NOVA IMS Information Management School

MEGI

Mestrado em Estatística e Gestão de Informação

Master Program in Statistics and Information Management

Cryptocurrencies

Characteristics and behaviours from the investors

Miguel Conceição Dias

Dissertation Proposal presented as partial requirement for the degree of Master Statistics and Information Management, Specialization in Risk Management

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Advisor: Doutor Rui Gonçalves

February 2020

ABSTRACT

Over the past few years, cryptocurrencies have been increasingly spoken and have become a global phenomenon known to most people. Nowadays, banks, governments and many companies are aware of its importance.

Their high volatility and lack of regulation makes these investments very risky, and even though these coins are often associated with criminal activities, an increase on the number of investors is visible every day.

The blockchain technology, which serves as the basis for this type of coin, has also dismissed much curiosity from various technological giants and financial companies.

Almost all major banks, big accounting firms, prominent software companies or governments already did a research related to cryptocurrencies or published a paper about it.

Most of the published studies explain the technology behind cryptocurrencies, others calculate their volatility and the remaining ones list their main advantages and disadvantages.

However, there was no published study that aims to understand what kind of profile these investors have and what are their motivations and expectations for the future.

With the help of a questionnaire presented to the investors, this study concluded that there are two separate investor profiles and also understood what are their motivations and expectations for the future.

On the other hand, through interviews with financial institutions, it was possible to see what vision regulators, private equities and corporate banking have for this new type of currency and if they consider them as a valid mean of payment.

KEY WORDS

Cryptocurrencies; Investors; Financial Companies; Bitcoin

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LIST OF ABBREVIATIONS AND ACRONYMS

ACLU American Civil Liberties Union

BTC Bitcoin

CEO Chief Executive Officer

CFTC Commodity Futures Trading Commission

CIA Central Intelligence Agency

CNBC Consumer News and Business Chanel

DHS Department of Homeland Security

EIOPA European Insurance and Occupational Pensions Authority

ESMA European Banking Authority

FBI Federal Bureau Investigation

FINCEN Financial Crimes Enforcement Network

FUD Fear, Uncertainty and Doubt

ICO Initial Coin Offering

IPO Initial Public Offering

IT Information Technology

1. INTRODUCTION

“Virtual currencies, perhaps most notably Bitcoin, have captured the imagination of some, struck fear among others, and confused the heck out of the rest of us.”

(Thomas Carper, US-Senator,2016)

The absence of a regulated monetary system means that cryptocurrencies are directly linked to money laundering and criminal activities. In addition, their high volatility makes them a considerably aggressive investment. However, over the past few years there has been a significant increase in the use of this type of virtual money.

In December 2017 the main cryptocurrency, Bitcoin, reached a historic peak of USD 20,000. This has generated a great deal of media interest and attracted the attention of various investors and financial institutions. In the World Bank Report prepared by Capgemini (2018), it is indicated that one third of the world's major investors already receive detailed information related to cryptocurrencies. On the other hand, these virtual coins also generate considerable mistrust. Warren Buffett (2018), during Berkshire Hathaway’s shareholder meeting launched the warning – "Cryptocurrencies will come to a bad ending". Nevertheless, the number of users has been increasing and Brian Armstrong (2018), CEO of Coinbase, during his participation in the TechCrunch Disrupt conference, predicted that over the next five years 1 billion people in the world would be using cryptocurrencies, with 40 million users already estimated in 2018. Therefore, this study seeks to understand what kind of profile these cryptocurrencies investors have taking in consideration various socio-economic and demographical characteristics.

Over the past few years, hundreds of new cryptocurrencies have emerged and several companies have started exploring their technology based on blockchain. The virtual currency is already an investment reality for large players such as Microsoft and IBM, and in recent years, it has attracted the attention of the various financial institutions. Therefore, in order to complement this study, we will try to see how the financial institutions are positioning themselves in relation to this new reality.

In Deutsche Bank's "Imagine 2030" report (2019), it is stated that the use of cryptocurrencies can fire up to the next few years - according to strategist Jim Reid (2019), who collaborates with the study, the arrival of the cryptocurrencies showed the challenges facing by the current banking system. "So far, cryptocurrencies have been additions, rather than substitutes, to the global cash inventory. In the next decade, that can change. Overcoming regulatory obstacles will amplify its appeal and increase the potential to eventually replace money". As far as its possible regulation is concerned, the US SEC continues to examine cryptocurrencies as its area of compliance adds digital and pre-tech assets to its annual priority list. A future regulation will certainly have a direct impact on the markets and in this study, we will try to understand what investors and financial institutions expect in the near future.

1.1 CRYPTOCURRENCIES - BRIEF REVIEW

In the same way that physical money has serial numbers and other security devices, cryptocurrencies uses cryptography. Meaning, hard codes to decipher, to guarantee much safer transactions. Its trading is done via the Internet, without bureaucracies, without intermediaries, characterised by the absence of a regulated monetary system and the submission to a financial authority (such as the European Central Bank). In generally, it is necessary to buy from the issuer or from someone who already has the digital currency and their quotation, purchase and sale takes place anonymously on the Internet. These coins are stored in wallets and processed on personal computers or mobile devices. The technological innovation behind cryptocurrencies is known as blockchain, which is a database with shared records, being decentralization the main security measure.

In blockchain, a global index is created for all transactions within the same market. It is a like a book-records, totally public and shared. The absence of mediation by third parties creates a sense of confidence in direct communication between the parties on the transaction.

The logic of digital money is the same as money in kind. Its function is simply to allow transactions for purchase and sale of goods and services. Another possibility is the transfer of values over the Internet, without the need for charges normally levied by financial institutions.

There are two ways to have cryptocurrencies: either through their creation (mining) or by buying the existing cryptocurrencies. Mining consists on finding the key that encrypts the blocks at blockchain, called "hash", i.e. every ten minutes, is added a new complex mathematical problem at blockchain to be solved. Anyone who can solve the problem sends the solution to blockchain. If it is right, the user gains units of cryptocurrencies for their work. Such users are known as miners. In the case of bitcoin, whenever a minerator finds a valid block, it is rewarded with 12.5 bitcoins. However, this work requires a lot of effort and high computational costs. Anyone can try to find the hash's, but only a few people can reach to the solution. This is because there is a need for large capital investment in powerful servers and computers in order to carry out such work.

It is therefore easier to buy a cryptocurrencies that already exists. This process is quite simple since no bank or financial institution is required to act as an intermediary. It is enough for the investor to register on an exchange, to create a digital wallet and immediately start buying and selling cryptocurrencies.

1.2 BACKGROUND AND PROBLEM IDENTIFICATION

During 2018, ESMA and EIOPA sent a communication to all investors regarding the cryptocurrencies risk and market volatility.

On the approach performed by several authors, is consensual that cryptocurrencies could be a valid currency but also a new haven for criminals and money launderers.

Even with all these warnings, the number of investors keeps increasing and new crypto coins are being created every day, reason why we should care about this topic.

When performing a brief literature review we find a recent study from University of Cambridge (Hileman, G., and Rauchs, M. (2017). Global Cryptocurrency Benchmarking Study), that focused on cryptocurrencies as an alternative payment system and digital asset. This study aimed to provide a more technical explanation regarding new concepts as Wallets, Mining and Blockchain. It also presents several Crypto coins, markets, countries that have more activity and provides relevant information regarding security and the risks associated.

A second study, also dated to the same year (Chiu, J., and Koeppl, T. (2017). The Economics of Cryptocurrencies - Bitcoin and Beyond. Bank of Canada.) show us how blockchain is important on the transactions, calculate transaction fees and explains the mining process.

In addition, there are a number of studies that list the advantages and disadvantages of these digital coins. Regarding the disadvantages, several factors such as lack of knowledge, high volatility and lack of regulation are described.

However, even with so many disadvantages, the number of investors continues to increase and, according to various interviews/comments by several people with great knowledge and responsibilities in the financial and technological field, it is also important to see how the main banks and financial institutions are positioning themselves.

During my dissertation, I will take in consideration the information provided on the already existent studies that include important technical information and analyse the cryptocurrencies investors' characteristics and understand if financial companies are ready for this new reality.

1.3 STUDY OBJECTIVES

This proposal tends to stablish a crypto investors profile and conclude if financial companies are prepared for the cryptocurrencies new trend. Apart from this, it is also important to establish a bridge between financial and crypto investors in order to understand their predisposition to invest in virtual coins.

My principal objective is the characterization of investors' profiles in regards to their appetence to invest in cryptocurrencies.

To complement the study, I will also take in consideration some sub-objectives in order to characterize and understand the motivations of the investors regarding cryptocurrencies and understand their motivations and expectations towards a future regulation. It is also relevant to verify how the financial system see this instrument within the financial markets, if they consider it a valid mean of payment and/or a valid investment and if they believe and are ready for a future regulation.

2. STUDY RELEVANCE AND IMPORTANCE

Cryptocurrencies exists for several years now, but it was since the creation of Bitcoin in 2009 (the most successful one) that a numerous of private virtual currencies have been introduced. By July 2016, more than 740 cryptocurrencies have been created.

During 2017, Bitcoin market value has reached 20 billion USD, which got a lot of media attention. Since then, many central banks started to explore the adoption of cryptocurrency and blockchain technologies for retail and payments, as they believe that this technology will have a significant impact in the financial systems.

In order to study the relevance of this theme, it is important to understand what is being said on the several interventions made by important people linked to technology giants or with high responsibilities within the financial markets during the last couple of years.

Steve Wozniak (2018), Aplle co-founder, Nulltx interview on the 13th August during the ChainXchange conference mentioned his interest in Cryptocurrencies and their technology: “I’m involved with, very soon, my first time being involved in a blockchain company. [It’s] called Equi… Our approach is not like a new currency or something phony where an event will make it go up in value. It’s a share of stock, in a company. This company is doing investment by investors with huge track records in good investments in things like apartment buildings in Dubai. We have one person in our group who has listed out a whole apartment building for Bitcoin… We might be starting up in Malta around the time of their blockchain conference. Some countries are very positive about [blockchain] the same way they were about electric vehicles.” Former Google CEO, Eric Scmidt (2018), also showed his interest in the Blockchain technology and it’s possible application in the private banking during ‘Conversations with Tyler’ interview on the 9th November 2018: [Blockchain is] a great platform for private banking, banking transactions where people don’t trust each other. I think the most interesting stud that’s going on are the beginning of execution on top of blockchain; the most obvious example being the capability of Ethereum: If Ethereum can manage to figure out a way to do global synchronization of that activity, that’s a pretty powerful platform. That’s a really new invention.”

The usage of Cryptocurrencies as a valid mean of payment and the lack of a central bank control were also mentioned in some 2018 interviews. Al Kelly (2018), Visa CEO, CNBC interview on 25th October 2018 believes that Cryptocurrencies could start to be a valid mean of payment and showed his predisposition to work with these virtual currencies in the Future: "if we actually think that crypto starts moving from being more of a commodity to actually really being a payment instrument. If it goes in that direction, we will move in that direction," the CEO said. "We want to be in the middle of every payment flow in the world regardless of how it happens or what the currency is behind it. So if we have to go there, we will go there. But right now, it's more of a commodity than a payment vehicle." The possibility to send money to everywhere at any time without any kind of central authority control was mentioned by Edward Snowden (2018), former CIA analyst, interview with Ben Wizner, ACLU Speech on the 25th November: “That belief is how cryptocurrencies move

enormous amounts of money across the world electronically, without the involvement of banks, every single day. One day capital-B Bitcoin will be gone, but as long as there are people out there who want to be able to move money without banks, cryptocurrencies are likely to be valued." "Let's say Bank of America doesn't want to process a payment for someone like me. In the old financial system, they've got an enormous amount of clout, as do their peers, and can make that happen. If a teenager in Venezuela wants to get paid in a hard currency for a web development gig they did for someone in Paris, something prohibited by local currency controls, cryptocurrencies can make it possible. Bitcoin may not yet really be private money, but it is the first "free" money."

Several important financial markets players also share a positive opinion in regards to cryptocurrencies and their future: J. Christopher Giancarlo (2018), chairman of the CFTC, CNBC's fast Money interview on the 1st October: "I personally think that cryptocurrencies are here to stay. I think there is a future for them. I'm not sure they ever come to rival the dollar or other hard currencies, but there's a whole section of the world that really is hungry for functioning currencies that they can't find in their local currencies. There is 140 countries in the world, every one of them has a currency. Probably two-thirds are not worth the polymer or the paper they are written on, and those parts of the world rely on hard currencies. Bitcoin [or another] cryptocurrency may solve some of the problems." The high volatility of these coins also called the attention of some financial markets players that believe main Cryptocurrencies will survive to these high volatilities that in turn create interest to the investors. Jeff Sprecher (2018), chairman of the New York Stock Exchange, on a CNBC interview on the 28th November 2018, when asked about the dropping prices, mentioned: "Will digital assets survive? The unequivocal answer is yes. As an exchange operator, it's not our objective to opine on prices. Somehow, bitcoin has lived in a swamp and survived. There are thousands of other tokens that you could argue are better but yet bitcoin continues to survive, thrive and attract attention".

In 2019, discussions related to a possible regulation started to intensify. Speaking to the Cointellect last month, the SEC Commissioner, Hester Peirce (2019), expressed an interest in promoting a more flexible regulatory approach to cryptocurrencies offers. She said, "What the crypto community needs is a way of moving from an offer of securities to a gift of utility, which is not covered by securities laws, or which is not covered by the big bureaucracy." The G20 leaders also reinforced their previous position with regard to the cryptocurrencies in a joint declaration after the G20 Summit in Osaka on 29 June 2019. In the statement, G20 leaders stated that the cryptography currently does not pose a threat to monetary stability, and that technological innovation can bring important benefits to the economy. Participants also praised the continuous work of the Financial Stability Council and other regulatory bodies with regarding these assets, and encouraged the multilateral reaction when necessary. The authors of the statement also reaffirmed their determination to take account of the compliance of the updates of the Financial Action Task Force against money laundering and terrorist financing through cryptography. The document also states that its authors also want to lead the commitment to improve cyber security.

In order to reinforce the continued increase in the use of cryptocurrencies, we can also mention that there are several donations in cryptocurrencies. The most recent was earlier this year to help the fires combat in Australia. The CEO of portal Alex Saunders (2020) ensured that the resources raised will be earmarked for rural firefighters to help combat the biggest fire in Australian history.

The interest of important players both in financial markets and in technological giants, a positive view of cryptocurrencies as a valid mean of payments, as well as the movement of the main regulators towards these digital assets are good examples of the relevance that this theme have on our society.

The study will in turn be important for all the people who are interested in invest and use cryptocurrencies on their daily basis as a form of payment. It will also allow the general people to understand how the Financial Companies are positioning themselves towards this new virtual money reality.

3. LITERATURE REVIEW

3.1 Cryptocurrencies characteristics & Blockchain

In view of my current study, I began by reviewing the literature available for Cryptocurrencies and their characteristics. Taking the words of Professor Prasanta Kumar Day (2018), the word “Crypto” originates from Greek word“Krypto”. In noun meaning, it denotes a person who secretly supports or adheres to a group, party or belief. In adjective meaning, it denotes hidden, secret, concealed and not publicly admitted.

In the present day, it is a digital currency, digital money, electronic money or electronic currency designed to work as a medium exchange. It is a type of currency available in digital form, e-cash, not in physical form such as banknotes and coins. It uses cryptography to secure its transactions to control the creation of additional units and to verify the transfer of assets.

Cryptocurrencies use a decentralized control and centralized electronic money systems. The decentralized control of each currency works through a blockchain public transaction database, functioning as a distributed ledger. Cryptocurrency is usually controlled by its developers that are accepted as members of a specific virtual community.

Cryptocurrencies characteristics and blockchain technology are also discussed in several papers and Mukhopadhyay, U. (2016), discusses the life cycle of a cryptocurrency. Important aspects like mining, blockchain, hash algorithms and their vulnerabilities are also listed; Watanabe, H. (2015) discusses the use of blockchain for the validation of smart contracts. This technology could also be used for recording contracts. An example of such technology is ethereum; the paper written by the creator of bitcoin (Nakamoto, S. 2008) mentions the decentralised system of cryptocurrencies. It also emphasises on the use of peer- to -peer technology. It explains the need of blockchain and how it would prevent hackers from attacking and manipulating the system.

Although cryptocurrencies decentralization, anonymity of transaction, and irreversibility of payments offer plenty advantages, Brill and Keene (2014) opine that these features also attract illegal activities (cybercriminals) such as money laundering, drug peddling, smuggling and weapons procurement. This issue has attracted the attention of powerful regulatory and other government agencies such as the FinCEN, the SEC, and even the FBI and DHS. In March 2013, FinCEN issued rules that defined virtual currency exchanges and administrators as money service businesses, bringing

them within the ambit of government regulation. In May that year, the DHS froze an account of Mt. Gox – the largest Bitcoin exchange – that was held at Wells Fargo, alleging that it broke anti-money laundering laws. And in August, New York's Department of Financial Services issued subpoenas to 22 emerging payment companies, many of which handled Bitcoin, asking about their measures to prevent money laundering and ensure consumer protection.

3.2 Advantages & Disadvantages

In order to be able to describe all the advantages and disadvantages surrounding Cryptocurrencies, I have taken into account two published studies.

In the first one (Rogojanu, A., Badea, L. 2015) the defenders assume that Bitcoin is more than a medium of exchange among many others existing, Bitcoin represents money generated in strictly limited quantities, and is therefore from the very beginning a rare currency. The amount of Bitcoin cannot increase more than originally expected, but the value of Bitcoin could, theoretically grow no matter how much.

Since we are talking about a market, the demand and supply of money are the ones that give the value to the cryptocurrencies.

On the other side, rivals relate to the rigidity and conservatism of some theories and are trying to highlight the dangers associated with this currency, based on examples of fraud and theft that have been done using this currency and are also reaching up to the issue of prohibiting the use of Bitcoin.

On a second study (Tomar, A. 2017), the author describes the main cryptocurrencies advantages and disadvantages. The main advantages described are: freedom in payment; possibility to send and get money anywhere in the world at any given time; control of our money as there is no central authority figure in the network; control and security; information is transparent; with the blockchain, all finalized transactions are available for everyone to see, however personal information is hidden; anyone at any time can verify transactions in the blockchain; very low fees; digital currency exchanges help merchant process transactions by converting cryptocurrency into fiat currency and these services generally have lower fees than credit cards and PayPal.

On the other side, we can also find several disadvantages as: lack of awareness and understanding; many people are still unaware of digital currencies; people need to be educated to be able to apply it to their lives; businesses are accepting cryptocurrencies because of the advantages, but the list is relatively small compared to physical currencies; the workers need to be educated on cryptocurrencies so that they can help the customers; risk and volatility; cryptocurrencies have volatility mainly due to the fact that there is a limited amount of coins and the demand for them increases by each passing day. However, it is expected that the volatility will decrease as more time goes on, as more businesses, medias, and trading centres begin to accept cryptocurrencies, its price will eventually settle down. In order to make the digital currency more secure and accessible, new features, tools, and services are currently being developed.

As described above, there are still many disadvantages in regards to cryptocurrencies; however, the number of investors and people interested is still increasing.

In the article (Lu, L. 2018) we can find the explanation on why the Cryptocurrencies have become so popular, namely Bitcoin. In recent years, the demand for virtual currencies has taken off for multiple reasons. First, an increasing number of start-up companies are choosing to raise money through ICOs. An ICO is, to some extent, similar to an IPO. Issuers sell digital coins to investors who, for fiat or virtual currency, obtain a stake in the start-up, such as a right to use the service or software provided by the start-up. However, unlike global capital markets, the price of the digital coins largely depends on the valuation of their issuers and a small community of investors. Thus, for many new digital currencies, the price hike has been considered as self-dictated, as the limited number of potential buyers means low market liquidity. The price of the cryptocurrencies will probably face a sudden collapse at any time. Second, the bitcoin bubble is a speculation carnival for investors and traders across the world. It remains controversial whether bitcoin fits into the traditional concept of currency, but for global investors, it seems a perfect object on which to take a bet on its ever-growing intrinsic value. This resulted because there is a theoretical maximum number of all bitcoins circulated, which is around 21 million (20,999,999.9769 BTC). Therefore, as time lapses, it will cost more and more time and money to mine new bitcoins, leading to their skyrocketing price. As of August 2017, the market capitalisation of all bitcoins was estimated to be $73.5bn.

Finally, the rapid rise of the bitcoin price is partly due to strict foreign exchange controls in some countries.

3.3 Volatility studies and factors that influence prices

The cryptocurrency market has seen an unprecedented level of interest from investors in 2016. Bitcoin, the world's largest digital currency, has risen more than 1,500 percent since the start of 2017. However, the market is significantly more complex than the public lexicon might suggest. Moreover, while there have been plenty of studies examining the future of Bitcoin and its volatility (Polasik et al. 2015; Letra, 2016; Bouoiyour and Selmi, 2016; Katsiampa, 2017; Chiu and Koeppl, 2017; Chu et al. 2017), there have been a few people that explore the broader cryptocurrency market and how it is evolving.

The currency is extraordinarily volatile despite its recent ever-peaking performance, rising by thousands of dollars in value on one day only to fall by even more the next. Katsiampa (2017) estimates the volatility of Bitcoin through a comparison of GARCH models and finds that the AR-CGARCH model gives the most optimal fit. He underlines that the market is high speculative. Bouoiyour and Selmi (2016) study daily Bitcoin prices using an optimal-GARCH model and show that the volatility has decreasing trend comparing pre- and post-2015 data. Even tough, they still observe significant asymmetries in the Bitcoin market where the prices are driven more by negative than positive shocks. Likewise, Dyhrberg (2016) investigates the asymmetric GARCH methodology to explore the hedging abilities of Bitcoin and he finds that it can be used as a hedging tool against stocks in the Financial Times Stock Exchange Index and against the American dollar in the short term.

On the other hand, El Bahrawy and Alessandretti (2017) examine behaviour of entire market (1469 cryptocurrencies) between April 2013 and May 2017. They find that cryptocurrencies appear and disappear continuously and their market capitalization is increasing (super-)exponentially, several

statistical properties of the market have been stable for years. Particularly, market share distribution and the turnover of cryptocurrencies remain quite stable.

To summarize, Poyser (2017) points three types of crypto price drivers organized into internal and external factors. Supply and demand of cryptocurrency is main internal factors that have direct impact on its market price. On the other hand, attractiveness (popularity), legalization (adoption), and few macro-finance factors (interest rate, stock markets, gold prices) can be regarded as external drivers:

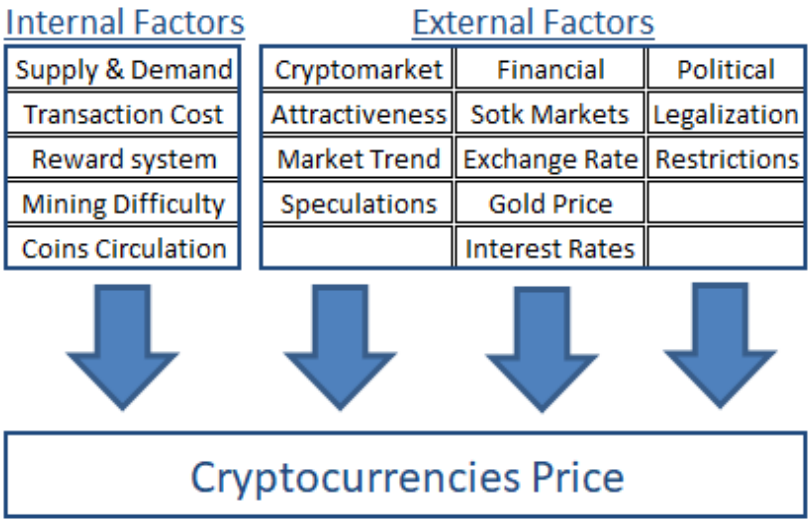

Figure 3.3-1 – Cryptocurrencies price - source by author

3.4 Risk Tolerance

Taking in consideration the high volatility of Cryptocurrencies, it is also important to make a brief review of literature linked to factors that determine decisions at financial risk level.

Carducci and Wong (1998) study points to an investigation of personality factors as determinants of financial risk taking in everyday money matters. On this study, Type A and Type B individuals - several researches have shown that Type A individuals are in general associated with higher performance and productivity (Bermudez, J., Perez-Garcia, A. M., and Sanchez-Elvira, M. A. 1990) – were asked to make a series of everyday financial decisions that varied in degree of risk. Type A individuals took grater financial risks than Type B individuals.

Another research (Grable, 2000) takes in consideration other parameters by examining demographic, socioeconomic and attitudinal characteristics that may be used either individually or in combination as determinants of financial risk tolerance. It was concluded that males were more risk tolerant than females, older respondents were more risk tolerant than younger respondents, married respondents were more risk tolerant than single respondents, respondents with higher incomes were more risk tolerant than those with lower incomes. Respondents with higher attained education were more risk tolerant than others, respondents with higher levels of financial knowledge were more risk tolerant than respondents with less knowledge and those with greater economic expectations were more risk tolerant than respondents with lower expectations.

4. THEORETICAL FRAMEWORK

In order to have a theoretical framework on this subject, and with the help of the review of literature, it was possible to identify the most important topics and types of issues to be taken into account in order to have a real characterization of the investor's profile. It was based on this information that the survey was created.

The table below shows the topics defined, the Literature used and the type of questions identified to use on the survey:

Topics Definition	Literature Review	Type of Questions
Socioeconomic characteristics	Looking into the Literature Review, and taking in consideration the research performed by Grable (2000) where he studied the impact of demography and socioeconomic characteristics in regards to the risk tolerance, it's important also to understand if the same characteristics have an impact on this study.	Age, Gender, Civil State, Country of Residence, Place of birth, Area of studies, Occupation, Monthly Income
Investors characteristics	In order to analyse the investors characteristics I have searched several banks online surveys to understand which questions where more appropriate do add on my study. Regarding the percentage, period and frequency of investment, the questions where identified on the investors profile survey from the Grupo Paulista (*https://www.bancopaulista.com.br/Arquivos/QuestionarioAPI.pdf*) and the profile classification where identified on the Millennium BCP survey:(https://ind.millenniumbcp.pt/pt/Particulares/investimentos/Pages/FundsHomepage.aspx?trxid=7010118&AllowBack=true)	(Percentage of investment in income, investment period, investment frequency, investor profile — conservative [between 1% and 5% of profitability]; moderate [between -5% and 15% of profitability]; aggressive [between -10% and 20% of profitability]
Investors motivations	In order to understand the Crypto investors motivations I took in consideration the Anwesha Tomar (2017) study where the author describes the main advantages and disadvantages related to the Cryptocurrencies. Having also in mind the Lu, Lerong (2018) article, where the author explains the increasing number of start-up companies that are raining money through ICO's, it's also important to understand if the Crypto investors are looking to invest only in the main coins or also in the Altcoins related to these issuers. On the Nakamoto (2008) publication it is also explain the use of Blockchain technology and the Peer-to-Peer Electronic cash system, so it is also important to understand if the Crypto investors are using Cryptocurrencies as a mean of payment.	(Reason, in how many different currencies invest, how long they have invested, level of happiness, average returns, whether they are considered to increase their investment in the future and use Cryptocurrencies as a form of payment)
Level knowledge	For the lever of knowledge classification, I used the pyramid model based on the information processing requirement of different levels in a organization (https://www.conceptdraw.com/How-To-Guide/five-level-pyramid-model)The notions are based on all my Literature review, where Blockchain it's present in all the articles and papers; Peer to Peer is explained in the Nakamoto (2008) paper; ICO, Mining, Altcoin and Tokens are mentioned on the Lerong (2018) article; Fork is present in Poyser (2017) study. FUD and Scam are common Cryptocurrencies notions and Whale it's normally present in several news related to sudden price changes.	(See the main news and developments in the Cryptocurrencies world, what kind of notions do you know [ICO, Blockchain, Wallet, Mining, Altcoin, Tokens, FUD, Fork, Peer to Peer, Scam, Whale])
Expectations for the Future	On the Poyser (2017) it has been mentioned several factors that influence the Cryptocurrency prices. I took into consideration the external factors mentioned (Cryptomarket, Macro-financial and Political) to perform some questions in order to understand the Crypto investors' expectations for the Future.	(Realizing whether they believe in future regulation and whether it will give them more confidence or disinterest in continuing to invest)

Table 4-1 – Theoretical Framework - font by author

5. METHODOLOGY

5.1 INTRODUCTION

In order to answer to our study objectives that pretend to understand the investors' characteristics and motivations of this type of investment, an online survey via secure web-based questionnaire have been developed. The survey was directed, on a first phase to global investors and then segregated to Cryptocurrencies investors.
Two questions to the main Financial Institutions have been also performed in order to understand their vision for this type of digital currency.

5.2 Methodology steps

Step 1: Literature Review

The Literature review has been segregated in four topics: Cryptocurrencies characteristics, advantages and disadvantages, volatility and risk tolerance.

This segregation allowed us to identify the most important topics and create a theoretical framework to support the survey creation.

Step 2: Online survey via secure web-based questionnaire.

The survey was created (through "Survio" – online survey system) both in English and Portuguese in order to agile the investors answers. Even with the focus in crypto investors, the survey was opened for all investors during 90 days, between the 1st of February 2019 and 30th of April 2019. During this time, we were able to receive 140 survey answers, mainly crypto investors. In order to gather all the answers, it was necessary to work pro-actively on the social network, by joining several cryptocurrencies groups in Facebook and LinkedIn ("CryptoCurrency", "CryptoCurrency Inc", "Cryptocurrency Miners", "CryptoExchange" and "CryptoExperts" groups) by contacting investors through WhatsApp and Telegram ("Icenter", "Promine" and "CryptoPower" bot's) and by sharing the survey by email to several contacts within the financial area.

Taking into consideration the theoretical framework, the survey was segregated by topics. The first two topics, definition of socioeconomic and investor characteristics were opened to all investors so we could identify potential differences between global and crypto investors. The remaining survey was dedicated only to crypto investors where we tried to define their motivations, level of knowledge and expectations towards the Future.

Step 3: Taking in consideration the study objectives and the need to verity how the financial system see this instrument within the financial markets, two question have been performed several financial stakeholders - Regulators, Private Equities, and Corporate and Investment Banks.

1-Do you believe that Cryptocurrencies will be a secure investment and a viable means of payment in the near future?

2-How is your institution positioning itself in relation to virtual money and its possible regulation?

These questions where sent by email to several banks, private equities and regulators during one year, between 1st November 2018 and 1st November 2019. During this time, we were able to receive 12 interviews answers from Regulators, Private Equities, and Corporate and Investment Banks.

Step 4: Questionnaire results have been analysed using descriptive statistics, pivot tables, several Excel spreadsheets, tables and pie and column charts. To better analyse the interviews answers, they have been segregated per regulators, private equities and corporate banks. The main goal of the results discussion was to identify the profile of the crypto investor and understand the vision of the main financial institution.

Step 5: Meeting the conclusions identified in the study objectives. After analysing all the results, we were able to identify investors profile, understand their motivations and expectations and have a view from different financial institutions regarding cryptocurrencies.

6. RESULTS ANALISSYS AND DISCUSSION

6.1 INTRODUCTION

This chapter presents the results and findings of the survey and interviews. Qualitative and quantitative findings are then provided with respect to the main objectives of this research, showing a reasonably well-balanced sample for this study and key trends of the presented data.

A positive response was received from various professional classes and where collected mainly on Social Networks (Facebook, LinkedIn, Telegram, WhatsApp). Participants showed interest in the current research which proves the need of knowledge adding to this subject.

6.2 SURVEY RESULTS ANALYSIS

This section provides a univariate analysis of the sample data. Tables and graphs illustrate the results and trends, together with discussion.

6.2.1 Socio-Economics Characteristics & Demography

It was obtained a total of 140 survey answers, segregated into 2 samples. Taking in consideration the initial sample, the first subsample is where we identify the inquired that invest in cryptocurrencies (102 surveyed). The second subsample includes the inquired that have investments, but not in cryptocurrencies (38 surveyed).

The first characteristic analysed was the Gender, where we may see a high percentage of Males on both subsamples (79% on the Crypto investors & 63% on the General investors) against Females (21% on the Crypto investors & 37% on the General investors). Even so, this discrepancy is more visible on the Crypto investors.

The second characteristic to take into consideration is the age. This was a free text answer and it was required to group both subsamples by intervals (<17, 17-24, 25-34, 35-44, 45-54, 55-64, <64). By analysing the results, we see that most of the Crypto investors have between 25 and 34 years old (42.16%) and most of the Global investors have between 35 and 44 years old (52.63%). This led us to observe that age range of the Crypto investors is lower than on the Global ones.

In terms of marital status, we observe a homogeneity on the Crypto investors (34.31% Single, 31.37% Married and 32.35% Civil Partnership) whereas on the Global investors the main inquired live in Civil Partnership (47.37%).

In regards to Education, both subsamples shown the same results, the majority of investors have Higher Education (60.78% on the Crypto investors & 71.05% on the Global investors).

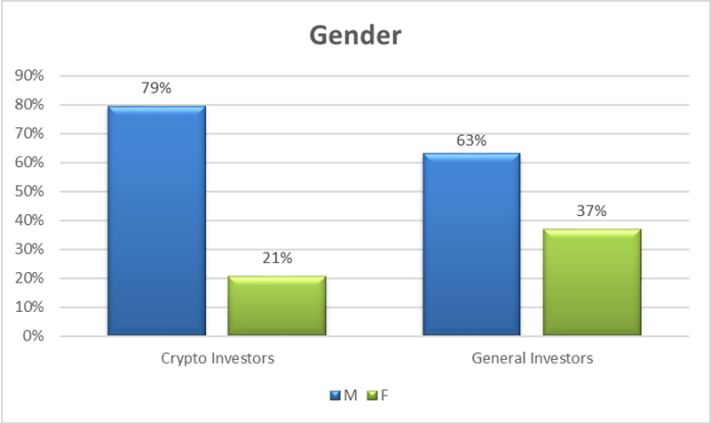

Figure 6.2-1 – Gender - source by author

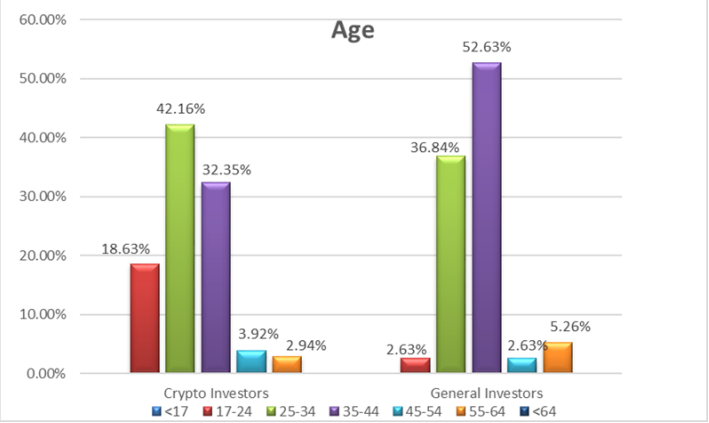

Figure 6.2-2 – Age - source by author

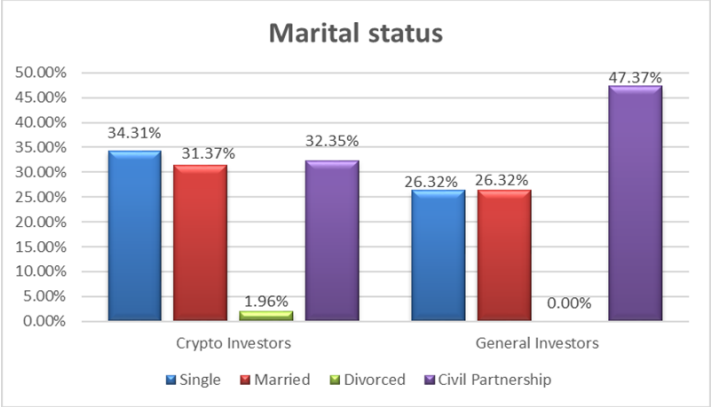

Figure 6.2-3 – Marital status - source by author

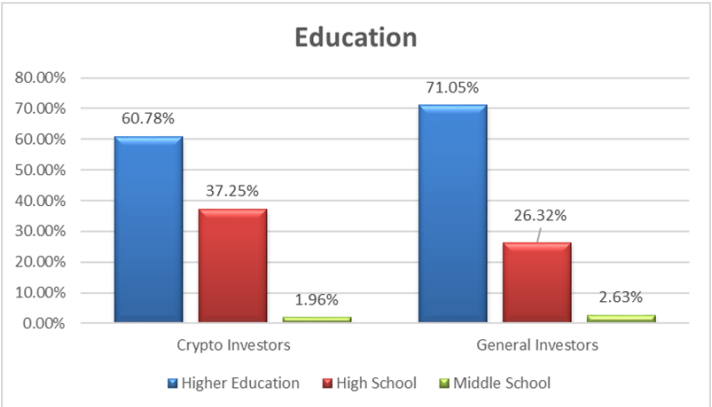

Figure 6.2-4 – Education - source by author

In order to analyse the Professional background, the surveyed had the opportunity to choose the answers between Finances or Others (free text field where we received 28 different occupations). To better analyse these results, all the answers where segregated by 9 Professional classes (Finance, Health / Sciences, Engineering / IT, Security Forces, Student, Customer Services, Administrative / Business / Liberal Professionals / Unemployed). On both samples, the high percentage is based on the financial area. It is also interesting to observe the existence of several students within the Crypto investors' class whereas on the Global investors' side we only have employed people.

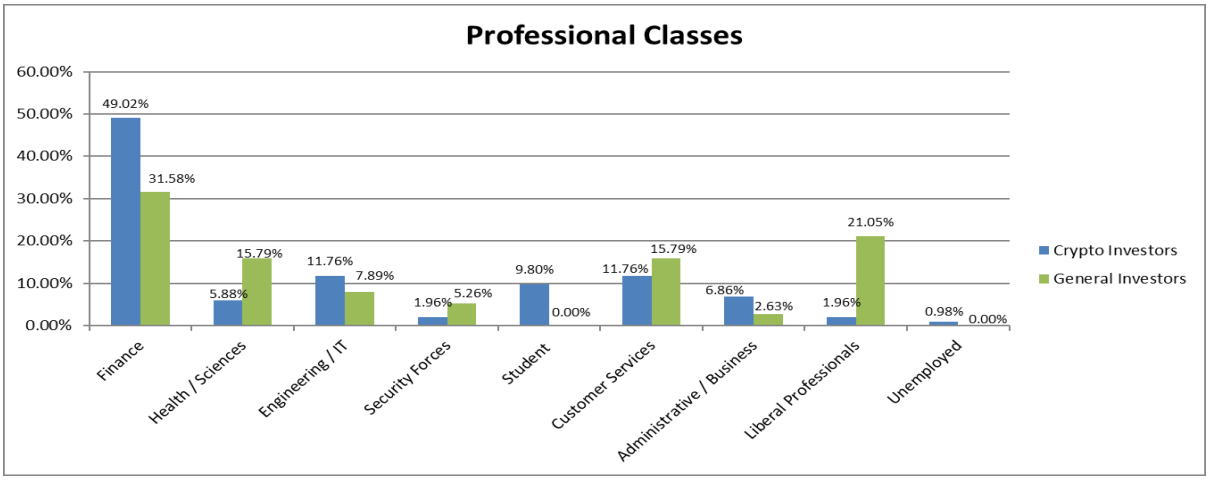

Figure 6.2-5 – Professional Classes - source by author

Another characteristic analysed was the net monthly income where the surveyed could choose the values in Euros or US dollars. It was observed a good homogeneity in regards to Crypto investors with a huge diversity of net monthly income values where on the Global investors, most of them have a net monthly income between 1001Eur and 2000Eur (52.63%).

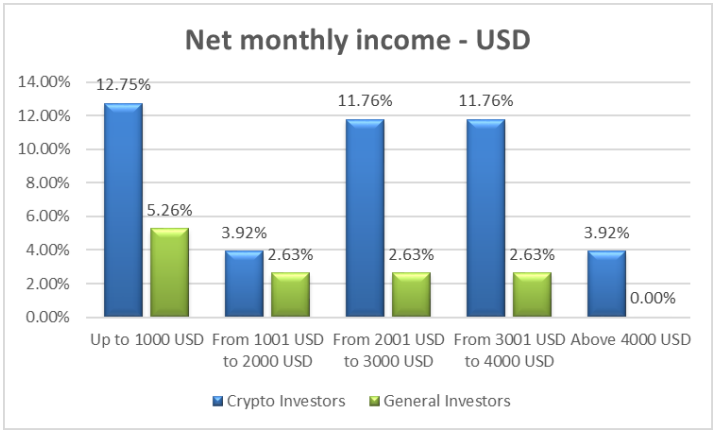

Figure 6.2-6 – Income USD - source by author

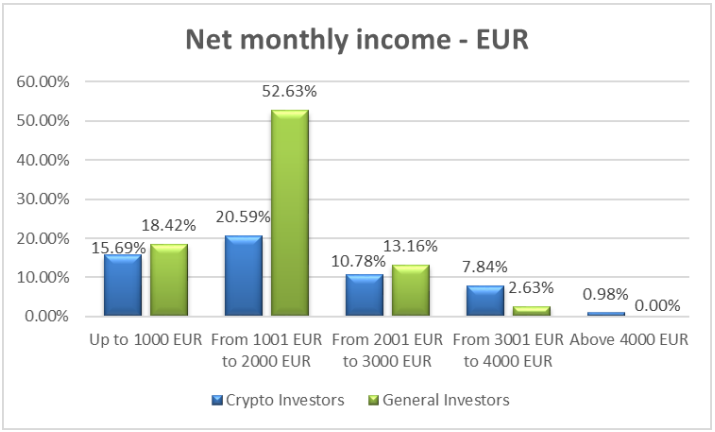

Figure 6.2-7 – Income EUR - source by author

The last characteristic analysed was the demography. This was a free question and we have received answers from 18 different countries. Most of the answers were from investors with residence and Portugal (24,51% on the Crypto investors and 78.95% on the Global investors) followed by UK (26,47% on the Crypto investors and 7.89% on the Global investors). It is also interesting to verify the presence of several Crypto investors from Brazil (14.71%).

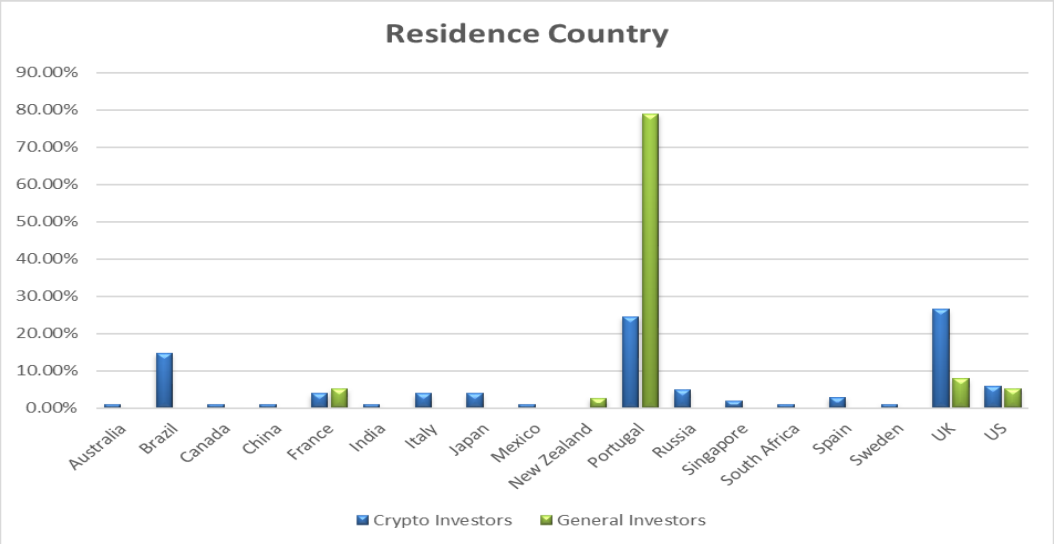

Figure 6.2-8 – Residence - source by author

6.2.2 Socio-Economics Characteristics vs Investors Profile

One of the survey questions was related to the investors profile where it was stablished three different profiles, both for Crypto and Global investors, according to the expected rentability: Conservative [between 1% to 5 % of rentability]; Moderate [between -5% to 15% of rentability]; Aggressive [between -10% to 25% of rentability]. After crosschecking this data with the socio-economics characteristics, we found the following results:

- Most of males and females have a Moderate profile on the Crypto investors side whereas on the Global investors side the majority of the investors have a Conservative profile
- In terms of age, for the Crypto investors we find both Conservative and Moderate profiles until mid-ages and then the investors turn to be more aggressive. On Global investors side the majority of investors have a conservative profile in all ages.
- When crosschecking the profiles with the marital status we may see a high percentage of Moderate profiles transversal to all Crypto investors' status, but we also see an increase of Aggressive profiles on married people. For the Global investors, we continue to see the majority of Conservative profiles but also presence of Moderate and Aggressive profiles for the civil partnership and married status.
- Same trend maintained for the Education on the Global investors side where the majority of profiles are Conservative. For the Crypto investors we may see a high percentage of Moderate profiles for the High and Higher education but also the presence of Aggressive profiles in all levels of Education.
- Looking for the net monthly income, we can see profiles becoming more aggressive when the net monthly income increases on both Crypto and Global investors.
- On Professional classes, Moderate profile prevails on the Crypto investors' side but we can also see Aggressive profiles on other classes like Finance, Students, Engineering and Customer services. For the Global investors, we continue to see a Conservative profile in all classes only with a presence of Aggressive profiles in the financial area.

	Gender		AGE					Marital status				Education		
	F	M	17-24	25-34	35-44	45-54	55-64	Single	Civil Partnership	Married	Divorced	Middle school	High School	Higher Education
Crypto Investor	**21**	**81**	**19**	**43**	**33**	**4**	**3**	**35**	**33**	**32**	**2**	**2**	**38**	**62**
Conservative [between 1% to 5 % of rentability]	38.10%	14.81%	36.84%	16.28%	15.15%	0.00%	33.33%	28.57%	21.21%	9.38%	0.00%	50.00%	31.58%	11.29%
Moderate [between -5% to 15% of rentability]	61.90%	70.37%	57.89%	69.77%	78.79%	50.00%	33.33%	60.00%	75.76%	68.75%	100.00%	0.00%	57.89%	77.42%
Agressive [between -10% to 25% of rentability]	0.00%	14.81%	5.26%	13.95%	6.06%	50.00%	33.33%	11.43%	3.03%	21.88%	0.00%	50.00%	10.53%	11.29%
Global Investor	**14**	**24**	**1**	**14**	**20**	**1**	**2**	**10**	**18**	**10**	**0**	**1**	**10**	**27**
Conservative [between 1% to 5 % of rentability]	85.71%	75.00%	100.00%	85.71%	70.00%	100.00%	100.00%	100.00%	77.78%	60.00%	0.00%	100.00%	60.00%	85.19%
Moderate [between -5% to 15% of rentability]	14.29%	16.67%	0.00%	14.29%	20.00%	0.00%	0.00%	0.00%	16.67%	30.00%	0.00%	0.00%	40.00%	7.41%
Agressive [between -10% to 25% of rentability]	0.00%	8.33%	0.00%	0.00%	10.00%	0.00%	0.00%	0.00%	5.56%	10.00%	0.00%	0.00%	0.00%	7.41%

	Net monthly income									
	Level 1		Level 2		Level 3		Level 4		Level 5	
	Up to 1000 USD	Up to 1000 EUR	From 1001 USD to 2000 USD	From 1001 EUR to 2000 EUR	From 2001 USD to 3000 USD	From 2001 EUR to 3000 EUR	From 3001 USD to 4000 USD	From 3001 EUR to 4000 EUR	Above 4000 USD	Above 4000 EUR
Crypto Investor	**29**		**25**		**23**		**20**		**5**	
Conservative [between 1% to 5 % of rentability]	41.38%		24.00%		8.70%		0.00%		0.00%	
Moderate [between -5% to 15% of rentability]	51.72%		72.00%		86.96%		65.00%		80.00%	
Agressive [between -10% to 25% of rentability]	6.90%		4.00%		4.35%		35.00%		20.00%	
Global Investor	**9**		**21**		**6**		**2**		**1**	
Conservative [between 1% to 5 % of rentability]	66.67%		90.48%		66.67%		50.00%		0.00%	
Moderate [between -5% to 15% of rentability]	33.33%		0.00%		33.33%		50.00%		0.00%	
Agressive [between -10% to 25% of rentability]	0.00%		9.52%		0.00%		0.00%		0.00%	

	Professional Classes								
	Administrative / Business	Customer Services	Engineering / IT	Finance	Health / Sciences	iberal Professional	Security Forces	Student	Unemployed
Crypto Investor	**7**	**12**	**12**	**50**	**6**	**2**	**2**	**10**	**1**
Conservative [between 1% to 5 % of rentability]	0.00%	41.67%	16.67%	6.00%	50.00%	50.00%	100.00%	40.00%	0.00%
Moderate [between -5% to 15% of rentability]	100.00%	50.00%	58.33%	80.00%	50.00%	50.00%	0.00%	50.00%	100.00%
Agressive [between -10% to 25% of rentability]	0.00%	8.33%	25.00%	14.00%	0.00%	0.00%	0.00%	10.00%	0.00%
Global Investor	**1**	**6**	**3**	**12**	**6**	**8**	**2**	**0**	**0**
Conservative [between 1% to 5 % of rentability]	0.00%	66.67%	100.00%	66.67%	100.00%	100.00%	50.00%	0.00%	0.00%
Moderate [between -5% to 15% of rentability]	100.00%	33.33%	0.00%	16.67%	0.00%	0.00%	50.00%	0.00%	0.00%
Agressive [between -10% to 25% of rentability]	0.00%	0.00%	0.00%	16.67%	0.00%	0.00%	0.00%	0.00%	0.00%

Table 6.2-1 – Socio-Economics Characteristics vs Investors Profile - font by author

At this stage, we will only focus on the main subsample of our study: the 102 Crypto investors that completed all the survey.

6.2.3 Advantages / Disadvantages in regards to Cryptocurrencies

The first approach was to determinate the reason why investors decided to invest in cryptocurrencies. From the options provided (Investments diversification; New type of investment; Expectations regarding short-term return; Expectations regarding long-term return; to use as a mean of payment; to acquire knowledge regarding new technologies), 270 options where chosen by the inquiries, most of them with focus on new type of investment (30.37%) and expectation regarding short-term return. It is also interesting to observe the reduced percentage on the option expectation in regards to long-term return (7.04%).

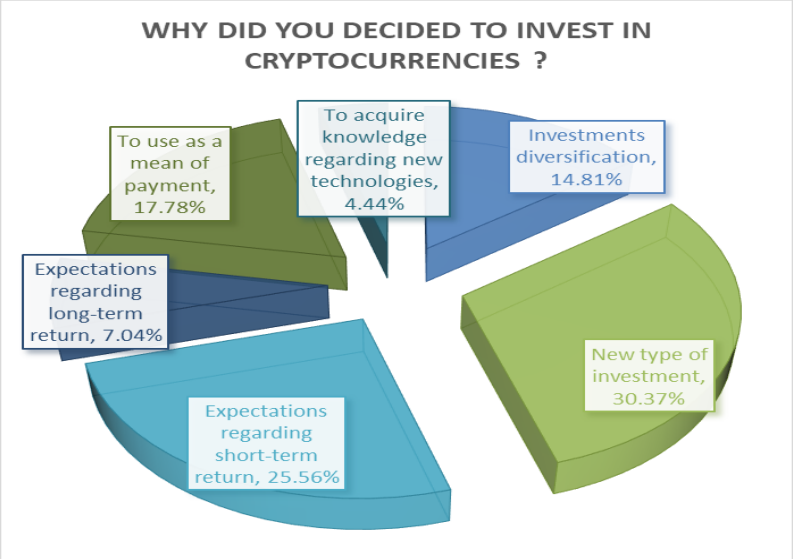

Figure 6.2-9 – Decision to invest - source by author

In order to identify the main advantages of the cryptocurrencies the inquiries could choose the following options: Freedom in Payment; Possibility to send and get money anywhere in the world at any given time; Control and Security; Information is Transparent; Blockchain Technology; Possibility to verify all the transactions; Very Low Fees. As more than one option was possible to choose, we received a total of 243 answers where the majority of them mentioned the low fees (36.6%) and the possibility to send and receive money anywhere in the world (25.1%) as the main advantages. On the other side, Crypto investors do not give a lot of value on control and security (2.88%) and on transparency of information (2.06%).

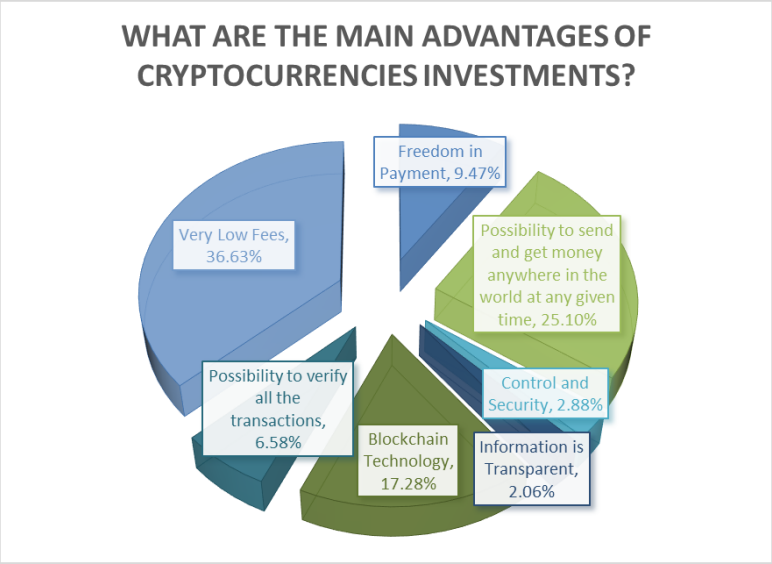

Figure 6.2-10 - Advantages – source by author

For the disadvantages, the inquiries were asked to choose the main risks associated to Cryptocurrencies from the following options: Many people are still unaware of Cryptocurrencies; Lack of knowledge from the investors; Still very few business are accepting Cryptocurrencies; Volatility; Lack of regulation; Increase of demand for a limited number of coins; The existence of many Scam's. On this question was also possible to choose more than one option. From the total of 338 answers, 27.51% of the Crypto investors identify the existence of many Scam's as the main risk followed by the lack of regulation. At this stage, the limited number of coins doesn't appear as a risk for the investors – something that will probably change in the Future.

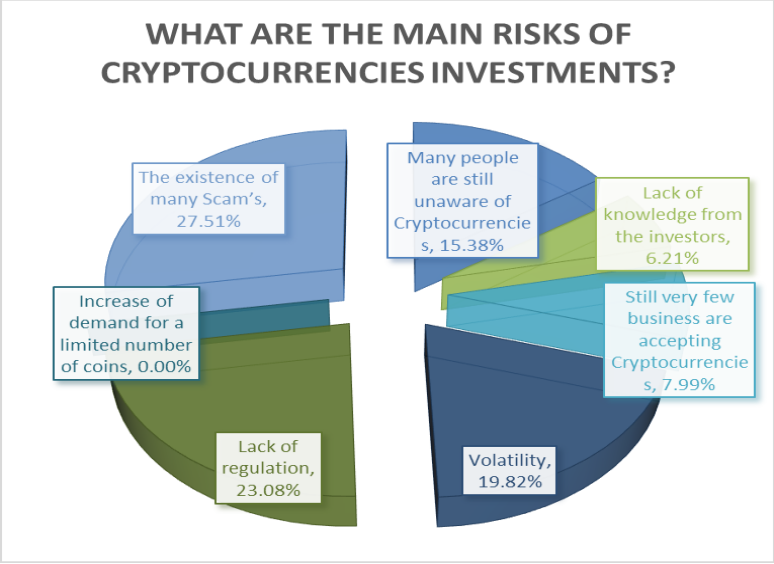

Figure 6.2-11 – Main Risks – source by author

6.2.4 Type of Crypto coins invested influenced by Other factors

6.2.4.1 Number of coins by Type of crypto-coins

When we crosscheck the answers provided by the Crypto investors related to number and type of coins invested it's easy to identify a trend where the majority of the investors in the main cryptocurrencies only invest between 2 and 4 different coins (53.92%) and the investors in low value coins (Altcoins) prefer to invest in a large number of different coins (22.55%). To highlight also, the reduced percentage of Crypto investors that invest on both type of coins showing a clear segregation within the investors.

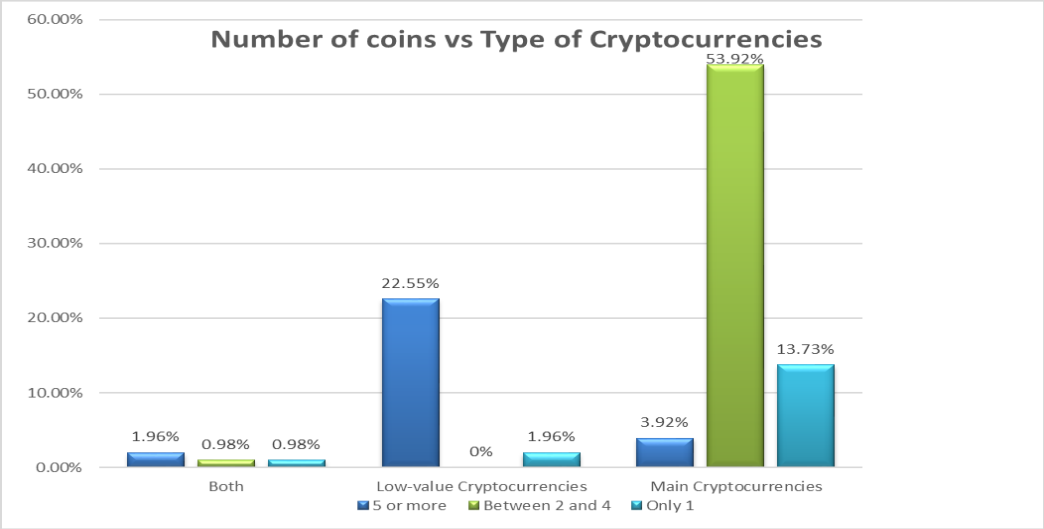

Figure 6.2-12 – Number of coins vs Type – source by author

6.2.4.2 Investors Age by Type of crypto-coins

It is also interesting to observe the influence of the age factor on the type of investments made. The investors with younger ages prefer to invest in Low-value currencies whereas the investors with 24 or older prefer to invest in the main currencies.

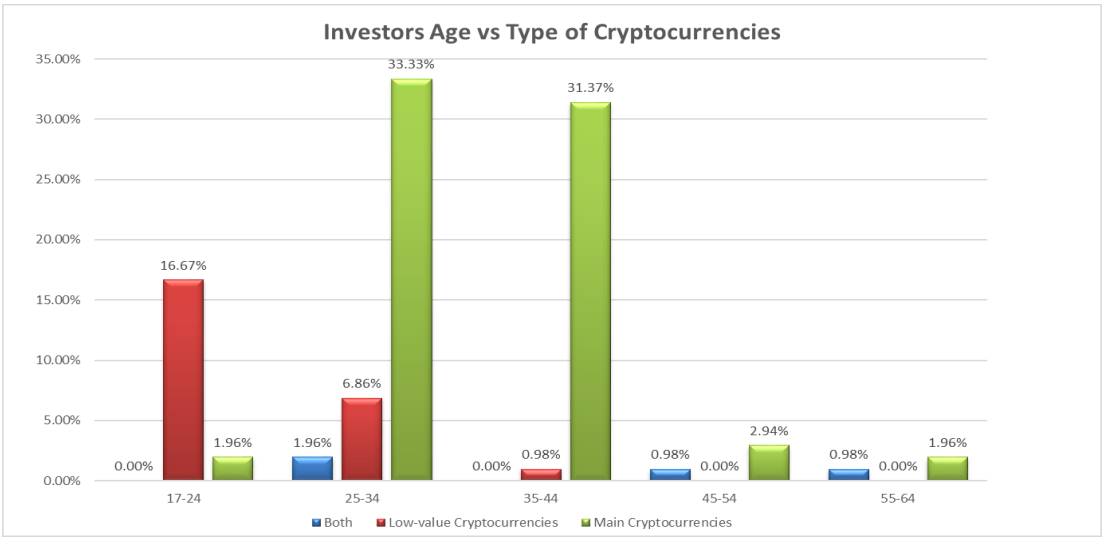

Figure 6.2-13 – Age vs type - source by author

6.2.4.3 Income by Type of crypto-coins

When comparing the investor's income with the type of investment, we can also find a tendency. If we look to the graphic below, and taking in consideration the date in green related to the Main currencies and the data in red related to the low value currencies, we can observe a higher presence of low value currencies on the investors with lower income that becomes less present when the income values increase. On the other side, the presence of main currencies is transversal to all income values.

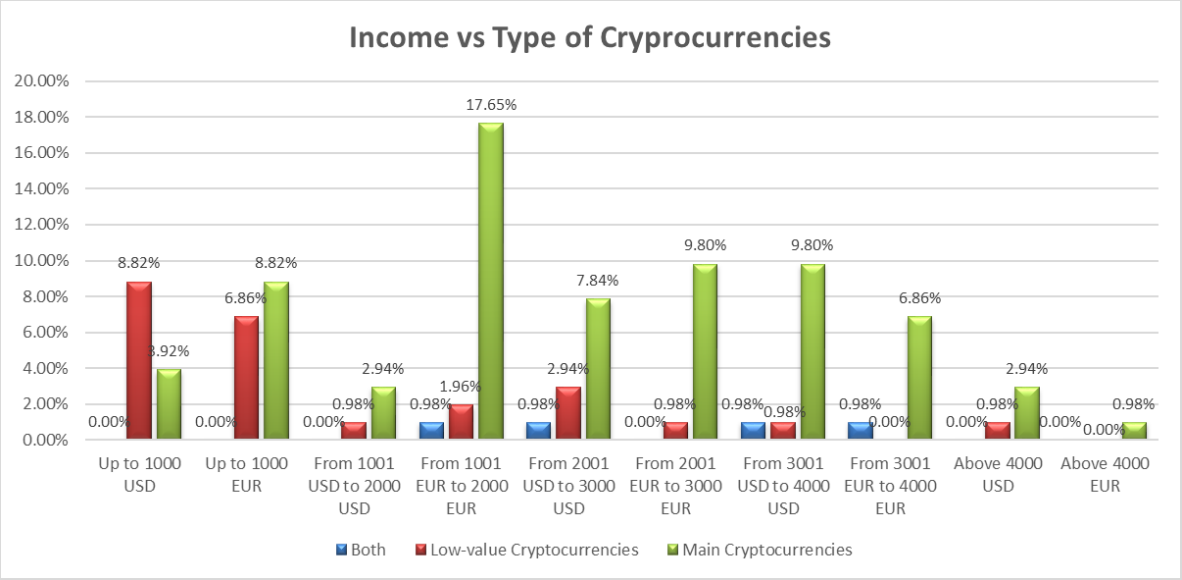

Figure 6.2-14 – Income vs Type - source by author

6.2.4.4 Future investments by Type of crypto-coins

By having a clear segregation between two types of investors: the main currencies ones with more age, more income and less diversity of coins and the low value ones with less age, less income and more diversity of coins, it's important to understand which type of investors have more predisposition to increase their investments. In order to do this, we have crosschecked the type of currencies with the data gathered on the answer related to the increase of investments and the result is a clear predisposition to increase the investment by the main currencies investors (62.75%) against only 14.71% of the low value currencies investors.

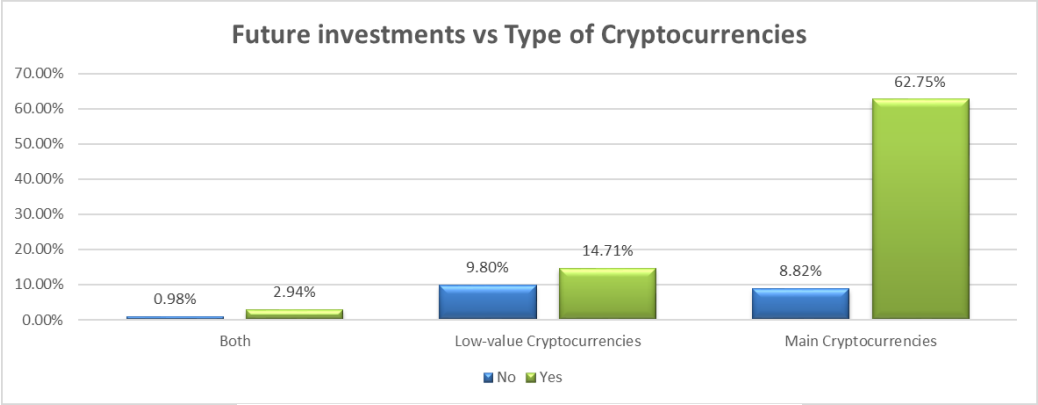

Figure 6.2-15 – Future investments vs Type - font by author

6.2.4.5 Time since investors started to invest by Type of crypto-coins

Finally, it is also relevant to understand that most of investors in the main cryptocurrencies started to invest between 1 and 2 years, while the majority of investors in low value coins started to invest during last year.

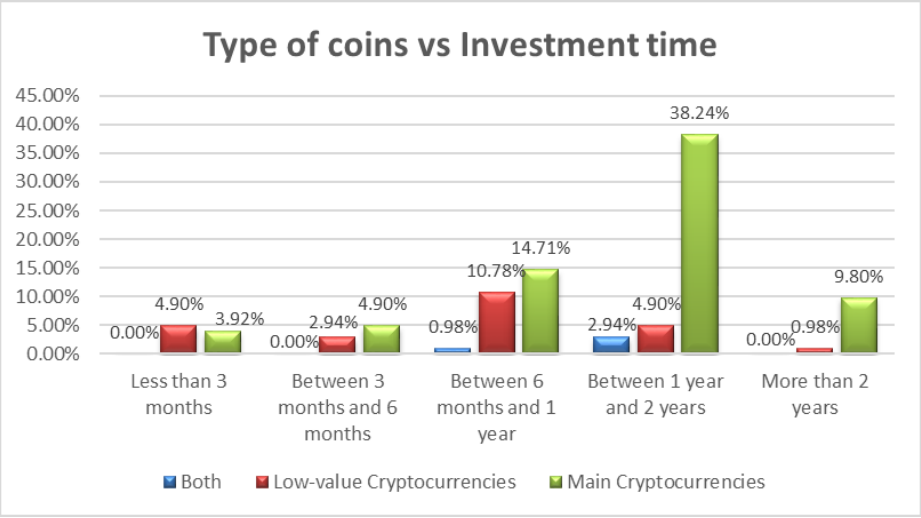

Figure 6.2-16 – Type vs Investment time - font by author

6.2.5 Profitability

In order to understand the Crypto investors profitability, it is relevant to analyse if factors like the type of coins, level of knowledge or time since investors started to invest have influence on the investors profits.

6.2.5.1 Profitability by Type of crypto-coins

When we compare the profitability with the number of coins, it is visible that for profits between 1% and 5%, both type of coins have the same profitability (21.57% for Low-value coins vs 20.59% for the main coins), but for higher profits, clearly the main coins are the ones where the invests earn more than 5% (39.22% for profits between 5% to 10% and 8.82% for profits between 10% to 25%).

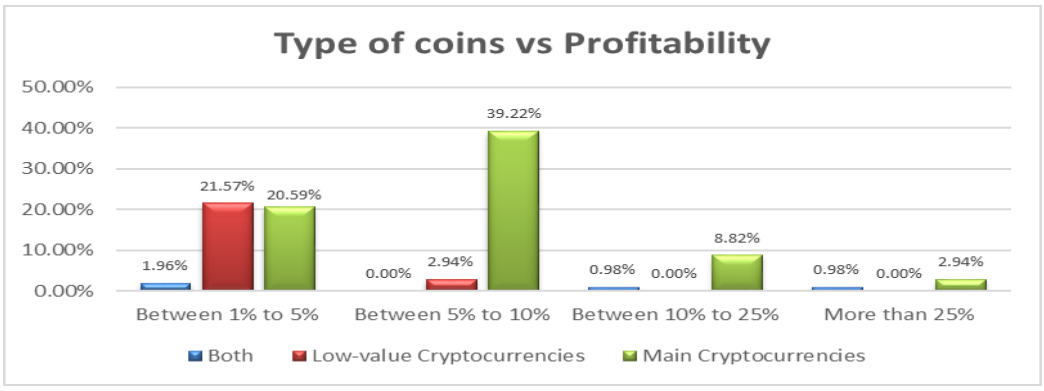

Figure 6.2-17 – Type vs Profitability - font by author

6.2.5.2 Profitability by Level of Knowledge

In order to measure the level of knowledge it was asked the Crypto investors if they follow the news related to cryptocurrencies and what notions do they know.

For the first question, the result was that 64.71% of the investors follow the news related to the cryptocurrencies.

For the second question, we provided 10 notions related to cryptocurrencies where the investors were allowed to choose all the notions that they know. We have received a total of 549 notions where the notions "wallet" (16.58%), "Scam" (16.39%) and "Blockchain" (14.03%) were the most familiar ones to the investors:

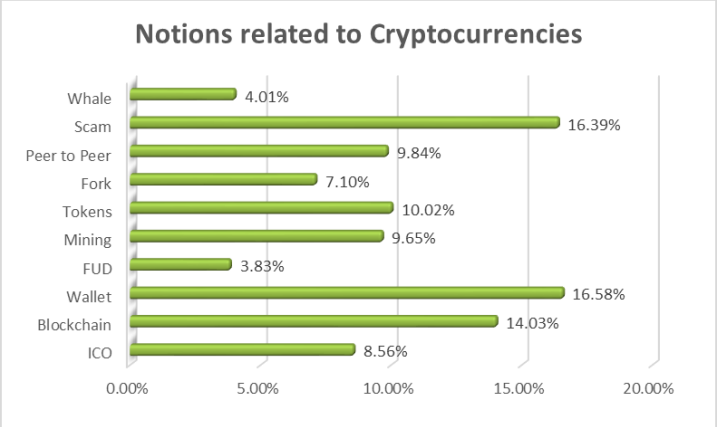

Figure 6.2-18 – Notions - font by author

A pyramid model was also used to classify the level of knowledge by measuring the number of notions that each investor knows. Looking to the below figure below we may see that the majority of investors (40.20%) have a level of knowledge classified as "information" – among 3 to 5 notions.

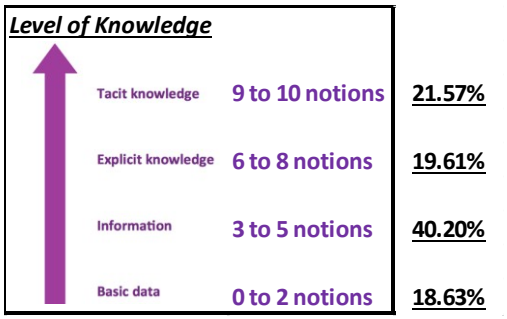

Figure 6.2-19 – Level of knowledge - font by author

It is also relevant to check if the level of knowledge has a direct impact on the profitability. When crosschecking the data related with the investors that follow the cryptocurrencies news with their profitability is clear that investors who follow the news have a higher profitability. Only for the profits until 5% see any relevance in following the news, but for higher profits, the majority of investors follow the news related to this subject.

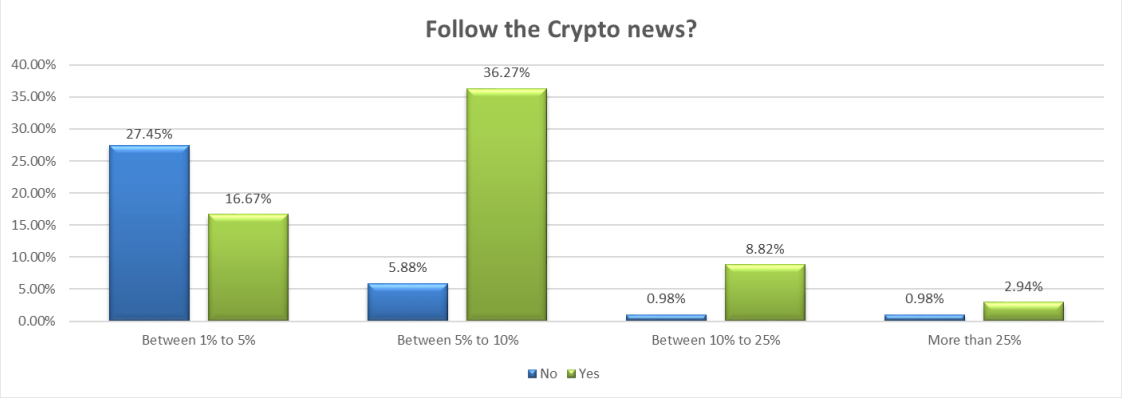

Figure 6.2-20 – Crypto news - font by author

6.2.5.3 Profitability by Time since investors started to invest

During the survey, the Crypto investors were also queried about the degree of satisfaction in regards to cryptocurrencies, in a scale from 1 to 5 (1-very bad and 5-very good), where the majority (47.06%) decided for the option 4-good and only 0.98% are very unhappy with this type of currencies.

We have also queried investors in regards to the time since they started to invest. Four intervals of time were available to choose: Less than 3 months (9.80%); Between 3 months and 6 months (8.82%); Between 6 months and 1 year (26.47%); Between 1 year and 2 years (47.06%); more than 2 years (7.84%).

By adding the profitability variable to these two, and using an Excel Pivot table to crosscheck the data, we obtained the table below where we can see that the highest value resides on investors that invest between 1 and 2 years, have a good degree of satisfaction and a profit between 5% to 10%.

	Degree of satisfaction					
Average rentability since they started to invest	**1**	**2**	**3**	**4**	**5**	**Grand Total**
Less than 3 months	-	4.90%	2.94%	0.98%	0.98%	9.80%
Between 1% to 5%	-	4.90%	2.94%	-	-	**7.84%**
Between 5% to 10%	-	-	-	0.98%	-	**0.98%**
Between 10% to 25%	-	-	-	-	0.98%	**0.98%**
Between 3 months and 6 months	-	1.96%	6.86%	-	-	8.82%
Between 1% to 5%	-	1.96%	6.86%	-	-	**8.82%**
Between 6 months and 1 year	-	3.92%	12.75%	8.82%	0.98%	26.47%
Between 1% to 5%	-	3.92%	11.76%	5.88%	-	**21.57%**
Between 5% to 10%	-	-	0.98%	2.94%	0.98%	**4.90%**
Between 1 year and 2 years	0.98%	0.98%	5.88%	33.33%	5.88%	47.06%
Between 1% to 5%	0.98%	0.98%	4.90%	-	0.98%	**7.84%**
Between 5% to 10%	-	-	0.98%	**28.43%**	2.94%	**32.35%**
Between 10% to 25%	-	-	-	1.96%	1.96%	**3.92%**
More than 25%	-	-	-	2.94%	-	**2.94%**
More than 2 years	-	-	0.98%	3.92%	2.94%	7.84%
Between 1% to 5%	-	-	0.98%	-	-	**0.98%**
Between 5% to 10%	-	-	-	2.94%	-	**2.94%**
Between 10% to 25%	-	-	-	0.98%	1.96%	**2.94%**
More than 25%	-	-	-	-	0.98%	**0.98%**
Grand Total	**0.98%**	**11.76%**	**29.41%**	**47.06%**	**10.78%**	**100.00%**

Table 6.2-2 – Profitability vs Time vs Degree of satisfaction - font by author

6.2.6 Future Expectations vs Social Characteristics

The last part of the survey was dedicated to understand the expectations in regards to the future of the cryptocurrencies. For that, the inquired where asked to answer to four closed questions with the following results:

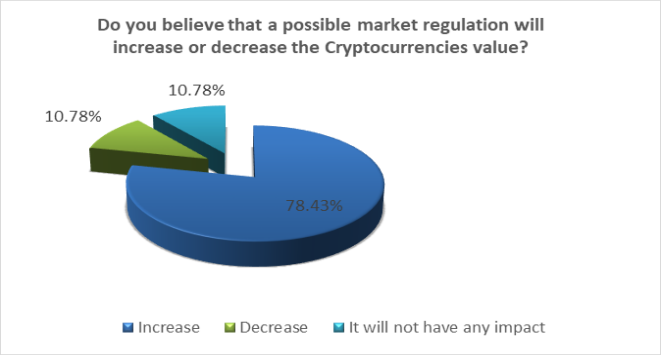

Figure 6.2-21 – Regulation vs Crypto value - font by author

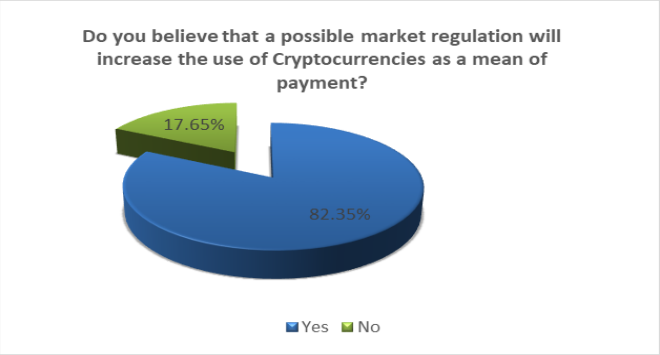

Figure 6.2-22 – Regulation vs Payments - font by author

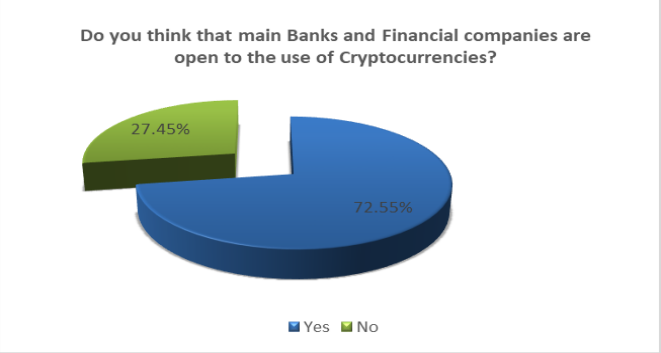

Figure 6.2-23 – Banks and Financial companies' vs openness - font by author

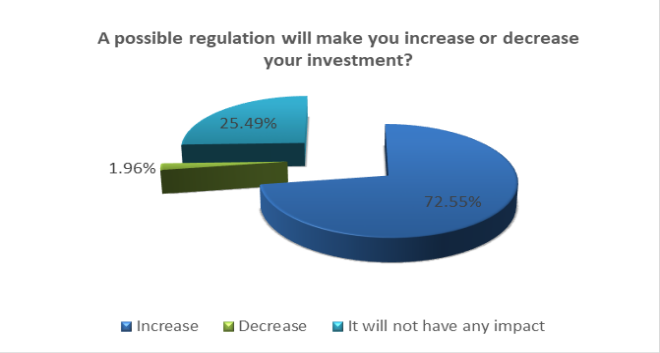

Figure 6.2-24 – Regulation vs Investments - font by author

It is also important to crosscheck these answers with some investors' social characteristics like Age, Gender, Residence Country, Education and Professional classes in order to understand what importance they have on their Future expectations:

- For the question "*Do you believe that a possible market regulation will increase or decrease the Cryptocurrencies value?*", the majority of the investors (78.43%) believe that it will increase value. Comparing this answer with the social characteristics, we may see that Age, Gender and Education have no impact on this choice. However, if we look into the investors' residence, in Italy the same number of investors also believe that a market regulation will have no impact on the cryptocurrencies value. In addition, in terms of Professional class, the Liberal professionals have a different opinion, as they believe that a market regulation will decrease the cryptocurrencies value.
- On the question "*Do you believe that a possible market regulation will increase the use of Cryptocurrencies as a mean of payment?*" most of the investors (82.35%) believe on the increase of payments using cryptocurrencies. When crosschecking this answer with the investors social characteristics, we see that Age, Professional class and Residence have a direct impact on this choice. The majority of young investors (between 17 and 27 years old)

don't believe that payments will increase with the regulation of the cryptocurrencies. Looking into the Professional classes, students also don't believe on an increase (in line with the young investors opinion), and for the Liberal Professionals and customer services workers, same number of investors also don't believe on an increase of payments. For the investors living in Italy the opinion is also shared between the two choices.

- For the next question "*Do you think that main Banks and Financial companies are open to the use of Cryptocurrencies?*" is clear that investors believe on the openness from Banks and Financial companies towards cryptocurrencies (72.55%). However, if we crosscheck these answers with the social characteristics, we can see a relevant impact. In terms of Age, the youngest investors believe that Banks and Financial companies are still not comfortable with the use of cryptocurrencies. The same happens for the investors residents from Brazil and South Africa. For the residents in Italy and Singapore and for the investors with High school level of education the opinion is shared between the two options. When we look to Professional classes, unemployed and customer services investors also believe that Banks and Financial companies are not opened to this new trend. For all the other Professional classes the opinion is shared between the two choices, expect for investors that work in the financial area who strongly believe that Banks and Financial companies are in line with this new type of coins.
- Finally, for the questions "*Will possible regulation make you increase or decrease your investment?*" the majority of investors (72.55%) believe that a possible regulation of cryptocurrencies will in turn make them increase their investments. After crosschecking these answers with the social data, we verify that youngest investors believe that regulation will have no impact on their investments. Same taught have the residents in Italy and Singapore, and customer services workers and students.
- (Please see the complete information on the table 6.2-3)

6.2.7 Global Evaluation

The last survey question performed to the crypto investors was to classify their level of satisfaction from 0 to 10. Only 2.94% of the investors classified it between 0 and 3; 34.31% between 4 and 6; and 62.75% gave an evaluation between 7 and 10.

Finally, by calculating the average between all evaluations we reached a global value of 6.87.

	Do you believe that a possible market regulation will increase or decrease the Cryptocurrencies value?			Do you believe that a possible market regulation will increase the use of Cryptocurrencies as a mean of payment?		Do you think that main Banks and Financial companies are open to the use of Cryptocurrencies?		A possible regulation will make you increase or decrease your investment?		
	Decrease	Increase	No Impact	No	Yes	No	Yes	Decrease	Increase	No Impact
Age										
17-24	2.94%	10.78%	4.90%	10.78%	7.84%	9.80%	8.82%	0.98%	6.86%	10.78%
25-34	4.90%	32.35%	4.90%	5.88%	36.27%	10.78%	31.37%	0.98%	31.37%	9.80%
35-44	2.94%	28.43%	0.98%	0.98%	31.37%	6.86%	25.49%	0.00%	27.45%	4.90%
45-54	0.00%	3.92%	0.00%	0.00%	3.92%	0.98%	2.94%	0.00%	3.92%	0.00%
55-64	0.00%	2.94%	0.00%	0.00%	2.94%	0.00%	2.94%	0.00%	2.94%	0.00%
Gender										
F	4.90%	12.75%	2.94%	5.88%	14.71%	8.82%	11.76%	0.98%	10.78%	8.82%
M	5.88%	65.69%	7.84%	11.76%	67.65%	19.61%	59.80%	0.98%	61.76%	16.67%
Residence										
Australia	0.00%	0.98%	0.00%	0.00%	0.98%	0.00%	0.98%	0.00%	0.98%	0.00%
Brazil	1.96%	8.82%	3.92%	5.88%	8.82%	7.84%	6.86%	0.00%	8.82%	5.88%
Canada	0.00%	0.98%	0.00%	0.00%	0.98%	0.00%	0.98%	0.00%	0.98%	0.00%
China	0.00%	0.98%	0.00%	0.00%	0.98%	0.00%	0.98%	0.00%	0.98%	0.00%
France	0.98%	2.94%	0.00%	0.00%	3.92%	0.98%	2.94%	0.00%	2.94%	0.98%
India	0.00%	0.98%	0.00%	0.00%	0.98%	0.00%	0.98%	0.00%	0.98%	0.00%
Ireland	0.00%	0.98%	0.00%	0.00%	0.98%	0.00%	0.98%	0.00%	0.98%	0.00%
Italy	0.00%	1.96%	1.96%	1.96%	1.96%	1.96%	1.96%	0.00%	0.98%	2.94%
Japan	0.00%	3.92%	0.00%	0.00%	3.92%	0.00%	3.92%	0.00%	3.92%	0.00%
Mexico	0.00%	0.98%	0.00%	0.00%	0.98%	0.00%	0.98%	0.00%	0.98%	0.00%
Portugal	2.94%	21.57%	0.00%	1.96%	22.55%	5.88%	18.63%	0.00%	19.61%	4.90%
Russia	0.98%	3.92%	0.00%	0.98%	3.92%	0.98%	3.92%	0.00%	3.92%	0.98%
Singapore	0.00%	0.00%	1.96%	0.98%	0.98%	0.98%	0.98%	0.00%	0.00%	1.96%
South Africa	0.00%	0.98%	0.00%	0.98%	0.00%	0.98%	0.00%	0.00%	0.98%	0.00%
Spain	0.98%	1.96%	0.00%	0.98%	1.96%	0.98%	1.96%	0.98%	1.96%	0.00%
Sweden	0.00%	0.98%	0.00%	0.00%	0.98%	0.00%	0.98%	0.00%	0.98%	0.00%
Uk	2.94%	19.61%	2.94%	3.92%	21.57%	6.86%	18.63%	0.98%	17.65%	6.86%
US	0.00%	5.88%	0.00%	0.00%	5.88%	0.98%	4.90%	0.00%	4.90%	0.98%
Education										
Higher Education	7.84%	21.57%	7.84%	3.92%	56.86%	9.80%	50.98%	0.00%	51.96%	8.82%
High School	2.94%	54.90%	2.94%	13.73%	23.53%	18.63%	18.63%	1.96%	18.63%	16.67%
Middle school	0.00%	1.96%	0.00%	0.00%	1.96%	0.00%	1.96%	0.00%	1.96%	0.00%
Professional Class										
Administrative / Business	0.98%	5.88%	0.00%	0.98%	5.88%	0.98%	5.88%	0.00%	5.88%	0.98%
Customer Services	0.98%	5.88%	4.90%	5.88%	5.88%	6.86%	4.90%	0.98%	3.92%	6.86%
Engineering / IT	2.94%	8.82%	0.00%	2.94%	8.82%	5.88%	5.88%	0.00%	6.86%	4.90%
Finance	1.96%	45.10%	1.96%	0.00%	49.02%	4.90%	44.12%	0.00%	44.12%	4.90%
Health / Sciences	0.98%	4.90%	0.00%	0.98%	4.90%	1.96%	3.92%	0.98%	3.92%	0.98%
Liberal Professionals	1.96%	0.00%	0.00%	0.98%	0.98%	0.98%	0.98%	0.00%	0.98%	0.98%
Security Forces	0.00%	1.96%	0.00%	0.00%	1.96%	0.98%	0.98%	0.00%	1.96%	0.00%
Student	0.98%	4.90%	3.92%	5.88%	3.92%	4.90%	4.90%	0.00%	3.92%	5.88%
Unemployed	0.00%	0.98%	0.00%	0.00%	0.98%	0.98%	0.00%	0.00%	0.98%	0.00%

Table 6.2-3 – Future Expectations vs Social Characteristics - font by author

6.3 SURVEY RESULTS DISCUSSION

By taking into consideration the socio-economics characteristics we conclude that there is a higher percentage of Males both on Global and Crypto investors. Marital status doesn't have influence on the investors, however in terms of ages, Crypto investors are youngest than the Global investors. In regards to the professional background, the majority of investors are from the financial area but on the Crypto investors side we also see a presence of several Professional classes as well the presence of students and unemployed people. We can also notice a presence of a huge diversity of net monthly income values on the Crypto investors' side when compared with Global investors. Same thing happens on the demography where we see the presence of Crypto investors in 17 different countries.

It's also interesting to crosscheck these characteristics with the literature review presented on the Grable (2000) research. Looking into the following table, and taking in consideration the information gathered on the investors profile analysis (5.2.2), we can conclude that Crypto investors risk tolerance is not in line with Gable (2000) research as on these investors the Marital status, Net income and Professional background don't provide us a clear information regarding their risk tolerance. On the other side, the General investors are more in line with Gable (2000) research.

Risk Tolerance	Gender		Age		Marital status		Net income		Education		Background	
	Male	Female	Older	Younger	Married	Single	Higher incomes	Lower incomes	Higher educatio	Other educatio	Financial area	Other Areas
Gable research	+	-	+	-	+	-	+	-	+	-	+	-
Crypto Investors	+	-	-	+	=	=	=	=	+	-	=	=
General Investors	+	-	+	-	=	=	+	-	+	-	+	-

Table 6.3-1 – Risk Tolerance - font by author

In order to stablish a Crypto investors profile it's also important to analyze the type of coins invested. By looking at these results, we can verify the presence of two distinct profiles.

One profile related to investors is that they only invest in the main currencies - These investors prefer to invest only between 2 and 4 different coins, are older investors, with a higher net income and show a higher pre disposition to continue to invest.

The second profile is related to investors that invest in Altcoins – These investors prefer to invest in several low value coins, are youngest investors, with a reduced net income and show a lowest pre disposition to continue to invest.

Another verification that is possible to retrieve is related to the level of knowledge. When we use the pyramid model to classify the level of knowledge, we verify that Crypto investors are interested in following the news related to their investments. This is also linked to the profitability, as higher profits are related to the investors that follow the news. Only in the lowest profitability's we see no relevance in following the news.

To complete the Crypto investors profile, it is also important to retrieve some discussions regarding their average profitability, time of investment and their degree of satisfaction.

Taking into consideration these three factors we verify that the highest degrees of satisfaction reside on the investors with more than one year of investment time. The highest percentage is related to investors with investment time between one and two years and profitability between 5% and 10%. On the other hand, the surveyed that started to invest less than a year do not have a high degree of satisfaction, except in some cases where we see a huge profitability that we believe are linked to particular Altcoins investments. These Altcoins investments with high profitability are mainly due to the increasing number of start-up companies that are raising money through ICO's – information explained on Lerong (2018), article mentioned on our literature review.

In order to reinforce the above investors profile, and by analyzing the results related to the reason why investors decided to invest in Cryptocurrencies we verify that most of the investors are expecting a short-term return. They also see Cryptocurrencies as a new type of investment and several use them as a mean of payment. The usage of Cryptocurrencies as a mean of payment was mentioned more than 10 years ago by Nakamoto's (2008) publication where it is explained the Peer-to-Peer electronic cash system to transfer money and in the present days this is happening to several investors. On the other side, the long-term investment doesn't appear to be appellative for the investors, probably due to the high volatility mentioned on the several studies provided on our literature review. It is curious to verify that, even when the expectations on a short-term investment is higher than on a long term investment, the degree of satisfaction is higher on the investors that invest in Cryptocurrencies for more than a year.

When we look to the results related to advantages, we verify that investors think that main advantages are the low fees and possibility to send and get money anywhere in the world at any given time, meaning that investors see Cryptocurrencies not only as an investment but also a viable mean of payment.

For the disadvantages, clearly the existence of many Scam's and the lack of regulation are the aspects that worries clients the most. These preoccupations are in line with Brill and Keene (2014) study that associate Cryptocurrencies with several illegal activities (cybercriminals). It also attracted the attention of several regulatory agencies described on the literature review.

It is also interesting to verify that, at this stage the limited number of Cryptocurrencies is not being considered as a disadvantage. On the Nakamoto's (2008) publication it is mentioned the limited number of Bitcoins, and on a near Future this could have a negative impact on the main cryptocurrency that normally affect all the other currencies.

When we globally analyze the investors' expectations in regards to the Future we are able to verify that majority of Crypto investors believe that a Future regulation will give them more confidence to increase their investments and to use more of these currencies as a mean of payment. They also believe that a possible regulation will increase the Cryptocurrencies value and that Banks and Financial companies are prepared to this new trend.

During the results discussion we have crosschecked these figures with some social and demography aspects in order to identify some relevant features that allow us to complete the investors' profile. When we look to Professional classes and Liberal Professionals (most of them lawyers), they both have a different opinion from the great majority as they don't believe that a possible regulation will increase the payments or Cryptocurrencies value.

Another relevant aspect is related to young investors (directly linked to students) where a possible regulation will not have any impact on the payments or on their investments. They also believe that banks and financial companies are not opened to the use of Cryptocurrencies.

In terms of demography, we can determinate that in Italy and Singapore, a possible regulation will have no impact on their investments while in Brazil and South Africa the investors do not believe that banks and financial companies are prepared for this trend.

6.4 INTERVIEWS RESULTS DISCUSSION

As mentioned in the Methodology, questions where sent by email to several banks, private equities and regulators.

By analysing the answers from Regulators regarding the first question, we found different positions. Some believe that cryptocurrencies could evolve into legitimate private means of payment, but they don't see them evolving in ways that would challenge the powers of official currencies. Ultimately, as a potential competitor to official currencies, cryptocurrencies could even have a positive effect by acting as a disciplinary device pushing central banks (especially in countries with histories of lax monetary policy) to take their price stability mandates seriously.

Other regulators have a different opinion as at this moment there is so many suspicion. Lack of regulation creates a risky and fraud-prone environment. In addition, there are system scalability issues and the opposition of the banking system. The issuing and trading activity of virtual currencies is not regulated nor supervised by any authority of the national or European financial system, in particular by the European Central Bank. Therefore, entities issuing and trading virtual currencies are not subject to any authorization or registration obligation, and therefore their activity is not subject to any prudential or behavioural supervision.

On Private Equities and Corporate Investment Banks side, is considered that they will be / are a viable means of payment, but not yet a secure investment (due to deregulation and a lack of transparency / counterparty risk assessment).

For the second question, on Regulators view, at the moment, cryptocurrencies operate alongside official currencies. The current volumes are small and do not challenge the position of official money as the main currency. Nevertheless, as algorithms improve to limit the volatility of cryptocurrencies, their popularity and use could increase. This would lead to a coexistence with other official currencies.

However, the evidence so far suggests that cryptocurrencies are not as widely used as any official currency and are not real contenders for currency substitution. The design of their protocols, at least so far, is very primitive and arbitrary relative to what the management of modern financial systems requires. We therefore do not see an immediate risk of cryptocurrencies challenging central bank-controlled currencies, and certainly not international currencies like the US Dollar and the Euro. Years of good practices and price stability, combined with their legal status and strong networks of users, have given official currencies a natural monopoly. However, as the underling algorithms of cryptocurrencies develop to reflect better demand for money and more general economic conditions, one could envisage an increase in their popularity and use.

On the other hand, currently, there is no regulation of virtual currencies. On financial markets, there is no room for uncertainty, insecurity and lack of credibility. The financial / banking system needs to consensually regulate and integrate virtual money, legally and securely.

On the Private Equities side, in light of the severe compliance issues and current procedures to which their companies are bound (in receipt, allocation and movement of capital), they are not and cannot position themselves at this time. Concerning their industry, they are naturally in favour of a greater regulation, as this will only be viable for use / investment in this industry.

Corporate and Investment Bank do not have a positive perception in regards to virtual currencies. They are still associated with criminal activity and Institutional clients are very conservative and at this point not interested in having their name associated to this kind of investments. Even with some regulatory movements in some countries, Corporate and Investment Banks will only move forward with a Global regulation that will allow them to trade and invest in different countries under the same regulatory supervision. However, during the past year they are having a little more focus on these currencies, not in terms of investments but in terms of their technology and private networking.

All the answers provided by the distinct financial system participants have common factors. The main negative factor is related to the lack of regulation and presence of any prudential or behavioral supervision, as this does not bring confidence and protection for the investors and for the financial system. Nevertheless, they are all in favor of a Future regulation that will allow them to look into this trend more seriously, bring price's stabilities and a Central Bank Authority. Even so, none of them believes that Cryptocurrencies could ever challenge the official currencies. Other negative factor mentioned was the association to Criminal activity, money laundry and terrorist financing that could potentially bring some loss of reputation within the main banks. The presence of several risks as: no legal protection, total devaluation of virtual currencies without any fund to cover losses and possibility to lose money on a trading platform were also mentioned by the Portuguese Regulator that doesn't believe that virtual currencies will become a viable mean of payment.

On the positive side, some of the financial companies show interest and trade Cryptocurrencies with a good regulation and some technology used could be applied on the development of private networking.

7. CONCLUSIONS

In this chapter, the conclusion of the current thesis is presented, by providing a summary of the research findings.

The research included quantitative and qualitative elements, an analytical survey and interviews analysis. An extensive review of the literature was undertaken, where the significance of the research was highlighted. With the collected data analysis against the research objectives, conclusions have been presented. The key purpose of this study is to provide detailed analysis regarding Crypto investor's profile.

To accomplish a characterization of investors profiles in regards to their appetence to invest in cryptocurrencies, a set of survey questions have been developed expecting to gather data to allow the characterization of a determinate profile.

After analyzing the survey results, we are able to find the following conclusions that allow us to determinate an investor's profile. Taking in consideration the data presented on the Results discussion we are now in a position to stablish two Crypto investors profiles:

1st Profile: Male, based in several different countries / moderate investors profile / Main currencies / High incomes / several professional classes (mainly on the financial area) / ages between 25 and 44 years old / follows the news related to Cryptocurrencies / pre-disposition to continue to invest / main profit between 5% to 10% / started to invest between 1 and 2 years ago / high degree of satisfaction

2nd Profile: Male, based in several different countries / moderate investors profile / low-value currencies / low incomes / several professional classes (existence of unemployed and students) / ages between 17 and 24 years old / do not follow the news related to Cryptocurrencies / do not have pre-disposition to continue to invest / main profit between 1% to 5% / started to invest between 3 months and 1 year ago / low degree of satisfaction

On both profiles, investors expect a short-term return and started to invest mainly because cryptocurrencies are a new type of investment and a viable mean of payment. On the other side, expectations in a long-term return are low, mainly due to the high volatility linked to this type of investments. The main advantages pointed by the investors are the low fees and the possibility to send and receive payments from everyone based everywhere at any time, whereas the main disadvantages are the existence of many frauds and the lack of regulation.

Apart from these two main profiles, we can also conclude other information related to some characteristics that at the moment have no impact on the investors profile: we still see a low percentage of females that invest in cryptocurrencies, the marital status doesn't have any impact and the majority of investors are from the Financial area and have higher education. At this stage, we can also see that Conservative profiles are not investing in cryptocurrencies, something that could change in the future with a possible regulation and prices stability.

A future regulation will increase investors' confidence that in turn will increase their investments and the usage of cryptocurrencies as a mean of payment, except for the young investors that believe that a possible regulation will not have any impact on their investments.

To conclude, financial companies, Banks and Regulators are in line with the investors in some aspects but have a different vision in others. Similar to the investors, they believe that a possible regulation will increase the usage of cryptocurrencies as a mean of payment but on the other side, if the majority of investors believe on an increase of cryptocurrencies value with the regulation, the financial companies believe on a prices stability. In addition, most of the investors believe that Banks and Financial institutions are open to use cryptocurrencies and this is not clear on the answers provided by them.

In summary, the research provides qualitative and quantitative analysis in regards to the characteristics and behaviors from the Crypto investors. The analyzed surveyed answers allowed us to verify that Crypto investors have different characteristics from the global investors as they are younger, more risk tolerant, with diverse net incomes and are present on several Professional areas including unemployed and students. Within the Crypto investors it was possible to stablish two different profiles according to the type of investments. One profile linked to the main currencies, where the investors have a higher investments maturity, income, profit and degree of satisfaction. On the other side, a profile related to low value coins is linked to investors with low income, profit, investments maturity and degree of satisfaction. In a global scale, we can conclude that Crypto investors have a positive opinion in regards to Cryptocurrencies (6.8 values in a scale from 1 to 10). The financial companies and Banks that answered to our questions have a different opinion. Even with a reduce number of answers we were able to gather information from companies with different roles in the financial area. All of them are still not comfortable with the use of Cryptocurrencies as a mean of payments or investments, as they still see them linked to criminal activities and terrorism financing. However, some of them admit that a possible regulation will bring more control and stability that potentially might increase their interest in return.

8. LIMITATIONS AND RECOMMENDATIONS FOR FUTURE WORKS

The current study aims to add value to the already existing knowledge on the Cryptocurrencies area. There is a practical significance to continue to improve under the investors profile analysis as well as the positioning of the main Financial Companies on the near future, by taking in consideration a possible regulation of this new type of currency. Following the approach developed in this research, further studies might be undertaken in the direction outlined below:

- The survey was answered mostly by investors based in Portugal, Brazil and UK. It will be also interesting to expand it to more investors around the world, manly for the Crypto investors that have a global presence in all Continents. It will be also interesting to increase the number of surveys and Interviews answers on the financial sector.
- There are other findings and statistical data presented in the study, especially data gathered from the survey. This data might be used further for discussions in turn a possible cryptocurrencies regulation.

Although we managed to perform 140 surveys and 12 interviews, this study has several limitations, which are discussed as follows:

- The geographical limitation of the present data. As noted, most of the surveys answers have been gathered from investors' that are residents in the UK, Brazil and Portugal.
- Limitation on the number of surveys answers. The lack of regulation brings a lack of confidence from the investors. It turns to be very difficult to gather answers from the Crypto investors. In order to collect the answers, it was necessary to join several social media Groups and to become a member of several Crypto investment companies. Only this way we were able to communicate with the investors and give them some confidence so they could accept to participate on the survey.
- The high volatility of coins is directly linked to investor's perception. The survey was opened on the 15/02/2019 when, for instance, the Bitcoin price was around 3.100€ and closed on the 15/05/2019 when the Bitcoin price was around 7.200€. This huge increase in 2 months clearly increased investor's motivations and gave them a positive perception while answering the survey.
- The reduced number of interviews answers is also a limitation on the study. It was sent more than 50 requests to the main Financial Institutions and we only received around 20% of answers.
- Unfortunately, we were not able to gather answers from many financial institutions. Even so, we were able to guarantee some diversity by receiving answers from Regulators, Private Equities, and Corporate and Investment Banks.

The future studies should be a natural extension of this research by collecting more surveys and interviews data. With a possible future regulation, it will be interesting to perform a new analysis in turn to the investors and their profiles.

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10.APPENDIX - QUESTIONNAIRE

(Performed in English & Portuguese)

Hi, my name is Miguel Dias, I'm a student at *Universidade Nova de Lisboa* - Information Management School - and I'm doing my Master Dissertation.
Its aim is to understand the characteristics and behaviour of the investors in Cryptocurrencies.
This questionnaire has an estimated average duration of 5 minutes and all data collected will be confidential.

Your contribution will be crucial to the success of the study.

I thank you for your cooperation. For any doubt or clarification, you can contact me via e-mail address m2016397@novaims.unl.pt

<u>Social economic characteristics:</u>

1- Age ☐

2- Gender
M ☐ F ☐

3- Civil State
- Single ☐
- Married ☐
- Civil Partnership ☐
- Divorced ☐
- Widowed ☐

4- Residence Country
☐

5- Place of Birth
☐

6- Escolarity
- Middle school ☐
- High School ☐
- Higher Education ☐

7- Profissional Background

- Finance ☐
- Other ☐

  Which?

8- Net monthly income– Please choose only one currency (USD or EUR)

- Up to 1000 USD ☐
- From 1001 USD to 2000 USD ☐
- From 2001 USD to 3000 USD ☐
- From 3001 USD to 4000 USD ☐
- Above 4000 USD ☐
- Up to 1000 EUR ☐
- From 1001 EUR to 2000 EUR ☐
- From 2001 EUR to 3000 EUR ☐
- From 3001 EUR to 4000 EUR ☐
- Above 4000 EUR ☐

<u>Investor Characteristics</u>

9- Percentage of investment in relation to net monthly income

- 0% - 25% ☐
- 25% - 50% ☐
- 50% - 75% ☐
- 75% - 100%☐

10- Duration of the investment

- Short-term ☐
- Medium-term ☐
- Long-term ☐

11- Investment frequency

- Daily ☐
- Weekly ☐
- Monthly ☐
- Every 3 months ☐
- Every 6 months ☐
- Anual ☐
- One-off ☐

12- Investor profile

- Conservative [between 1% to 5 % of rentability] ☐
- Moderate [between -5% to 15% of rentability] ☐
- Agressive [between -10% to 25% of rentability] ☐

13- In regards to Crytpocurrencies:

Are you an investor? ☐

You know but you don't invest? ☐

You know and plan to invest? ☐

You don't know? ☐

<u>Motivations from the Cryptocurrencies investors:</u>

14- Why did you decided to invest in Cryptocurrencies (Possible to choose more than one option)

- Investments diversification ☐
- New type of investment ☐
- Expectations regarding short-term return ☐
- Expectations regarding long-term return ☐
- To use as a mean of payment ☐
- To acquire knowledge regarding new technologies☐

15- What are the main advantages of Cryptocurrencies investments?

- Freedom in Payment ☐
- Possibility to send and get money anywhere in the world at any given time ☐
- Control and Security ☐
- Information is Transparent ☐
- Blockchain Technology ☐
- Possibility to verify all the transactions ☐
- Very Low Fees ☐

16- What are the main risks of Cryptocurrencies investments?

- Many people are still unaware of Cryptocurrencies ☐
- Lack of knowledge from the investors ☐
- Still very few businesses are accepting Cryptocurrencies ☐
- Volatility ☐
- Lack of regulation ☐
- Increase of demand for a limited number of coins ☐
- The existence of many Scam's ☐

17- In how many different currencies do you invest?

- Only 1 ☐
- Between 2 and 4 ☐
- 5 or more ☐

18- Do you invest in the main Cryptocurrencies or do you prefer low-value coins?

- Main Cryptocurrencies (Bitcoin; Litcoin; Etherum; Ripple) ☐
- Low-value coins (Altcoins) ☐

19- How long have you been a Cryptocurrencies investor?

- Less than 3 months ☐
- Between 3 months and 6 months ☐
- Between 6 months and 1 year ☐
- Between 1 year and 2 years ☐
- More than 2 years ☐

20- Degree of satisfaction with risk/return (1 to 5 – Being 1 very bad and 5 very good)

- 1 ☐
- 2 ☐
- 3 ☐
- 4 ☐
- 5 ☐

21- What is your average rentability since you started to invest?

- Between 1% to 5% ☐
- Between 5% to 10% ☐
- Between 10% to 25% ☐
- More than 25% ☐

22- Do you consider increasing your investment in the Future?

- Yes ☐
- No ☐

23- Type of investment

- Through a Broker ☐
- Directly from a wallet ☐

24- Do you use Cryptocurrencies as a mean of payment?

- Yes ☐
- No ☐

Level of knowledge from the investors

25- Do you follow the news related to cryptocurrencies?

- Yes ☐
- No ☐

26- What kind of notions do you know? (Possibility to choose more than an option)

- ICO ☐
- Blockchain ☐
- Wallet ☐
- Mining ☐
- Altcoin ☐
- Tokens ☐
- FUD ☐
- Fork ☐
- Peer to Peer ☐
- Scam ☐
- Whale ☐

Expectations in regards to a possible regulation

27- Do you believe that a possible market regulation will have an impact on volatility?

- Yes ☐
- No ☐

28- Do you believe that a possible market regulation will increase or decrease the Cryptocurrencies value?

- Increase ☐
- Decrease ☐
- It will not have any impact ☐

29- Do you believe that a possible market regulation will increase the use of Cryptocurrencies as a mean of payment?

- Yes ☐
- No ☐

30- Do you think main Banks and Financial companies are open to the use of Cryptocurrencies?

- Yes ☐
- No ☐

31- Will a possible regulation make you increase or decrease your investment?

- Increase ☐
- Decrease ☐
- It will not have any impact ☐

32- At this point, from 0 to 10, what is your satisfaction degree regarding Cryptocurrencies?

- 0 ☐
- 1 ☐
- 2 ☐
- 3 ☐
- 4 ☐
- 5 ☐
- 6 ☐
- 7 ☐
- 8 ☐
- 9 ☐
- 10 ☐