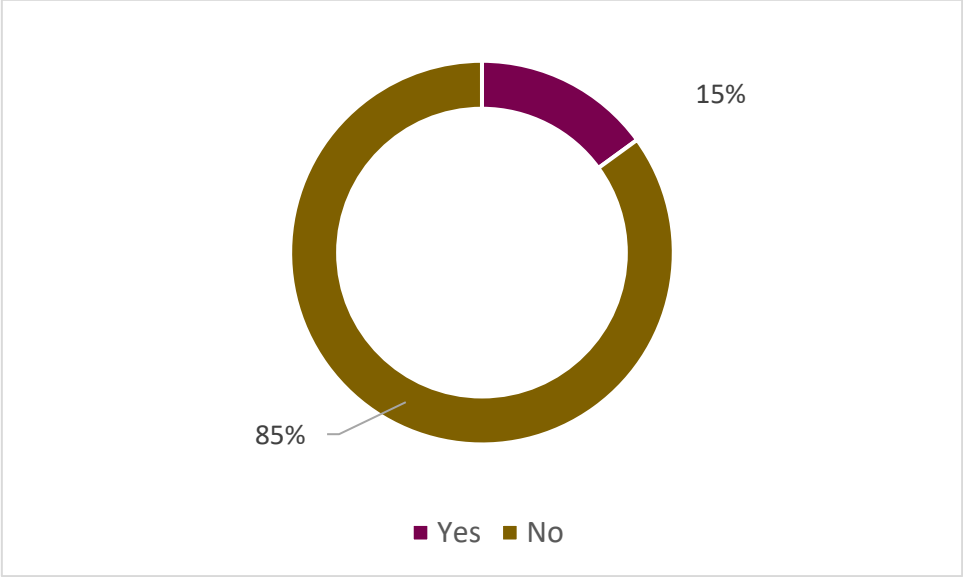
In Graph 9, of the people aged 36 years or older, 21.3% do not know about crypto active substances. This shows that the theme, even if superficially, is known at any age.

Graph 10 - Age bracket: from 36 years old on

Source: Authors based on respondents' data.

In Graph 11, it was verified if the respondents are already investors or have invested in cryptocurrencies where only 15% invest. As mentioned in the topic of Theory of demand and Evolution of market behavior.

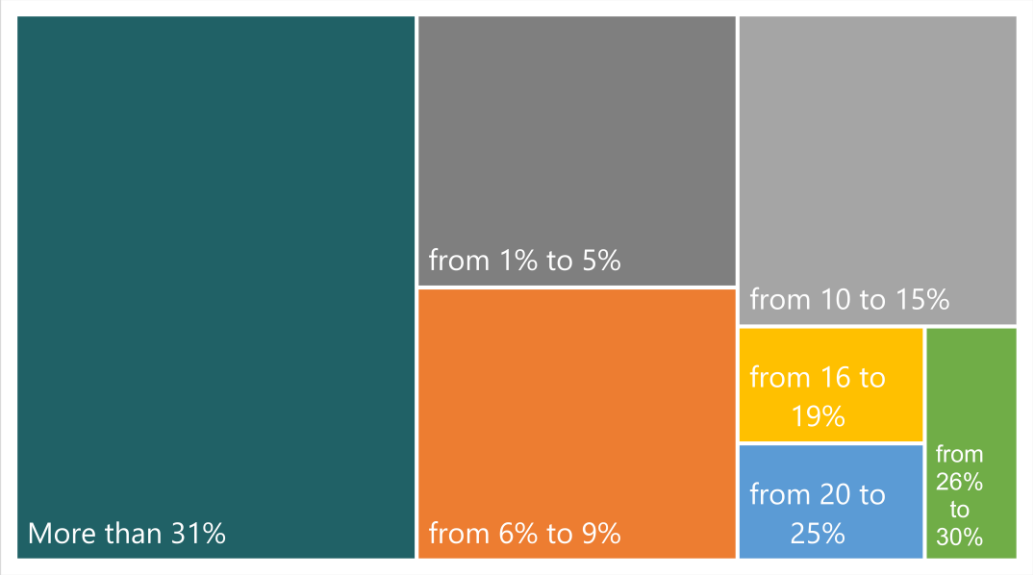
Graph 11 - Have you ever invested, or do you invest?



Source: Authors based on respondents' data.

Graph 12 refers to the respondents who said they invest in crypto assets. Surprisingly, 40% of the respondents invest more than 31% in crypto, even with their volatility. Even with the volatility of the result, it indicates that they know the markets that respond to them, which represents the volatility of the result.

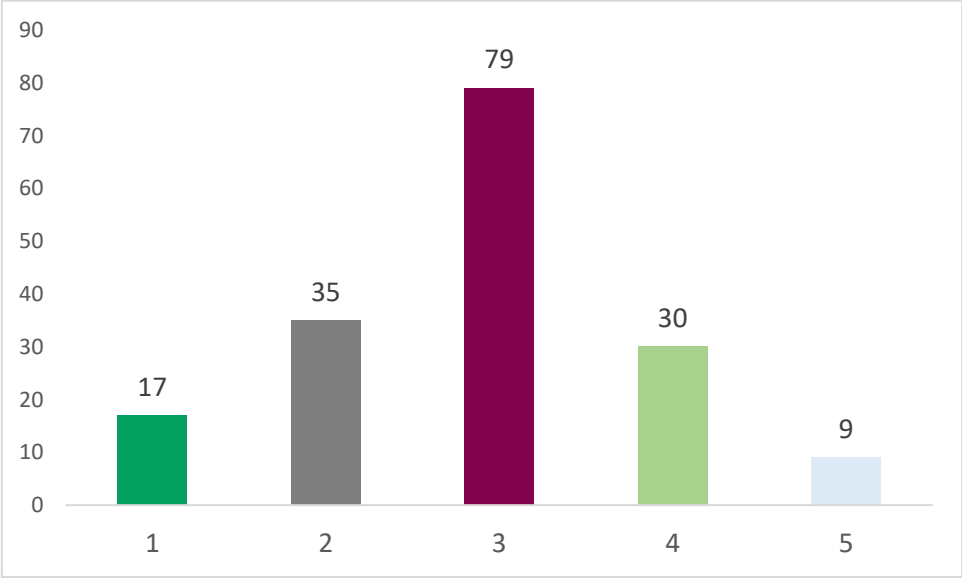
Graph 12- Percentage of investment in crypto-actives of the 14.7% of respondents



Source: Authors based on respondents' data.

In Graph 13 it is notable that people are afraid of the market, possibly due to its volatility, financial pyramids, and frauds involving cryptocurrencies, as recently reported in the case of the Bitcoin pharaoh in Rio de Janeiro.

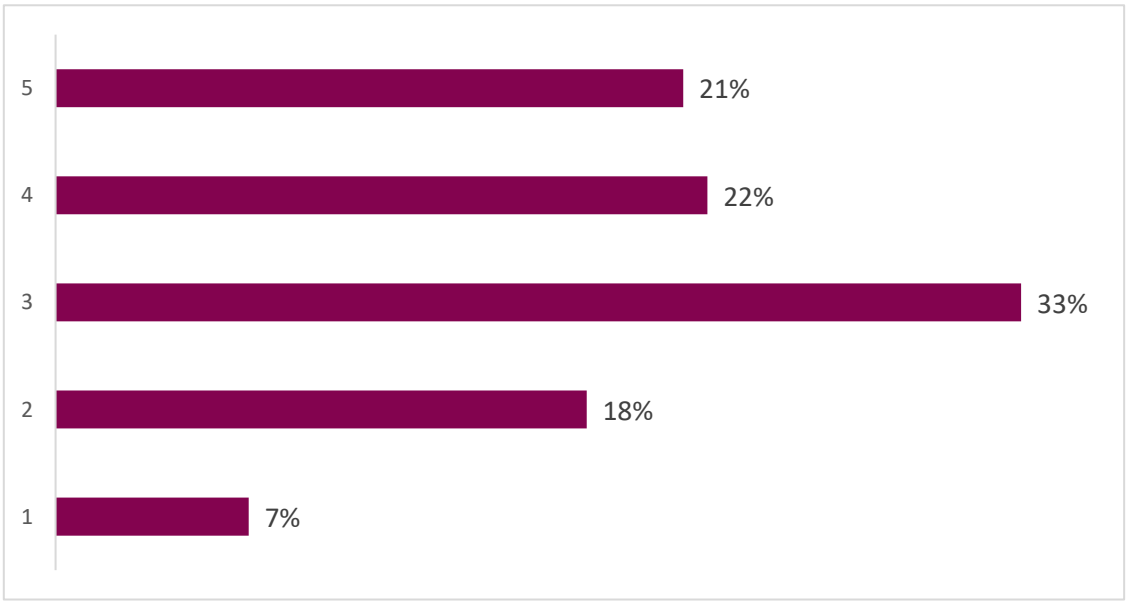
Graph 13 - How safe do you think it is to invest in Cryptocurrency?



Source: Authors based on respondents' data.

Graphs 14 and 15, correlate the age group with how safe people think it is to invest in cryptocurrency. Graph 14 shows that people up to 35 years old, 21.1%, are more willing to take a risk about investment.

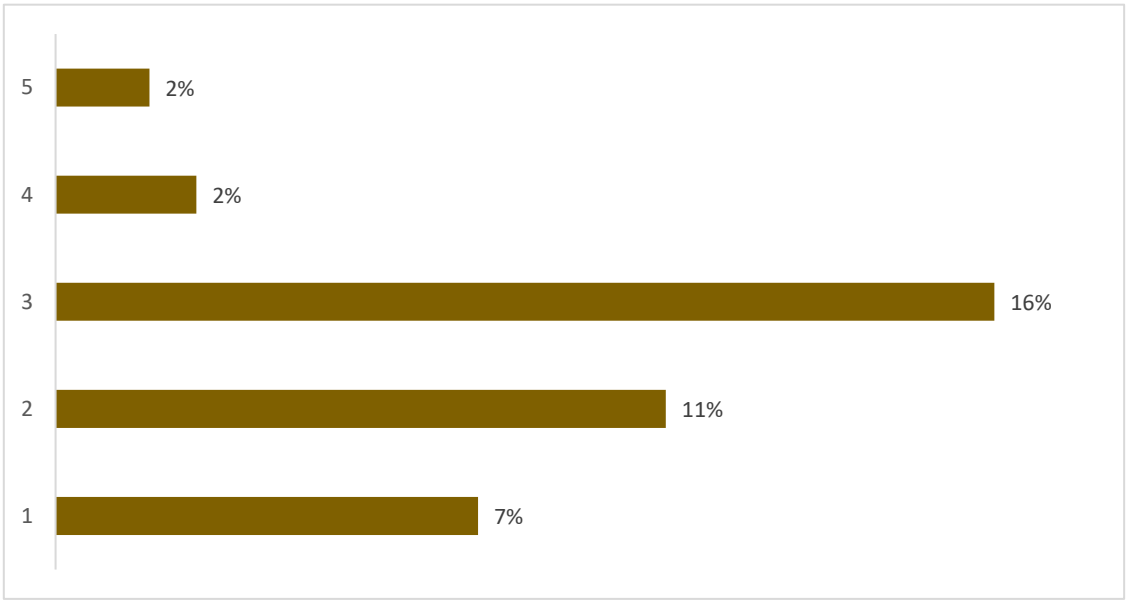
Graph 14 - Age group: up to 35 years old. How safe do you think it is to invest in cryptocurrency.



Source: Authors based on respondents' data.

Graph 15, shows that older people do not trust investing in digital assets, showing themselves to be more conservative investors.

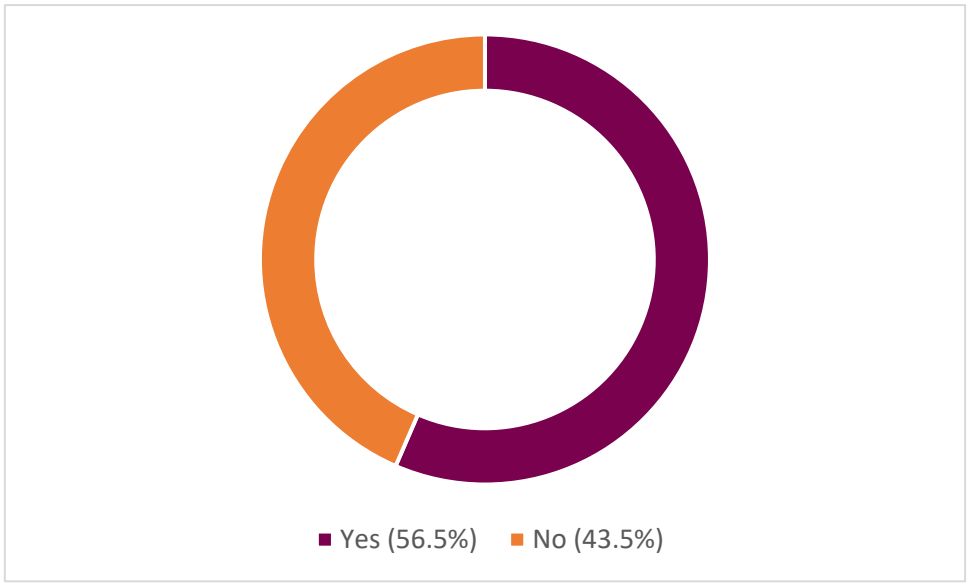
Graph 15 - Age group: 35 and up. How safe do you think it is to invest in cryptocurrency?



Source: Authors based on respondents' data.

Graph 16 shows whether the interviewees would have the courage to enter this market. 43.5% said no, which may be due to a lack of information and knowledge. These data reaffirm the importance of this work for the dissemination of information on the subject.

Graph 16 - Would you feel comfortable investing?



Source: Authors based on respondents' data.

The results show that apart from cryptocurrencies, the other digital assets are still little known, which shows that (free) access to information is still difficult.

Graphic 17 shows which cryptoassets the interviewees knew, the results show that, apart from cryptocurrencies, the other digital assets are still little known, this points to the fact that access (free and reliable) to information is still scarce. As can be seen, twenty-four respondents selected the item none, that

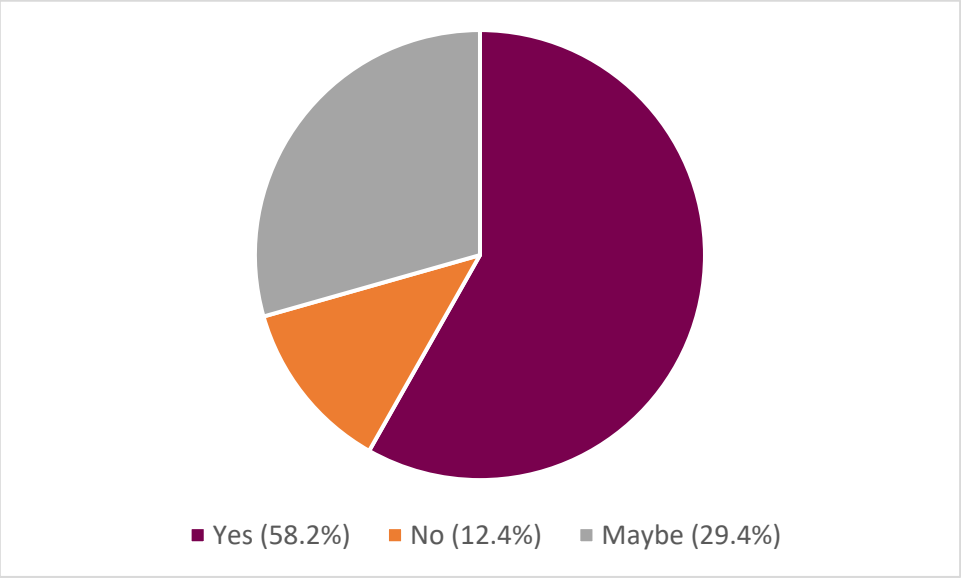
is, they do not know (not familiar) the assets mentioned. Eighty-one respondents know, somehow, the cryptocurrencies: Bitcoin, Ethereum, ADA, XRP, DOGE. What can be seen, in addition, is that few interviewees know Nfts (Non-fungible token) and Digital Art.

Graph 17- Knowledge on cryptoactive

Source: Authors based on respondents' data.

The results in Graph 18 were positive considering the people who answered maybe and yes, 87.6% of the respondents showed interest in knowing more about digital assets.

Graph 18 - Respondents' interest in knowing more about crypto-actives.



Source: Authors based on respondents' data.

Among the questions, respondents were asked to name which cryptocurrencies they had heard of, and the response was not surprising, with Bitcoin and Ethereum being the best known, as these currencies moved more than 6 trillion reais in September 2021.

The cryptocurrency market is bought and sold 24 hours a day, its operation is global without restrictions. For example, a Brazilian can transfer any crypto to a Japanese without an intermediary to verify this process.

Cryptocurrency has great volatility, ranging from 1% to 3% a day, and in some cases even more than 20%, which makes it very attractive to some people. As the questionnaire shows, 40% of the respondents said that they would invest at some point leaving more than 30% of their assets in cryptocurrencies.

4. Conclusion

Because it is a relatively new technology, there is still little free literature available on the subject. Most of the academic works on the theme are paid and/or in English, which makes it difficult to spread the information in the country. Even though it is widely publicized on the internet and in the media, it is still informal and superficial.

Compared to sovereign currencies, cryptocurrency meets monetary demand in isolation, in a certain context and period, mainly for transaction and prevention reasons. However, speculation is the most common analysis. Institutional demand has been gaining strength with ETF's present in the Brazilian and American stock exchanges, in the fact that large companies such as Tesla, Microsoft, Paypal, and Coca-Cola use and accept cryptocurrencies as a form of payment.

The conclusion, therefore, is that cryptocurrency meets the reason for the demand for currency, but there are caveats and warnings. Institutions such as the central bank and some governments do not recommend its use, and some analysts consider it a promoter of speculative bubbles. However, even with these

restrictions, cryptocurrency is necessary, even if for a restricted group. One possibility is that the demand for digital assets is still small because the public lacks an understanding of their use and maintenance.

The questionnaire highlights the importance of this research, as it highlights the lack of understanding about cryptocurrencies, even those who know and invest would like to know more. Even with great volatility, people put more than 10% of their assets in these assets, which proves that the theories about demand present in this research are proving to be true.

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