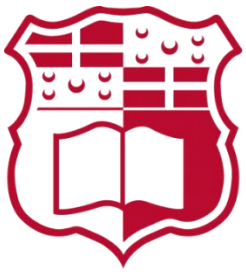

L-Università ta' Malta

An analysis of investment behaviour in cryptocurrencies in Malta

By

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Abstract

Cryptocurrencies have soared in their popularity in recent years, with social media driving their rise and several hopping on the trend. Cryptocurrencies were initially created as a means of currency without the intermediary element; however, their popularity as an investment instrument has surged. The problem lies when individuals view these assets as an easy way to make profits by putting money into cryptocurrencies and expecting high short-term gains risk-free.

The study looked into the cryptocurrency sphere in Malta, giving a personality to Maltese cryptocurrency investors by delving into the background of these individuals and their demographics. The research further explored what drives investment behaviour in these cryptocurrencies, while highlighting any herd behaviour trends in these investments.

To conduct this study, data was gathered through surveys distributed via social media to Maltese individuals who have invested money in cryptocurrencies. Survey responses totalled 385. The data was then analysed through SPSS software by running several non-parametric tests and a number of regression models thereby identifying the significant factors to be able to address the research objectives.

It transpired that the market is mainly dominated by males and young adults aged between 25 and 34 with a strong level of education and an average annual income. Moreover, there are a variety of reasons why individuals seek

these investments, with speculation and long-term growth being the most prominent.

Herd behaviour was observed in the study as it transpired that many investors would typically copy others. Interestingly, herding also influences gambling behaviour, where individuals who herd often tend to gamble more. Furthermore, individuals who behave in a herd are oblivious to the risks associated with these cryptocurrencies, while investors frequently depend on the views of others when making investment decisions due to a lack of understanding in the field.

Having proved evidence of herd behaviour within the Maltese cryptocurrency market, it was possible to arrive at several conclusions, while supporting the conclusions reached by foreign researchers worldwide that market herding makes it highly unlikely that these currencies are accurately valued. Moreover, confirming this behaviour also implies how simple it is to influence someone through social media, even in terms of where to invest their money. Finally, herd behaviour present within this Maltese field implies that other Maltese sectors can and could be experiencing similar behaviour.

Key Words

Cryptocurrencies, Risk Management, Herd Behaviour, Investments, Maltese Investors

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Chapter 1: Introduction

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1.1 Context

The invention of Bitcoin by Satoshi Nakamoto in 2008 paved the way for the surge of other new cryptocurrencies, sometimes also referred to as altcoins. This internet currency was introduced during the 2007/2008 financial crisis, thus gaining significant momentum. The financial crisis triggered the distrust of several financial stakeholders in the system of fiduciary money. The design of the financial system, together with both governments' and financial institutions' control of money supply were regarded as the main cause of this crisis. As cryptocurrencies, such as Bitcoin, are not affected by the failings and limitations of fiduciary money, cryptocurrency was considered the solution. However, there is no relationship between the creation of Bitcoin and the financial crisis, both occurring in the first decade of the 21st century (Saleem, 2018).

Further to the Bitcoin's popularity, new cryptocurrencies followed Bitcoin. As at the time of writing – 2022 – the internet contains over 20,000 different cryptocurrencies, although other sources suggest that there are more as it is challenging to calculate the exact amount (Howarth, 2022).

This evolvement meant that, not only did a new currency and transaction network arise, but also the introduction of an innovative investment product. Cryptocurrencies eventually became an extremely popular investment product in an investor's portfolio, mostly due to the significant financial gains associated with them. In fact, during the last 5 years, until the beginning of 2022, Bitcoin

had a return of around 4,450%, with other cryptocurrencies, such as Ethereum and Binance coin, exceeding the 25,000% return mark (Coincodex, 2022). These returns are dreamlike for the common investors, savers, portfolio managers, and other stock market stakeholders.

The rise in value of cryptocurrencies, such as Bitcoin, Ethereum and Solana, all yielding abnormal positive returns, would not have happened had it not been for the increasing number of fascinated investors. A study conducted by CivicScience shows that investors who opted in investing in cryptocurrencies over the common stocks experienced an increase in value from 10% in June 2021 to 24% in November of the same year (Butovich, 2021). About twenty per cent of the participants declared that they sold more than half of their stock assets to purchase cryptocurrencies. This is unquestionably a surprising fact. These results underpin the continuous popularity of cryptocurrencies and that these are more reliable as an investment asset.

Another factor which contributed to the surge of interest in cryptocurrency investments is interest rates. As historically proven, cryptocurrencies such as Bitcoin and Ethereum perform well during periods of low-interest rates. Crptum (2021) advocates that declining interest rates incentivise investors to apportion funds to riskier assets, such as, virtual currencies. A recent example of this trend is the investment in cryptocurrencies during the outbreak of the COVID-19 pandemic. When the Federal Reserve slashed interest rates to deal with the financial crisis brought about by the pandemic, the price of Bitcoin rocketed between March 2020 and May 2021, and went on to reach an all-time high of over $69,000 per unit in November 2021 (Sigalos, 2021).

Cryptocurrencies eventually also became a very accessible investment tool. With reliable platforms gaining popularity, many coins and virtual currencies can be purchased or invested in through these platforms. The most popular exchanges are Coinbase and Binance as they are highly trusted and well rated (BitDegree, 2022). Moreover, Revolut has made it possible to invest in five popular cryptocurrencies, including Bitcoin and Ethereum, through its mobile application in a very user-friendly method. This accessibility is probably driving more individuals who just want to explore this swing and invest some of their savings in a popular cryptocurrency. A key difference of investing through Revolut, when compared to other exchanges like Binance, is that, through Revolut, one can only speculate whether the value of the coin will increase or decrease as the investor does not actually own the virtual currency (Pepi, 2021).

While investing in cryptocurrency is simple due to the array of coins and exchanges, the main concern is the investment strategy, if any, that an investor adopts. It all depends on the risk profile of the individual to choose in which cryptocurrencies to invest; however, some exposure to these virtual currencies in the short and long term might turn profitable. Petukhina et al. (2021) analysed the different investment strategies that investors consider prior to investing in cryptocurrencies, including such considerations as equally weighted, equal risk contribution, and maximum diversification. Other risk factors are the risk-return – max return, mean-variance – max Sharpe, together with the weight contributions, amongst others. Petukhina et al. (2021) conclude that the maximum return strategy which most investors are inclined to adopt had an exceptional return during the booming phase of 2017. However, nearly all gains (-97%) were wiped out by the end of 2019, hence showing the volatility of cryptocurrency investments.

On the other hand, Petukhina et al. (2021) indicate that investors who adopt a strong or maximum diversification strategy tend to gain most. While protruding diversification, this approach limits the risks involved in investing in this sector. Henceforth, such strategy shows that a well-diversified portfolio with some risk element is the most profitable for investors looking to include cryptocurrencies in their financial portfolio.

Likewise, the most significant factor that instigates investment in cryptocurrencies is that these assets can lead to extremely high returns when compared to common stocks and bonds. Apart from the high volatility that these assets experience, the returns an investor can profit from are what drives people to continue investing in cryptocurrencies (Chan et al., 2022). A striking difference between cryptocurrencies and other stocks within the financial market is that cryptocurrencies provide more flexibility to the investor. The main factor is that cryptocurrencies can be traded on a 24/7 basis, and trading does not depend on the opening hours of the stock markets.

This feature favours flexibility and dependence as individuals who work abnormal hours can trade and invest at any time of day (Vidal-Tomas, 2021).

Similarly, Ferreira et al. (2020) affirm that investments in cryptocurrency promote diversification in an investor's portfolio, adding that this is another key benefit of cryptocurrencies investment as it surely allows portfolio managers to increase exposure to these virtual assets. Cryptocurrencies proved to be uncorrelated with the conventional stocks and bonds market as the investment profiles diverge. Furthermore, another factor which supports the increasing demand for cryptocurrencies is the unlimited choice of coins and tokens to

invest in. In fact, Gandal et al. (2021) advocate that, since the markets for these assets are expanding, new coins and tokens are created as a common occurrence, thus providing more choice for investors willing to add crypto assets to their portfolio.

1.2 Statement of the Problem

All those knowledgeable about the financial market advocate that considerable gains are only possible when there is a huge high-risk factor (Durham, 2020). The financial market would not provide a level playing field if a return on cryptocurrencies is risk-free. The increasing interest in cryptocurrencies investments must be acknowledged as these digital assets are risky and are prone to substantial volatilities and fluctuations that may lead to uneducated investors or traders to lose most, or perhaps, even all their investments (Anastasious et al., 2021).

The occurrences result when ’investors’ opt to include cryptocurrencies in their financial portfolio simply because of the possible significant returns that these assets could provide. However, at times, such investment decisions mirror social media influence, and lack both informed knowledge and strategy (Poongodi et al., 2021). This incidence is most common in times when the value of cryptocurrencies is high, such as, during the COVID-19 pandemic. In fact, during the spike of COVID-19 cases, Bitcoin’s price per unit rose to $30,000 on 22nd February 2021, and it later rose steeply to $58,000 (Antipova, 2021). In other words, Bitcoin nearly doubled its value in just over a month, which looks unrealistic! If the value of altcoins increased exponentially, it also reflects that their value is highly volatile. Therefore, the lack of knowledge and

research, social media influence, and a series of other factors lead to a situation of gambling, rather than of investment. This is a matter of concern since investors are perhaps investing their life savings.

Although including a virtual currency in an investor's portfolio is simple, nevertheless, the selection process is somehow difficult. Cryptocurrencies referred to as 'meme coins' gained considerable popularity during the past years (Ostroff, 2021). These coins, despite used for purchases like any other currency, were created as a joke. The most popular meme coins such as Shiba Inu (SHIB) and Dogecoin (DOGE) have made some traders rich as DOGE rose 12,000% in 2021 (Wilson and Howcroft, 2021). The other side of the coin is the huge risk associated with these meme coins. Unlike other assets, their value does not depend on demand-supply trading conditions of a fair market, but rather on influencers who encourage their followers to buy a specific meme coin, thus creating a pump (Kamps et al., 2018). Varshney (2021) sustains that the spike of DOGE in July 2021 as a result of Tesla's founder, Elon Musk's tweet to "Release the DOGE!", implying support for this meme coin, mirrors the power that influencers have on meme coins.

Meanwhile, Brockman (2021) explains that the main difference between a meme coin like SHIB and DOGE and giants like BTC and ETH is utility. While Bitcoin was created to make up for real-world problems, meme coins aimed to make a quick buck as a joke. Another example of a meme coin which was created as a result of the hype around popular Netflix television series 'Squid Game' was the Squid Game Token (SQUID) that attracted several traders in October 2021 as the coin recorded a 44,100% return after 72 hours of its launch from a price of $0.01 per unit. The price continued to surge, reaching highs of $2,861 per unit (Arguinbaev, 2021). Just minutes after reaching its all-

time high, the coin crashed by 99.9999% to $0.0007962, leaving numerous traders without their money (Sephton, 2021). This meme coin was just a rug pull, where developers purposely abandon a project and cash investors' funds with them.

Bikchandani and Sharma (2001) affirm that the cryptocurrency market is a victim of herd mentality and behaviour. Herding behaviour is defined as an obvious intent to imitate the behaviour of other investors thereby disrupting markets and raising volatility. As Amirat and Alwafi (2020) suggest, herding behaviour persists in the financial market because crypto investors lack salient information sources, and their investment strategy is mimicking actions of others encouraging them to invest in the crypto-market price bubbles without any market research and due diligence.

1.3 Research Questions

The study aims to answer the following research questions:

1. What is the demographic and socioeconomic background of cryptocurrency investors in Malta?
2. What are the motives to invest in such digital assets?
3. Is herd behaviour present within the Maltese cryptocurrencies market?

Stakeholders, academics, enthusiasts, and others may understand more the characteristics of Malta's cryptocurrency economy by providing answers to the above research questions. More importantly, by addressing these issues, the study aims to shed light on whether Maltese investors tend to follow the herd

when making cryptocurrency investment choices. If so, many issues can emerge from this investment behaviour.

1.4 Approach

It was necessary for the researcher to first comprehend the background of the situation and the arising problem in order to gather adequate data and offer conclusions to the above study questions.

The author thus consulted a variety of literature sources to gain a global overview of the cryptocurrency industry, while examining the sociodemographics and demographics often associated with this sector and the reasons why individuals look for such investment instruments. Additionally, the researcher was interested in the prevalence of herding in cryptocurrency markets as well as its origins.

After conducting this background study, the author was able to determine what data was necessary and chose to use social media to reach Maltese individuals who had in some way invested money in cryptocurrencies. Subsequently, a confidential and anonymous survey was distributed to them.

Following the data collection from the circulated questionnaire, the researcher ran this data via the SPSS programme for analysis. Numerous tests were carried out to ascertain the traits of the investors, the reasons for investing, the justifications for relying, and other tests to ascertain whether herd behaviour is indeed existent in the Maltese market.

Subsequent to the analysis and comprehension of the data, the researcher drew conclusions about the data in an effort to answer the research questions.

1.5 Outline of the Dissertation

Six chapters constitute the present research. In order to provide the reader with a background of the subject matter, the opening chapter introduces the research and the topic under investigation. It also states the study's goals and objectives, as well as the approach adopted by the researcher.

An in-depth analysis of the literature pertinent to this topic is covered in the second chapter. The literature reviewed in this chapter offers a thorough background of the origins of cryptocurrencies, particularly from the standpoint of investment vehicles. Additionally, the literature offers details on characteristics of foreign cryptocurrency investors and their motives for making such investments. The literature also discusses in depth the herd behaviour that certain investors exhibit, and the rationale why some choose this strategy.

In the third chapter, the author reveals the approach utilised to carry out this study. It discusses the justifications for the procedures utilised and how the data, after being gathered, was analysed to provide accurate results from which conclusions could be derived. A few restrictions encountered while completing this research are also discussed in the chapter.

The tests that were run using the data gathered are discussed in chapter four. To analyse the results in more detail in the chapter that follows, this chapter

provides an in-depth review of the tests that were run and proposes results that are significant and others that are not.

The fifth chapter discusses the results of the tests conducted in chapter four. It further delves into the importance of the findings and offers interpretations of what the test results revealed. Based on the reviewed literature, these conclusions help to address the research questions that were set for this study.

The study's sixth and last chapter concludes and summarises the research, highlighting the study's key results. A conclusion is reached while highlighting the value such research may offer to outside parties. This chapter also offers steps that can be taken following the results drawn. Lastly, the sixth chapter also recommends further studies that can emerge from this research.

Chapter 2: Literature Review

Chapter 2: Literature Review

2.1 Knowledge and Awareness

Knowledge of the topic is one of the most crucial components of using cryptocurrency. According to Sathye (1999), innovation awareness is the ability to ascertain whether or not a customer is aware of the service and its benefits. It also illustrates how a customer's lack of understanding plays a role in their aversion to and unwillingness to use financial services via the internet. Reid and De Brentani (2004) believe that, when a customer becomes aware of a product, it is either accepted or rejected. According to Meero et al. (2015), the level of awareness has a big impact on how much e-payments are used within businesses. According to Misdiyono (2019), the proliferation of these digital currencies as well as people's desire to use them is hindered by a lack of public awareness and confidence in cryptocurrencies.

The trustworthiness of Bitcoin may be explained in the same way as for other currencies. People trust any other money because they believe they can use it to exchange products, services, and investments (Pichler et al., 2018). Consequently, the trustworthiness of cryptocurrency is a major element influencing its acceptance as an international currency. Suh and Han (2002) investigated the impact of customer trust on internet banking adoption. The findings of the study proved the critical relevance of trust in such actions. Indeed, according to Ha and Stoel (2009), trust plays a crucial role in customer adoption of e-shopping.

A German online survey by BearingPoint (2019) targeted 2,020 Germans, only 43% of whom had heard about cryptocurrencies, albeit having limited knowledge, while 94% had never used any cryptocurrency. Moreover, 63% of the participants were not well acquainted with the subject, and 20% considered themselves utterly illiterate about cryptocurrencies. These results emerged following another survey conducted by the same company during the previous year with 1,000 Germans, demonstrating increased awareness of cryptocurrencies as 88% were aware of these virtual currencies, which was an increase from 71% in 2017 (BearingPoint, 2018).

In 2018, the Financial Conduct Authority (FCA) of UK assessed the awareness and knowledge of crypto assets through face-to-face interviews. Of the 2,132 people interviewed, 58% admitted that they had not heard about cryptocurrencies, and 70% were unable to define a cryptocurrency. Moreover, of the 3% who had purchased a cryptocurrency, only 8% had done thorough research, with 16% having done no prior research (FCA, 2019). A year later, the FCA conducted a similar study, albeit adopting a different methodology, but the results show a significant increase in awareness as only 27% were unaware of cryptocurrencies in 2020, a 31% rise in recognition (FCA, 2020).

Surprisingly, most retirees have heard about Bitcoin, although the percentage is still low, as only 32.9% of US retirees aged 50+ admitted that they are not aware of Bitcoin (Crowder, 2019). The study, which recruited 1,000 participants, found that 56.7% were aware of Bitcoin, but were sceptical and uninterested, which is a large percentage. Lastly, the same study on awareness and knowledge of Bitcoin among retirees concluded that 3.4% had no idea how to invest in Bitcoin, regardless of their interest.

A study spanning across several European countries as well as the USA and Australia, with over 14,000 participants, also assessed the participants' awareness of the field (Exton and Doidge, 2018). It transpired that the majority (66%) acknowledged cryptocurrencies, the majority being male. Consciousness varied across the countries as the results yielded 38% in Belgium in contrast to 79% in Austria.

The willingness to use Bitcoin or the intention to use cryptocurrency is a significant aspect that might influence the prospect of cryptocurrency. The propensity to utilise technology is also the most important indicator of how much technology is actually used (Legris et al., 2003). Many aspects influence the decision to adopt new financial technology, including convenience of use, adherence risk, benefits of usage, and reasons for utilising this innovative technology (Darwish, 2015). Greater readiness to employ financial innovation tools, according to Suwinto (2020), would have a favourable influence on the growth and development of these instruments.

2.2 Characteristics of Crypto Holders: Generations, Demographics, and Backgrounds

Interestingly, cryptocurrencies are a common topic for teenagers globally. Interest in these digital assets has soared in young adults and teens. Verma (2021) illustrates that the younger generations are becoming a new class of investors – the enterprising teens who are crazing on crypto. Verma (2021) explains that Indian teens' pocket money helped fuel India's surge in crypto investments. The drive to invest at a relatively young age reflects the influence of social media. Through posts on social platforms such as Twitter, Discord,

and Telegram groups, any teen would almost surely encounter soliciting in cryptocurrency investment.

These groups and platforms also directly impact the price of cryptocurrencies. Kristoufek (2013) argues that daily Wikipedia traffic and weekly Google search volumes are directly correlated with the price of Bitcoins. Being active in Telegram groups and following Google Trends allow valuable information that favours short-term price movements of the main cryptos, such as, Bitcoin and Ethereum (Smuts, 2018). Nonetheless, participation in these groups could lead to herd investment as groups that involve thousands of traders could follow the administration's advice.

Although the increase in the cryptocurrency market is attributed to the interests of teenagers and young adults, concluding that older aged investors do not invest or trade cryptocurrencies is a misconception. The Head of Australia's largest cryptocurrency exchange BTC Markets, Caroline Bowler, explains that there has been a growing cohort of Bitcoin investors who are middle-aged and risk averse with the intention of long-term trading (FxStreet, 2021). This risk profile contradicts the perception of making a quick buck as it portrays longer term investment that would finally allow such investors to buy expensive cars (Powell, 2021). Data shows that a quarter of the investors on the BTC Markets platform are over the age of 45 years as this generation is becoming more aware of investment opportunities that the cryptocurrency market allows (FxStreet, 2021).

A study conducted by Gemini (2021), known as the Gemini State of U.S. Crypto Report, looked into the average cryptocurrency holders and crypto curious

people. The survey was based on a sample of 3,000 U.S. individuals aged between 18 and 65 years, with a household income of $40,000 or more, which is relatively low as the average household income in the US in 2019 was $68,703 (Rothbaum, 2020). The Gemini Report explains that the survey results show that most crypto holders are aged between 25-34, 39% of all ages, while 35% are aged between 35-44. Surprisingly, only 3% of crypto holders are aged between 18-24, while 19% are aged 45-54. The study concludes that the average cryptocurrency owner is a male adult aged 38 years, making around $111,000 per annum. Moreover, males dominate the market as 74% of the holders are males, with only 26% females.

In another study based in Asia, Wciom (2019) surveyed 1,600 Russian adults to examine the cryptocurrency users' socioeconomic backgrounds. The study found that 71% of crypto holders with high awareness have a higher education, and 66% of the owners with high awareness are male. However, English et al. (2020) conducted a similar study in the UK with 3,058 British citizens. This study found absolute dominance of male crypto owners as 79% of the owners are male, while 69% are over the age of 35, thus echoing the Gemini (2021) study that also found that most holders are over 35 years. English et al. (2020) also found that 27% of the holders are middle- and working-class people, categorised as C2DE.

Cross-country research across Europe, Australia, and the USA was conducted by Exton and Doidge (2018) with a sample of 14,828 individuals. The study found different observations since most cryptocurrency owners are aged between 25-34 years, while men are almost twice as likely to own cryptocurrency (13%) than women (6%). Similarly, a study by Laboure and Reid (2020) had corresponding results as, from the 3,600 Deutsche Bank adult

customers ranging from China, Germany, Italy, USA, UK and France, the most common age for people who bought or sold cryptocurrencies is the 18-34 years cohort, almost double the 35-54 years group.

2.3 Cryptocurrency Adoption and Safety Concerns

One of the most important aspects of purchase decisions is the perceived reliability of cryptocurrencies. However, it is difficult to gauge a respondent's level of faith in a cryptocurrency. It might be a reference to the asset's ability to resist manipulation technologically, the investor's ideology, the asset's price stability, or the capabilities of the crew who designed the coin (Marella et al., 2020).

One of the main risks that cryptocurrencies and blockchains face is hacking as these are e-currencies. There have been several incidents where blockchains were hacked and cryptocurrency stolen. In 2018, a tech start-up based in Osaka, Tech Bureau, lost around $60 million during a hack (Russolillo and Narioka, 2018). The start-up reported that it detected abnormal activity on its servers and hacking was discovered. It transpired that millions in Bitcoin and other cryptocurrencies had been wiped out from both the customers' accounts and the tech firm. Chang (2018) reports that, during that year, there were other cases of hacks related to cryptocurrencies. These attacks underpin the vulnerabilities that cryptocurrencies and their platforms are exposed to.

Bitcoin and other cryptocurrencies gained their popularity during the 2007/2008 financial crisis when the problem at source looked to be central banks and

other institutions. In this regard, the creation of cryptocurrencies circumvented the role of the middleman played by central banks (Jumaili et al., 2021). This trading element exposes these assets to an unregulated community which is becoming more powerful and gaining confidence on the financial market. The interference of governments and central banks is extremely limited in this sector. Nonetheless, China, which has one of the world's leading digital currency markets, regulated this market by banning all crypto-related transactions in September 2021 (Pazzanese, 2021).

Additionally, the United States (US), the leader of the financial markets, also had its take on regulating and monitoring cryptocurrencies (Boucher, 2021). However, there are several crypto-friendly countries which have accepted this innovative financial instrument in their country's financial systems. For instance, both Luxembourg and Switzerland legislated cryptocurrencies. Switzerland offered free access to electricity for miners seeking to set up mining operations in the country (Jaroslaw et al., 2021), while Luxembourg recognised cryptocurrency as a legitimate currency, and allowed trading or the use of cryptocurrencies without any restrictions (Saiedi et al., 2020).

With regards to investors and participants in the crypto market, trustworthiness is still low. A study by BearingPoint (2018) found that only 23% of the participants trust the price stability of cryptocurrencies, which is fairly low when compared to trustworthiness in fiat currencies, which stands at 72%, with 32% admitting that cryptocurrencies can in fact replace fiat currencies. The same company conducted a similar study the following year, and trustworthiness decreased as only 17% trust the price stability of cryptocurrencies, while only 3% believe they could replace fiat currencies as a medium of exchange (BearingPoint, 2019).

With the ease of investing platforms, it has become relatively easy to invest and freely choose which instrument to put money on, and for how long, depending on the trust and expectations of the individual. Etoro, a global investing giant, carried out a survey across its platform, assessing trust in crypto markets versus trust in the US stock market. The survey found that most millennials trust the crypto market more as 43% of millennial internet traders believe that the stock market is less trustworthy than crypto assets (eToro, 2019).

It is not easy to trust an instrument like cryptocurrencies when price stability is an issue due to the high volatility of the nature of crypto assets. In fact, Exton and Doidge (2018) surveyed a number of individuals who are aware of Bitcoin and of risks related to the digital asset. It transpired that 63% admitted that they are riskier than government bonds, while 70% believe that they are riskier than gold, and 65% confessed that they are riskier than real estate. However, coinciding with eToro (2019), the majority found cryptocurrencies less risky than the stock market as 46% acknowledged that they are riskier than the stock market.

2.4 Investment Strategies and Inclusion of Cryptocurrencies in Portfolios

It is no secret that cryptocurrencies are highly volatile instruments. Chaim and Laurini (2018) explain that, due to their volatility, including them in a portfolio also has its risks as this could lead to higher potential estimation error, thus possibly making the portfolio problematic. This however is a current and important observation since interest in cryptocurrencies has grown. Baur et al. (2018) prove that rather than being utilised as a medium of exchange or currency, cryptocurrency accounts are typically used as speculative investments. This makes sense from an investment perspective as studies like that conducted by Cheah and Fry (2015) reveal that, Bitcoin returns are highly uncorrelated with all major asset classes both during normal times and during extraordinary ones, which has important diversification advantages.

An interesting study by Petukhina et al. (2021) observed the value of investing in cryptocurrencies in relation to attitude and investment strategies of investors. The research indicates that the investors who benefit most from cryptocurrency investments are those with high-risk/high-expected-return characteristics, while those with a low-risk tolerance benefit the least. The analysis suggests that significant or even maximal diversity, which results in a large exposure of a cross-section of cryptocurrencies while limiting risks associated with an equally weighted strategy, was the key factor in investors' greatest performance.

Meanwhile, Guesmi et al. (2019) explain that alternative investment vehicles are continuously in demand as part of diverse investment portfolios. Because of their high average return and little correlation with financial assets, cryptocurrencies are a viable alternative. Guesmi et al. (2019) also demonstrate

that, shorting Bitcoin allows the investor to hedge the risk investment against a variety of financial assets. Furthermore, they discovered that hedging techniques incorporating gold, oil, emerging stock markets, and Bitcoin lower portfolio risk (variance) significantly when compared to a portfolio comprised merely of gold, oil, and equities from developing stock markets. The results therefore imply that Bitcoin may offer investors benefits of hedging and diversification.

As for investment strategies adopted by a casual trader or investor, many are trends of the cryptocurrency market. Terms like ‘buy the dip’ are famous in crypto, which means buying a cryptocurrency when the prices are on their way down, which is a strategy for some. Moreover, the fear of missing out, referred to as FOMO, is also common as this relates to people who buy cryptocurrencies when they are at their all-time high. When a cryptocurrency such as Bitcoin is booming and reaching record highs, everyone wants to be onboard, and many unknowledgeable people end up purchasing during these times (Cassar, 2022). A more detailed and complicated technique is the technical analysis strategy that is used by people who have stronger knowledge of the subject and involves looking at past events and reacting to news, hence requiring knowledge and use of price, volume, and time data points in addition to linear regression and Relative Strength Index (RSI).

Casual traders or investors who pursue cryptocurrency as a means of investment to accumulate money usually follow or go along a sort of investment strategy, ranging from simple and informal ones to in-depth analysis, usually depending on the individual’s level of knowledge of the subject. A predominant admonition, as explained by Dierksmeier (2018), is to ‘HODL’, which is an acronym derived from a typo by a drunk cryptocurrency owner, implying to

‘hold’ the coins; however, the acronym caught on, and is now commonly used and referred to as ‘hold on to dear life’. For many, this is not simply a typo, but rather a strategy to follow. People who adopt this investing strategy keep their assets for months or even years in hopes of profiting from long-term price growth. Many investors believe it is a sound method for handling volatile assets, such as, cryptocurrencies (Karamat, 2022).

Another common strategy is ‘buy low, sell high’ that is quite self-explanatory: one buys an item when one thinks its price has dropped low enough, and then, one would sell it when its value rises. One would choose which cryptocurrency to buy based on historical prices and current market circumstances (Alvaro et al., 2014). This is a challenging method to implement on a regular basis, but it has gained popularity. Investors that use this technique typically establish stop-losses or use technical analysis to purchase or sell based on moving averages, support levels, and other indicators. Portfolio erosion and transaction costs can benefit investors (Zervos et al., 2013). This method should be complemented with a variety of instruments, including moving averages. For the strategy to be successful, it demands the investor to do extensive research, although some assets are still unpredictable.

A less common manner of investing and accumulating funds off cryptocurrencies is through Initial Coins Offerings, known as ICOs. This is a form of crowdfunding whereby tech creators sell tokens that are replaced with altcoins once the company is up and running. Tokens could be traded on crypto exchanges, and their values could increase by time. An ICO strategy could make an investor money by flipping, that is, buying tokens and trading them right away at a higher price, or by holding (Adhami and Guegan, 2019). This strategy involves extensive research in order to be successful, as research by

the Satis Group (2018) confirmed that 78% of ICOs were a scam, and only 15% succeeded.

A safer manner, especially for people who prefer investing their money, rather than trading or gambling it, is through investor fund management. Putting money in a fund managed by professional fund managers is surely safer, and more funds trading cryptocurrencies are being made available. Soros Fund management and Wells Fargo are some of the big names that are trading crypto and making available a strategy for their clients, including virtual currencies (Zmudzinski, 2021).

As explained, a safer approach to invest in crypto assets is through funds. This has become easier nowadays as one can find cryptocurrency mutual funds and cryptocurrency exchange-traded funds. Crypto mutual funds provide the investor with several advantages, such as easiness to purchase, diversification benefits, and potential for quicker gains, at the expense of some volatility and high expense ratios (Daly, 2022).

Moreover, similar to a fund and gaining popularity is the copy trader function on the eToro platform, allowing for the investor to easily replicate the trading of experts, including cryptocurrency experts. eToro (2022) reports that the average yearly profit of the 50 most copied traders for 2021 was 30.4%. Therefore, an investor who is relatively new to the subject of crypto, but still wants to be a crypto investor, may do so by mimicking professional traders through a simple process on such platform.

Although an investor is free to make a strategy of their own, it is recommended to follow a pre-made strategy, depending on the individual's characteristics and goals. Other means and strategies involving cryptocurrencies are cryptocurrency arbitrage, cryptocurrency mining, investing with a trading bot, and averaging (Hacioglu et al., 2021). These strategies are usually less common than the others mentioned, yet might fit the likes of some.

2.5 Factors which Encourage and/or Limit Investment Behaviour

People invest in cryptocurrencies for a variety of reasons. Some see it as a quick and simple method to generate money, while others regard it as a long-term investment. However, while many are investing in cryptocurrencies, not everyone is ready to take the step just yet. A survey conducted by CNBC (2021) revealed that 1 in every 10 American adults is investing in cryptocurrencies. As reasons vary from one adult to another, what is certain is that the interest is increasing.

Stieg (2021) explains that, for some, Bitcoin and other cryptocurrencies have become an obsession, even so, an identity. Kapoor (2018) also notes that social media plays a crucial role as celebrities who invest in Bitcoin are highly engaged on communities on Twitter, Reddit, and others. Tom Meyvis, a professor in a New York university, admits that the volatility can be exciting as, checking the price 10 times per day would be boring with a normal stock, but with cryptocurrencies, it is exciting as something is always happening (Cory, 2021).

A survey carried out by Bankrate (2021) with a sample of over 1,000 adults asked the respondents whether they are comfortable owning cryptocurrency as an investment. It transpired that 49% of Americans aged between 25-40 years are at least comfortable with investing in cryptocurrencies such as Bitcoin, compared to 37% of adults aged between 41-56 and 22% of individuals aged 57-75. In fact, from the same survey, some young adults are not simply comfortable with investing in cryptocurrencies, but also think it is the best way to invest as 12% admitted that these virtual assets are the greatest way to invest money that they would not require in 10 years or more (Royal, 2021).

Gailey and DeMatteo (2022) give several reasons why people invest in cryptocurrencies. Firstly, the most common is that people speculate on the price of the currencies, hoping it will be worth more by time. Additionally, crypto is seen by many investors as an inflation hedge, while others perceive it as a way to store value. As cryptocurrency was not primarily built as an investment instrument, some invest and own crypto to be part of the future and have a part in decentralised banking.

A CNBC survey with a sample of 5,530 American adults found a growing number of people investing in cryptocurrencies, most prominently Bitcoin and Ethereum, predominantly men (16%) than women (7%) of all ethnic groups. The survey further found that 60% of those who invested in cryptocurrency did so as they believe that it has the potential for long-term growth (Jakobson, 2021). Perhaps a riskier and more gambling-like strategy, 44% of crypto investors admitted that they had purchased coins in hopes of high growth in a short time span. This is highly risky as the success depends on one’s ability to time purchases and sales flawlessly. Lastly, the CNBC survey indicated that more than a quarter (26%) of crypto owners had got into the business because

of the thrill of trading. There is nothing wrong with being enthusiastic about increasing one's net worth. However, if the primary incentive for investing is thrill, it is not truly investing at all, but rather gambling. It would be better to focus on the chances of one's investment paying off, rather than buying things merely because one is enthused about them (Bhatti et al., 2021).

A recent study by EndoTech (2022) examined 1,000 Americans, whose male participation rates out-stripped female participation as 25% of the males over 18 indicated that they had participated in crypto markets, while only 11% of the women did so. Penetration continues to be greater among the younger generation, with over one-third of investors aged 18 to 29 claiming to have made a crypto investment. This is about double the national average, and those aged 46 and up are still dipping their toes into the crypto waters.

However, investors aged 46 and up (representing large savings and wealth) are becoming a big crypto force. According to this poll, one out of every ten people now owns some cryptocurrency. Similar to other studies, this study found that 58% of those investing in crypto want to make money, and it is the main reason behind their investment, while 35% have more fundamental and idealistic beliefs that represent their investment. Interestingly, the research found that 49% expect 20-50% return from their crypto investment, while 23% seek 50-100%, and a few aim very high, admitting to expect over 100%. The same study found that the amount of money invested in crypto is relatively high as 45% noted that their investment is up to $10,000, with 31% divulging that it is up to $100,000. Meanwhile, a study by Pew Research Centre (2021) reported that 16% of Americans bought cryptocurrencies in 2021, and the penetration is expected to grow further in February 2022 to 18%.

A study by Gupta et al. (2020) gathered survey results from 1,495 individuals from India, Germany, Canada, USA, and France. The study focused on the reason people invest in cryptocurrencies, despite having no regulatory framework and a volatile nature. The research had a 90% male participation rate, with only 10% female respondents, which continues to prove the male dominance within the crypto market. It transpired that the main criterion for people who invested in crypto was social influence, representing 19.2% of the participants. This was followed by facilitating conditions and perceived usefulness, which were popular too, with 17.73% and 15.7%, respectively. Financial knowledge, performance expectancy, and perceived trust had a medium influence on cryptocurrency investments, with 15.5%, 10%, and 9.6%, respectively. Meanwhile, with 6.3% and 5.4%, respectively, social support and effort expectancy seem to be the least influential on the decision to invest in cryptocurrencies.

As much as enticing investing in cryptocurrencies sounds due to potential gains and diversification benefits, many still do not invest in cryptocurrencies due to certain limitations. Some factors discourage investment in these digital assets. Indeed, Backman (2021) admits that she is not convinced that it will become widely accepted as a means of payment. Since crypto still has not been adopted by daily shoppers, it is currently not possible to go to a grocery shop or a gas station and pay by crypto, which makes these digital assets less attractive (Backman, 2021). Moreover, Isabell (2022) explains that the potential for immense gains could also be detrimental, with disastrous consequences.

Likewise, a study by Deutsche Postbank (2018) with a German sample analysed the motives not to invest. The participants agreed that the main limitation is the excessive risk (56%), while insufficient knowledge (50%) also

plays a major part in their decision. A British-based research by FCA (2019) also found similar results as 29% of the participants admitted that the main reasons for not buying cryptocurrencies are their price volatility and riskiness. Furthermore, not knowing how they work was another reason for not investing for 23% of the participants.

A survey conducted by YouGov, a British research and data analytics firm, found that 98% of those who claimed that they understand cryptocurrencies failed a quiz on basic concepts of Bitcoin, NFTs, and stablecoins (Strack, 2021). To pass the quiz, the participant had to obtain more than 60%, with only 2% passing this quiz. In other words, many people are investing without knowledge of the subject as they claim to understand the field, but only to a certain extent as the quiz was failed by many.

Another study by Cardify (2021) found that more than 1 in 3 investors of cryptocurrencies know little to nothing about the digital currency. This was discovered from a survey done with 750 crypto investors, showing that only 16.9% fully understand the value and potential of crypto, while 33.5% have nearly zero understanding. The survey also found that investment volumes grew significantly as, according to Cardify (2021), the average purchase price was $432 in 2020, and grew to $1,212 during the same period in 2021. Lastly, the research revealed that 1 out of 4 cryptocurrency holders invested for short-term gains; however, half of the participants admitted that their biggest concern is losing their money due to the volatility levels.

For his part, Murtuza (2022) found that the lack of knowledge of cryptocurrency investment is the key issue deterring investment in these digital assets, whether

it concerns men, women, or Generation Y (aged 25 to 40) or Z (aged 18 to 24) respondents. In this regard, the continued openness to cryptocurrencies of members of Generations Y and Z may be intriguing since these cohorts are the least discouraged from investing in Bitcoin due to their previous unfavourable experience with cryptocurrency. Furthermore, the extreme volatility, which is ideal for speculative trading, is the least appealing aspect of cryptocurrencies for members of Generations Y and Z. The rate of rise in Bitcoin value, on the other hand, is the greatest motivating element for them.

2.6 Herding Behaviour

Herd behaviour is described as a decision-making technique characterised by copying the activities of others in the context of behavioural finance. In other words, Hirschleifer and Hong Teoh (2003) describe it as any behaviour similarity or difference communicated through the contact of individuals. Such dynamics can be observed in crypto asset markets in the internet era, when networks and social media promote the interchange of ideas and information.

Uzeyir et al. (2021) demonstrate the difficulty with herding behaviour in their research, proving how an asset is seen at a greater value for a brief period of time owing to herding behaviour, and then collapses as people realise its true intrinsic worth. According to Mokhtarian and Lindgren (2017), people's herding behaviour contributed to the popularity of cryptocurrencies, particularly Bitcoin, which provides remarkable returns over traditional investments.

Hotar (2020) explains that crypto assets seem to have excessive returns and volatility from time to time. On this market, irrational investors who depend on

unverified information trade without fully assessing the risks. Consequently, regardless of their own analysis, investors are shown to mimic the conduct of others, which might result in herd behaviour. Furthermore, in his research, Hotar (2020) used the Cross-Sectional Absolute Deviation method (CSAD) to observe herd behaviour tendencies. According to his research, herd behaviour can be observed both during times of excessive volatility and at times of optimal value and volatility.

Herding behaviour is seen to be rational for less informed investors who attempt to copy financial gurus or follow the footsteps of successful investors because employing their own information/knowledge would incur a higher cost. In practice, this might lead to apparent behaviour patterns that are associated among people, resulting in systematic, incorrect decision making by large communities (Rubbaniy et al., 2022). Consequently, to achieve the same amount of diversification, investors would require a larger portfolio of assets with a lower degree of correlation. Asset prices may deviate from economic fundamentals as a result of investor trading activity if market players prefer to herd around the market consensus. (Corsetti et al., 2005). Consequently, assets are not valued correctly.

Research conducted by Chaing and Zheng (2010) opposed and defied previous studies that showed no herding behaviour in advanced markets and in Chinese markets. The study by Chaing and Zheng (2010) observed investors' herding activities in 18 countries which were divided into three groups, namely, advanced stock markets (made up of such markets as the US and UK), Latin American markets (made up of such markets as Argentina and Mexico), and Asian markets (made up of such markets as China and Singapore). Meanwhile,

daily data for stock returns from 1988 to 2009 was analysed. This resulted in evidence of herding in each market, except the US and Latin America.

In contrast, not all studies examining herding activity on cryptocurrencies, using different models and different cryptocurrencies, showed evidence of herding behaviour. One of these is the study by Babalos and Stavroyiannis (2019), who utilised a time varying model and quantile regression, finding no evidence of herd behaviour. Similarly, Gama Silva et al. (2019) found no herding activity in their investigation of 50 cryptocurrencies between 2015 and 2018.

An interesting study by Rubbaniy et al. (2021) examined herd effects in 101 cryptocurrencies between 2015 and 2020 to analyse market fear, COVID-19, and lockdown tendencies. Their analysis proved evidence of significant herd investing in the crypto market. Moreover, their findings show that asymmetrical herd trading is found even in extreme return percentile regimes (1% and 5%) of the crypto market. Their analysis included a herding behaviour fear assessment using the VCRIX index, finding no evidence of herd trading when fear predominates the crypto market. In comparable research, Shrotryia and Kalra (2021) examined herd behaviour in the crypto market from 2015 to 2020 and found corresponding results to those by Rubbaniy et al. (2021) as according to the study's findings, there is proof of crypto mass behaviour at certain normal market scenarios, and significant herding bias during high volatility periods; however, no herd trading was witnessed during downward market phases.

Meanwhile, Yarovaya et al. (2021) studied the herding behaviour in cryptocurrency markets during the COVID-19 pandemic to determine whether a black swan event is triggered. Similarly, Mnif and Jarboui (2021) analysed

Bitcoin dynamics and investor response focusing on herd trading during COVID-19. Yarovaya et al.'s (2021) findings contradict many studies as the researchers found that herding is not stronger during uncertain times, and herding has decreased during recent times, even though the COVID-19 pandemic increased volatility in the markets. Moreover, Mnif and Jarboui (2021) demonstrate that the recent pandemic has actually reduced herd bias.

2.7 Concluding Summary

This literature review provided a comprehensive overview of cryptocurrencies from the perspective of an investment vehicle. Although there is a tendency of rising awareness every year, knowledge and understanding of these virtual assets are still only somewhat widespread. However, awareness is still lacking since familiarity with Bitcoin and other cryptocurrencies differs from knowledge of the topic. It is undeniably true that young adults' growing interest is largely responsible for the emergence of cryptocurrencies. As studies demonstrate that, even older generations are interested in these investment vehicles with a long-term growth strategy, it would be a mistake to assume that older people are uninterested in them.

Also still lacking in these assets is trustworthiness. It is noteworthy to observe that these virtual currencies do not use an intermediary (banks). Furthermore, governments have little to no control over cryptocurrencies, with the exception of certain nations that outrightly forbid their usage, while others embrace their innovation. Consequently, cryptocurrencies can be vulnerable to internet hazards. Due to the substantial volatility that these assets might occasionally undergo, many people are also sceptical of them.

It is likely that one's cryptocurrency investment is different from someone else's. There are many reasons to invest in cryptocurrencies, most notably, the benefits of diversification; however, some believe they are the best choice for short-term growth, while others consider them for long-term growth investments. Due to these assets' constant price volatility, investing in them is often designated for those with a high-risk tolerance, especially for those looking to earn a quick profit in a short span of time. Cryptocurrencies can, however, be added to large portfolios or funds for the sake of diversification.

Herding behaviour, related to any behaviour similarity or difference communicated through the contact of individuals, is particularly prevalent in the cryptocurrency market. Studies suggest that, during times of high volatility and best value, there is a propensity for individuals to herd, thus causing the value of a coin to become inflated. However, evidence from other research shows a lack of herding behaviour, particularly during downward times.

Chapter 3: Methodology

Chapter 3: Methodology

3.1 Introduction

This chapter gives a general summary of the procedures used in order to conduct this study, where the author mainly took into account primary data. These techniques eventually helped the author gather the information required to answer the following three research questions:

- What is the demographic and socioeconomic background of cryptocurrency investors in Malta?
- What are the motives to invest in such digital assets?
- Is herd behaviour present within the Maltese cryptocurrencies market?

This chapter thus explains the techniques utilised to gather the data, how this data was analysed, and how the results were ultimately reached, along with a justification for the approaches used. Finally, it identifies a few potential drawbacks encountered while conducting this study. It additionally confirms that this study was given ethical clearance.

3.2 Research Approach and Philosophy

A researcher needs to provide the design for each research question. Ontology and epistemology are the first two main paradigms when thinking about the research philosophy. The former explains how reality is, while the latter

demonstrates what is deemed acceptable information (De Langhe and Schliesser, 2017). Ontology has two facets: subjectivism and objectivism. It is important to remember that ontology is the source of epistemology. Realist, interpretivist, and positivist epistemologies are the three categories (Hoecke, 2004). An epistemological approach was considered for the current study since positivist methods, including hypothesis testing and other statistical tools like regression analysis, were utilised to analyse quantitative data (Saunders et al., 2009).

In an inductive technique, the researcher begins by gathering information that is pertinent to the study issue. The researcher would then examine data trends and create a theory that might account for those patterns. In order to proceed from specific experiences to a more general collection of propositions about those experiences, observations must first be made in an inductive way (Bryman and Bell, 2015).

Meanwhile, in deductive research, the method used by the author in this study, the researcher would begin with a strong hypothesis before putting the theory to the test using facts. Consequently, using such a strategy enables the shift from a broad perspective to one that is more focused. The researcher examines prior work, including ideas that are now accepted, then tests the hypotheses that emerge from these theories (Bryman and Bell, 2015).

The following hypothesis is tested for the main motive of the study:

H_0 → herd behaviour has no impact on investment behaviour in cryptocurrencies

H_1 → herd behaviour has an impact on investment behaviour in cryptocurrencies

Other research questions are answered in the study using the same hypothesis rationale.

3.3 Data Collection

3.3.1 Primary and Secondary Research

Primary and secondary research were both used to inform this study. The previous chapter's secondary data was used to formulate questions for the main data, which was gathered through surveys, as well as to select the most appropriate data collection techniques. Data that has already been collected by other researchers is referred to as secondary data. This was mostly acquired from books, websites, research papers, and journal articles, and it was presented in the literature review. With the aid of this information, the researcher was able to develop the study methodology and identify the best techniques for gathering data in order to effectively fill the research gap. The development of the study and interview questions also used secondary data. Significantly, secondary data was only taken into account once the data had been checked for validity, correctness, and applicability.

Given that there were no secondary studies concentrating on the specific research objectives of this study, primary data collection was necessary.

Primary research is investigation carried out by the researcher directly. It entails getting information directly from a source or target sample through a variety of techniques, including interviews, surveys, and questionnaires. This type of study might be exploratory, hence unrestricted, or particular, which is more organised and directed (McCrocklin, 2018). Although many studies across the globe were conducted to analyse investment behaviour of cryptocurrency investments, none focused on the Maltese population and with the motive to detect herd behaviour. Since this study's research objectives are of a quantitative nature, the data was gathered using questionnaires. The major approach utilised to develop an answer for the research questions and test the hypothesis was primary data collection.

3.3.2 Quantitative and Qualitative Research

A researcher may choose to adopt either a qualitative or quantitative approach in their study. A combination of both methods is also an option, especially if one wants to triangulate their final results. According to Saunders et al. (2009), qualitative research is a strategy for attempting to determine and comprehend the significance of people's behaviours. These studies typically use interviews, focus groups, and/or observations to get their data. The final data gathered is made up of subjective input gathered from a limited group of individuals. The benefit of this kind of research is that it gives interviewers the opportunity to pose challenging queries. Such inquiries could aid the researcher in gathering data that might have otherwise gone unnoticed. They could also suggest new areas of inquiry for studies that go outside the purview of the initial investigation.

Quantitative research is a different research methodology. The quantitative method of research, which gathers and analyses data to assess theories, is commonly associated with the deductive approach. However, it might also use

an inductive approach, in which a theory is created based on facts (Ding, 2020).

The links between variables in quantitative research can be quantified and analysed using a range of statistical and graphical techniques. Controls are routinely used to verify the validity of the findings, just as in an experimental design. The researcher made sure that the questions were phrased properly to ascertain that they would be interpreted uniformly by each participant since the data was gathered in a standardised format. The study participants, also known as respondents, are thought of as being independent of the researcher single data collection method, such as a questionnaire, and the associated quantitative analysis approach may be utilised in a quantitative research design, as was the case in this study. This is a quantitative study employing only one methodology. A quantitative study design may also use a variety of quantitative data collection methods and related analytical approaches.

3.3.3 Survey

In order to answer the research questions, the author distributed a questionnaire, which was the quantitative primary research approach adopted. The survey utilised also a deductive approach with close-ended questions with the aim of understanding people's behaviour in cryptocurrencies, and the best way to do so was through a survey administered to the sample population.

The reason surveys are so popular is because they provide a very effective method for gathering a considerable amount of data from a sizable population. This is why the author preferred the questionnaire. These statistics, which are

typically obtained through the distribution of a questionnaire to a sample, are standardised to make comparisons easier. The public also views the survey approach as authoritative and finds it to be very easy to explain and understand.

The researcher can analyse quantitative data using descriptive and inferential statistics by employing the survey approach to collect the necessary quantitative data. Additionally, the data gathered through a survey is then utilised to create models of these associations and to provide potential explanations for specific interactions between variables. When sampling is implemented, a survey method allows the researcher to provide findings that are typical of the entire community at a lesser cost than gathering data from the entire population thereby offering the researcher more control over the research process.

The survey approach has certain downsides, including the need for the author to invest time in verifying that the sample is representative, building and testing the data collection tool, and attempting to get a high response rate. Even with widely available analytic software, it takes time to analyse the data. Nonetheless, questionnaires are the easiest way to gather the information needed to answer research inquiries, identify herd behaviour in the Maltese cryptocurrency market, and address other issues about investing behaviour.

Google Forms software was used to produce the survey. The majority of the material utilised to develop the survey questions came from research establishing herd behaviour in cryptocurrency investing within a specific

demographic as well as surveys on investment behaviour in other nations' markets and in other jurisdictions' cryptocurrency markets.

The survey includes questions aimed to collect the demographics of the respondents, such as, age, gender, highest level of completed education, and the annual average net income. These questions gave an identity to the respondents, and the answers were analysed as demographics could have an impact on other replies throughout the questionnaire.

The survey also includes inquiries with the objective of determining the knowledge and outlook of the investor respondents. The knowledge and attitudes of the participants were gathered by asking questions about the participants' understanding of cryptocurrencies, their primary motivation for investing, the sources they consulted before investing, and if they have an investment strategy in place.

Most notably, a number of questions were meant to elicit the drivers behind investments and influences on the participant's behaviour. These include inquiries into whether one has copied a transaction, whether one has been influenced by others' recommendations, including friends, family members, and internet forums, and why one would make an investment based on their advice.

3.4 Sampling Technique

The cohort in cryptocurrency has grown, as was already mentioned in Chapter 2. A 2018 survey by BearingPoint of 1,000 Germans revealed that there was a rise in awareness of cryptocurrencies, with 88% of the respondents knowing about these digital currencies, up from 71% in 2017 (BearingPoint, 2018).

When it came to the types of research methodologies employed to gather data, the author focused the questionnaire on those who are over 18 years and reside in Malta and who have invested any amount of money in cryptocurrency. The reason for such an open-ended sample was to target different people and generations from different walks of life. The results would be more trustworthy with a larger sample size. A sample size of 385 was found adequate, with a confidence level of 95% and a confidence interval of 5%, given the Maltese population of 444,120 as of mid-July 2022 (Worldometer, 2022). Three hundred and eighty-five (385) fully completed questionnaires were collected over the two months that the survey was available to the participants. The entire population of Malta was taken into account, even though it is impossible to estimate the precise number of residents who invested in cryptocurrencies.

According to Emerson (2015), all the participants from convenience and snowball sampling would often hail from the same region. They could also come from comparable ethnic or social origins. Any of these variables could have an effect on the subject of the study. A study's findings might be skewed if every participant is comparable on one or more variables. The best method for reducing the impact of uncontrollable factors is thus random sampling, which involves selecting research participants randomly from a group of persons who

satisfy the requirements for participation in the study. The author thus chose this method.

The majority of the questions were mutually exclusive, and the sample was chosen at random from a particular cohort. All the replies required to start the analysis were gathered in about two months. No surveys were distributed in person when they were being gathered. The survey was administered through social media as the questionnaire was done on an online platform, and this method of distribution was the most reasonable.

This sampling method does have certain drawbacks. Since it took a while to acquire, collecting surveys from individuals was a demanding operation. Due to their lack of understanding of the topic, potential participants may have been deterred by the term ‘cryptocurrencies’ in the headline. Another drawback was that, because the questionnaire was circulated via social media, some potential respondents would be reluctant to complete the form out of concern for their online security.

3.5 Data Analysis

After using Google Forms to collect a sufficient number of replies, the responses were converted into an MS Excel file for the data to be understood. To provide a better comprehension, they were properly sorted, with the participants on the Y-axis and the questions on the X-axis. The researcher used SPSS IBM version 28 for statistical analysis.

Factual information that includes a variety of categories and numerical data is referred to as quantitative data (Sandelowski, 2000). The researcher utilised SPSS to conduct two non-parametric procedures known as the Kruskal-Wallis test and the Friedman's test to analyse the quantitative data from the questionnaires. A non-parametric statistical study can reduce the likelihood that the researcher would draw the wrong findings. However, interpreting this study might be more challenging. One of the non-parametric procedures used, the Kruskal-Wallis test, analyses variance by compiling all the data and ranking it in ascending order. Before assigning the sums when two scores are equal, the average of the two is given. After going through this process, the equation below is used to compute the Kruskal-Wallis test.

$$H = \frac{12}{N(N+1)} \sum_{j=1}^{k} \left(\frac{R_j^2}{n_j} \right) - 3(N+1)$$

Where:

R_j = rank sum of each sample

$$N = \sum_{j=1}^{k} n_j$$

Where:

N_j = number of samples for each group

The Friedman's test is yet another non-parametric technique that is used to examine group differences. It uses the total of the ranks in each column to determine the order in which the scores are ranked, from lowest to highest (Pereira et al., 2015). This test was conducted using the following formula:

$$F_R = \frac{12}{rc(c\ +\ 1)} \sum_{j=1}^{c} R_{.j}^2 - 3r(c+1)$$

Where:

$R^2_{.j}$ = square of the total of the ranks for group

r = number of blocks

c = number of groups

Multiple linear regression analyses were additionally conducted in order to establish correlations between variables and determine the variables that affect cryptocurrency investing. Several relationships were examined against each other to observe different results and suggest conclusions by identifying significant and insignificant variables. Many regression models tested included a set of demographic variables, including age, gender, annual income, and level of knowledge of cryptocurrencies. Furthermore, a herd behaviour variable was always included in each model. This variable was either a combination of the information sources considered as herding sources the investor makes use of, or similarly, the other herding variable was a combination of the influential factors the investor is affected by.

The regression analyses were split into three objectives. The first objective looked into which variables determine the sum an individual invests in cryptocurrencies. Two models were put to the test for this objective. Demographic variables were included in this model, together with a herd behaviour variable for one of the models.

The second set of regression analysis looked into the reasons to invest. One model observed the variables affecting those looking for long-term growth, with demographic and herding variables. The second model had the same set of variables; however, the reason to invest observed was speculation in the hopes of an increase in price.

Lastly, the third set of linear regressions conducted aimed to assess herding behaviour triggers. The first model observed gambling as a reason to invest, with the usual demographic variables and a herding variable. The second model examined the knowledge of investors of their investment decisions, tested against demographic variables and a herd behaviour variable. The third and last model observed the relationship of demographic variables and a herding behaviour variable with the low-high investment strategy opted for by many investors.

All regression models were then analysed to determine which variables are significant and which variables are not. This helped the researcher to reach several conclusions to fulfil the research objectives.

3.6 Limitations of the Research Method

Like other studies, this research has several drawbacks. Since cryptocurrencies are a relatively recent invention in the financial sector, background academic study was in some ways constrained. However, further in-depth research was conducted from academic sources and professional journals, which offered the necessary academic and professional material for a comprehensive and in-depth literature review. Most research was acquired from online professional

sources. Online articles, reviews, reports, papers, and dissertations that were primarily assembled by a team of authors were among the secondary data accessed.

The main drawback of secondary research was that it mostly consisted of conflicting ideas and their applicability to the world of cryptocurrencies. Additionally, some of the information's sources were non-academic and occasionally doubtful. Henceforth, only well-known, reliable sources and academic publications were used to help offset this.

Another limitation of the study is that the investment behaviour was not actually observed as the participants completed the questionnaire and only implied what their investment behaviour is. To overcome this constraint, the survey that was distributed to the participants was anonymous and untraceable. The participants completed the survey voluntarily, and this was made clear to them.

Some minor constraints of quantitative research are relevant since the study employed a quantitative technique to acquire data. One is that the researcher must proceed under the presumption that all responses in the surveys are based on truth. With this strategy, there are no face-to-face interactions, making it impossible for the author to evaluate the veracity or authenticity of each outcome. The participants were informed by the researcher that their responses to the questionnaire would remain anonymous; thus, they had no incentive to give false information.

Chapter 4: Analysis and Results

Chapter 4: Analysis and Results

4.1 Introduction

This chapter presents all the primary data that was collected in the study with the goal of addressing the research questions posed in earlier chapters. This chapter begins by outlining the results of the questionnaire, discussing the answers to the questions with the support of the SPSS software analysis, and presents the demographics of the responses, followed by the knowledge and attitude of the survey replies. The chapter then analyses the tests conducted in order to address the research questions. Appendix A provides a copy of the survey.

4.2 Overview of the Participants' Responses

Table 1 below summarises the participants' answers in the questionnaire that was sent via social media, namely, Facebook and LinkedIn. The number of respondents is indicated in the column with the heading 'N'. The variance, standard deviation, and mean are all shown in the table. The questionnaire was designed in a manner that made answering every question mandatory; thus, it should be noted that everyone who participated did so. Consequently, the total number of replies for the whole survey and each individual question is 385.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Traded/Invested in CCs	385	1	1	1.00	.000	.000
Gender	385	1	3	1.17	.386	.149
Age	385	1	6	2.40	.980	.960
Highest Education Level	385	1	7	4.71	1.343	1.804
Annual Income	385	1	6	3.22	1.537	2.364
Level of Knowledge of CCs	385	1	5	3.46	.889	.791
Total Invested in CCs	385	1	5	3.30	1.429	2.043
Reason to Invest - Gambling	385	1	5	2.30	1.128	1.271
Reason to Invest - Store Value	385	1	5	3.20	1.055	1.114
Reason to Invest - Speculate Increase in Price	385	1	5	3.89	.996	.991
Reason to Invest - Long-Term Growth	385	1	5	3.98	1.021	1.041
Reason to Invest - Short-Term Growth	385	1	5	3.39	1.120	1.253
Reason to Invest - Thrill	385	1	5	3.11	1.144	1.308
Reason to Invest - Diversification	385	1	5	3.39	1.058	1.119
Reason to Invest - Hedge Against Inflation	385	1	5	2.92	1.162	1.350

Reason to Invest - Pursue Success Others Had	385	1	5	3.14	1.121	1.258
Info Source - Forums	385	1	5	2.97	1.285	1.650
Info Source - Own Research	385	1	5	3.79	1.090	1.187
Info Source - Follow Market News	385	1	5	3.67	1.045	1.092
Info Source - Friends	385	1	5	2.78	1.245	1.549
Info Source - Family	385	1	5	1.75	1.076	1.158
Info Source - Colleagues	385	1	5	2.23	1.242	1.543
Inv Strat - Copy Trading eToro	385	1	5	1.68	1.040	1.082
Inv Strat – Self-Managed Portfolio	385	1	5	3.86	1.163	1.352
Inv Strat - Portfolio Manager	385	1	5	1.38	.824	.679
Inv Strat - Bug Low Sell High	385	1	5	3.51	1.155	1.334
Inv Strat - Other	385	1	5	2.03	1.265	1.600
Do You Know What You Are Doing?	385	1	3	1.75	.631	.399
Copied Trade Following Someone's Advice	385	1	3	1.92	.825	.681
Investment Influenced by – Family	385	1	5	2.17	1.216	1.477
Investment Influenced by – Friends	385	1	5	3.07	1.175	1.380
Investment Influenced by – Colleagues	385	1	5	2.72	1.226	1.502
Investment Influences by - Online Platforms	385	1	5	3.31	1.078	1.163

Investment Influenced by - Celebs/Influencers	385	1	5	2.51	1.246	1.553
Rely on People's Advice - More Knowledge	385	1	5	3.68	.952	.906
Rely on People's Advice - More Info	385	1	5	3.77	.876	.768
Rely on People's Advice - Trust Judgement	385	1	5	2.91	1.067	1.138
Rely on People's Advice - Based on Their Success	385	1	5	3.46	1.018	1.035
Rely on People's Advice - Other	385	1	5	2.43	1.116	1.246
Discourage to Invest More - Market Crashes	385	1	5	3.41	1.355	1.836
Discourage to Invest More - High Volatility	385	1	5	3.50	1.325	1.756
Discourage to Invest More - Low Adoption	385	1	5	2.84	1.171	1.372
Discourage to Invest More - Unregulated Market	385	1	5	2.86	1.298	1.685
Discourage to Invest More - Scams/Theft	385	1	5	2.89	1.475	2.174
Discourage to Invest More - Lack of Savings	385	1	5	3.10	1.325	1.756
Discourage to Invest More – Others	385	1	5	2.24	1.252	1.568

Table 4.1: Overview of the participants' responses in the survey

4.3 Demographics of the Data Collected

The purpose of the questionnaire's first section was to gather general information on the demographics of the population participating in the survey. Although these are uncontrolled risk variables, the analysis nonetheless takes them into account since they provide context and help comprehend the data obtained better. Starting with gender, the figure below illustrates the gender of the research participants. Clearly, the dominance is that of the male gender, with 82.9% of the respondents being male, while 16.9% are female.

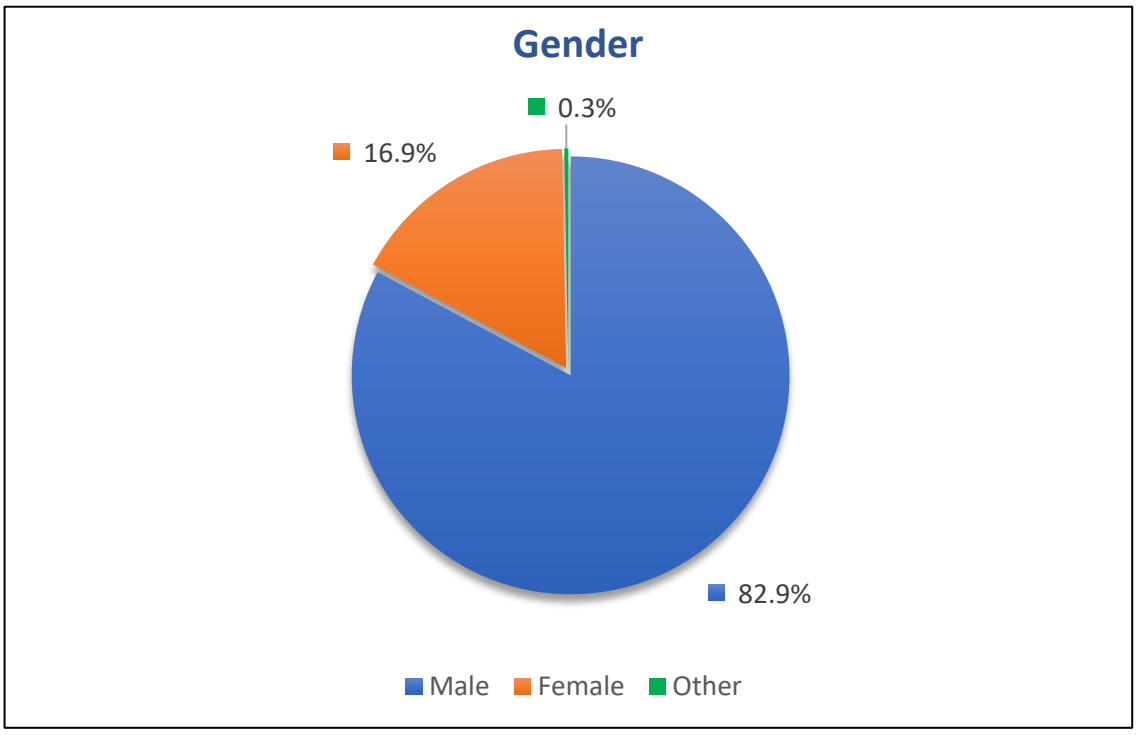

Figure 4.1: Gender distribution

The figure below explains the age distribution of the questionnaire participants. It is clear that almost half of the participants are aged between 25-34 as this age bracket makes up 44.4% of the population. This is followed by the 35-44 age bracket with 26.5%. The age cohorts with the least participants are the ones including older people, namely, those aged between 55-64 (2.1%), followed by the 65+ cohort, with a mere 0.5%. Although most respondents are of a younger generation, this was expected as the cryptocurrency market attracts more the younger generations due to the risks involved.

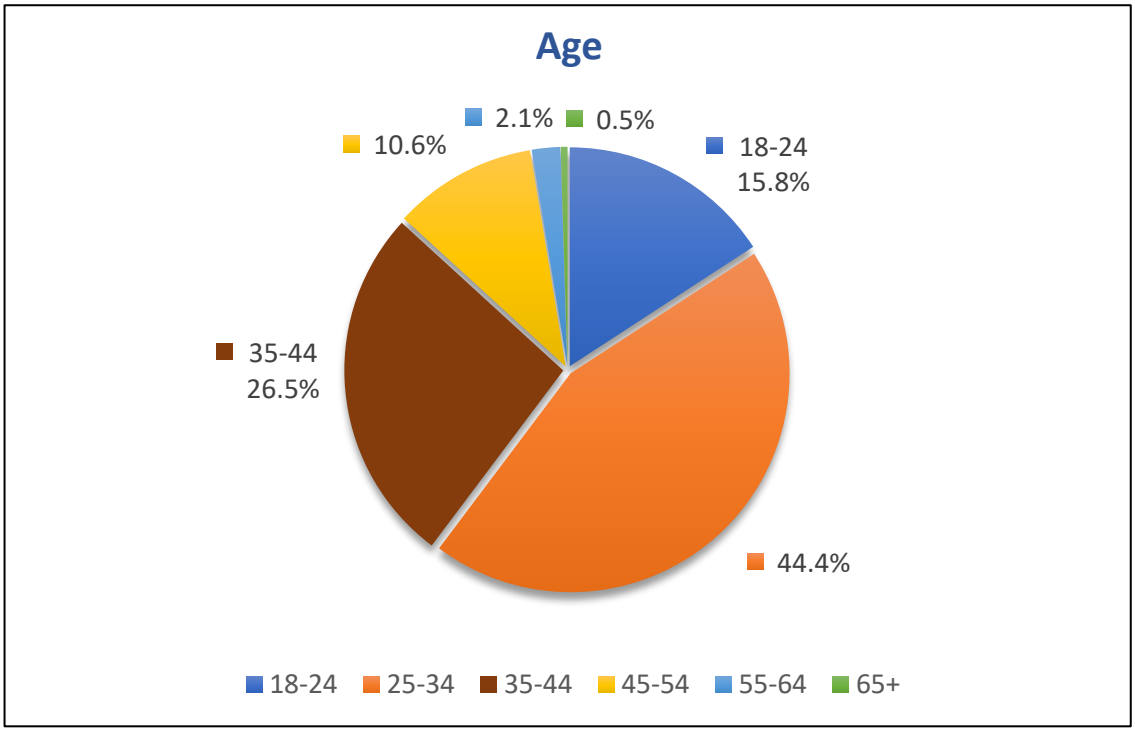

Figure 4.2: Age distribution

Moreover, Figure 4.3 below delves into the education level of the study participants. It is interesting to note that a third of the participants, thus representing the cryptocurrency investors, have a MQF Level 7 education level, which corresponds to holding a Master's Degree or Postgraduate Degree. This education bracket comprised 32.5% of the population. This was very closely followed by people holding a Bachelor's Degree, thus a MQF Level 6, consisting of 30.6% of the participants. One can also note that only 1.8% of the participants hold no formal level of education, and only 1.8% hold a Doctoral Degree – MQF Level 8. This points to the conclusion that most cryptocurrency investors have a solid educational background.

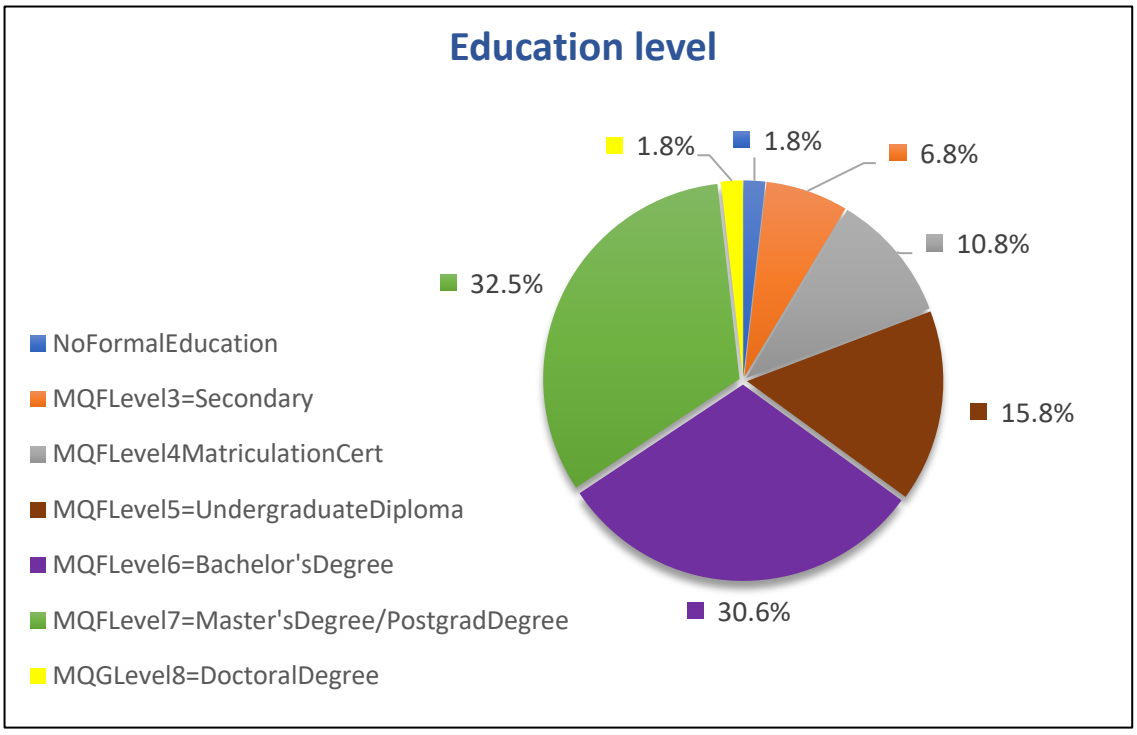

Figure 4.3: Education level of respondents

Finally, Figure 4.4 below illustrates the participants' average yearly income from the study's demographic perspective. As can be seen, a considerable percentage of the population has lower or medium incomes, with 28.1% of the participants reporting annual average incomes of between €20,001 and €30,000, and 20.8% reporting annual average incomes of between €30,001 and €40,000. When compared to the average annual income of Maltese nationals, which is €31,427, it is shocking to see that 20.5% of the study respondents earn more than €50,001 (Average Salary Survey, 2022).

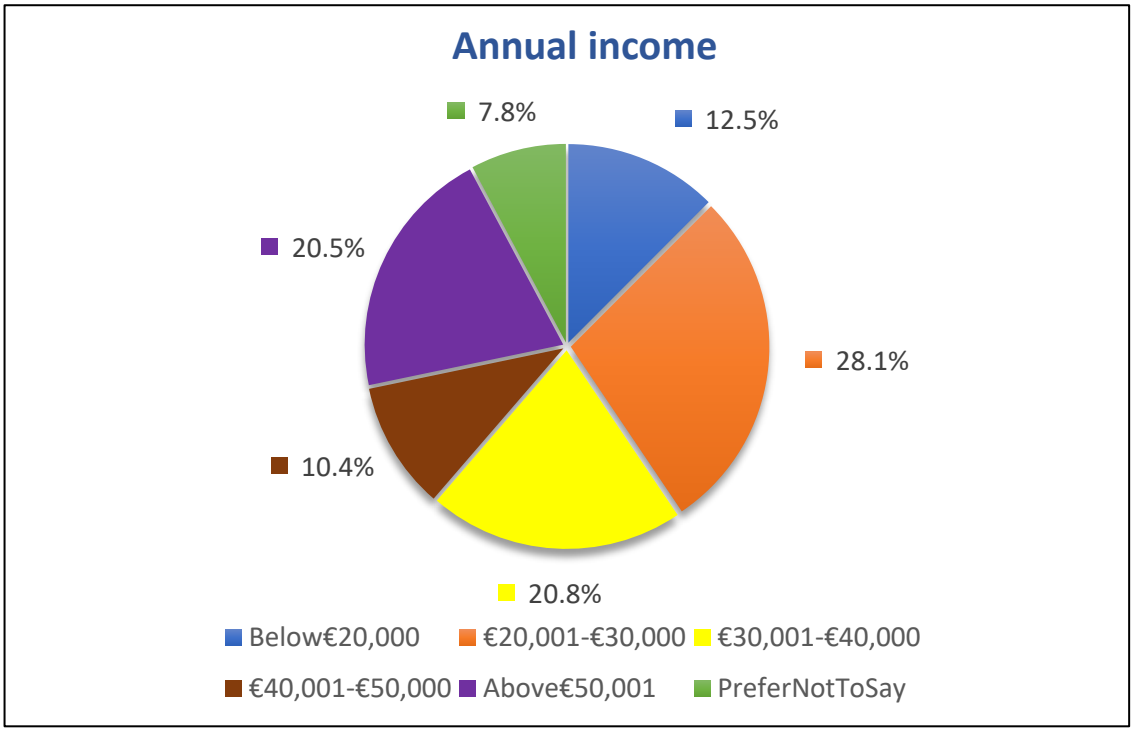

Figure 4.4: Annual income distribution

4.4 Knowledge and Attitude of the Respondents

The remaining questions in the survey probed respondents' understanding of and attitudes towards investing in cryptocurrency. The questions attempted to assess investor attitudes in order to identify any prevalent patterns. Figure 4.5 depicts the level of cryptocurrency knowledge the participants claimed to have. The data shows that 39.7% of the participants admitted to having a basic level of understanding. This is closely followed by 37.4%, who reported that they have a high level of knowledge. Only 11.2% of the participants claimed to be experts in the topic, while the remaining participants know little to nothing about it.

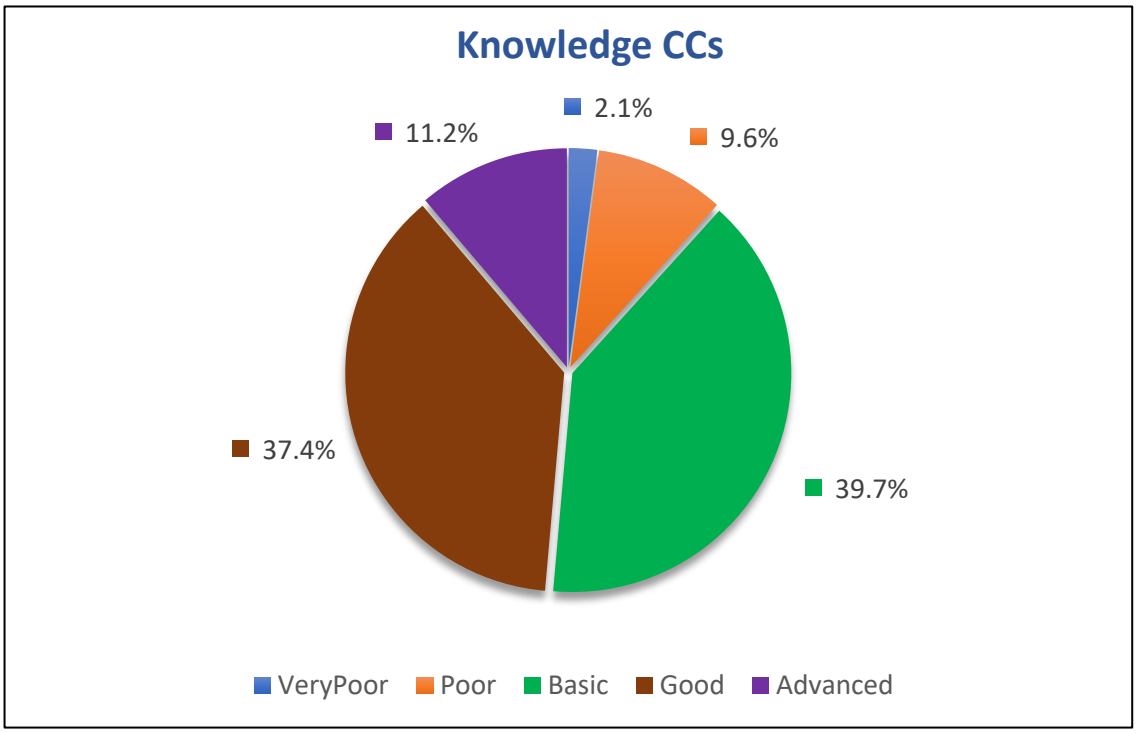

Figure 4.5: Participants' knowledge of cryptocurrencies

Figure 4.6 below explains the money that the participants have invested in cryptocurrency. Clearly, 29.4% have invested more than €5,000 in cryptocurrency, with the other three variables between €501-€5,000 all sharing very similar percentage distributions, while the variable with the least investment represents only 14.3% of the participants claiming to have invested under €500 in cryptocurrencies.

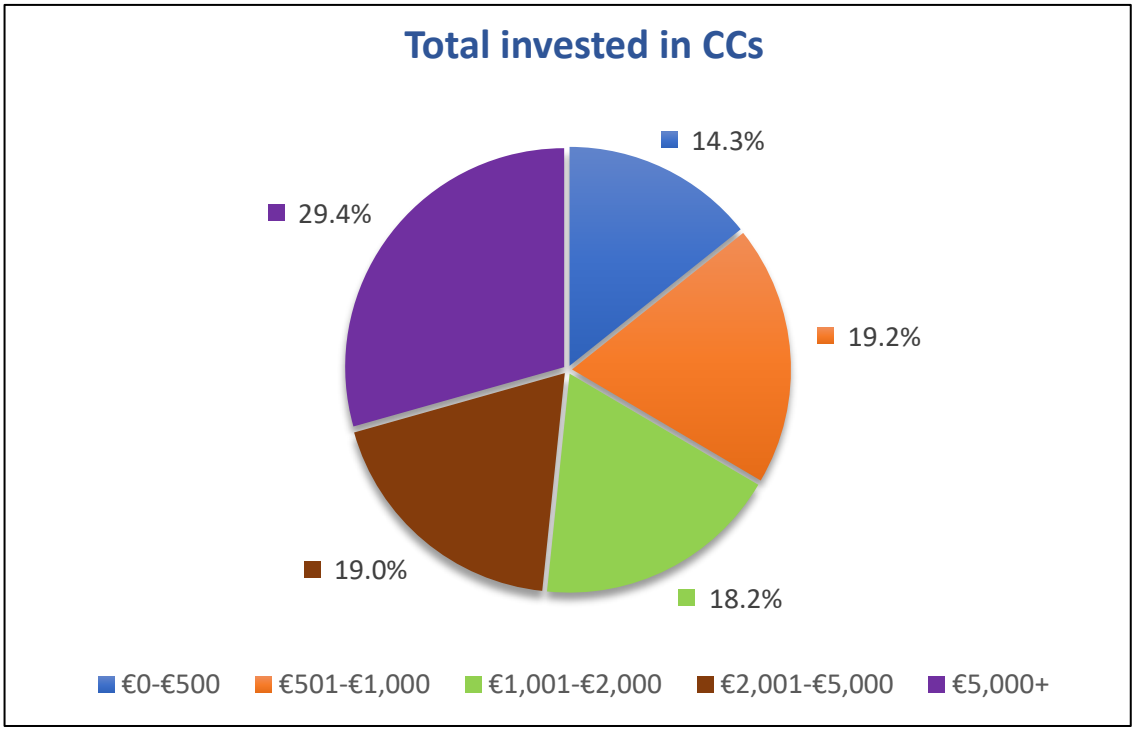

Figure 4.6: Total invested in cryptocurrencies distribution

One of the objectives of the study was to evaluate any herd behaviour in the cryptocurrency investment market. Therefore, one of the questionnaire's direct questions asked the participants if they had ever duplicated a trade after someone recommended buying or selling a certain cryptocurrency investment. Intriguingly, Figure 4.7 below reveals that the majority have duplicated trades, with 38.2% admitting to doing so on a regular basis, and 31.4% claiming to have done so sometimes. The remaining third, or 30.4%, have never imitated a move after taking advice from someone else.

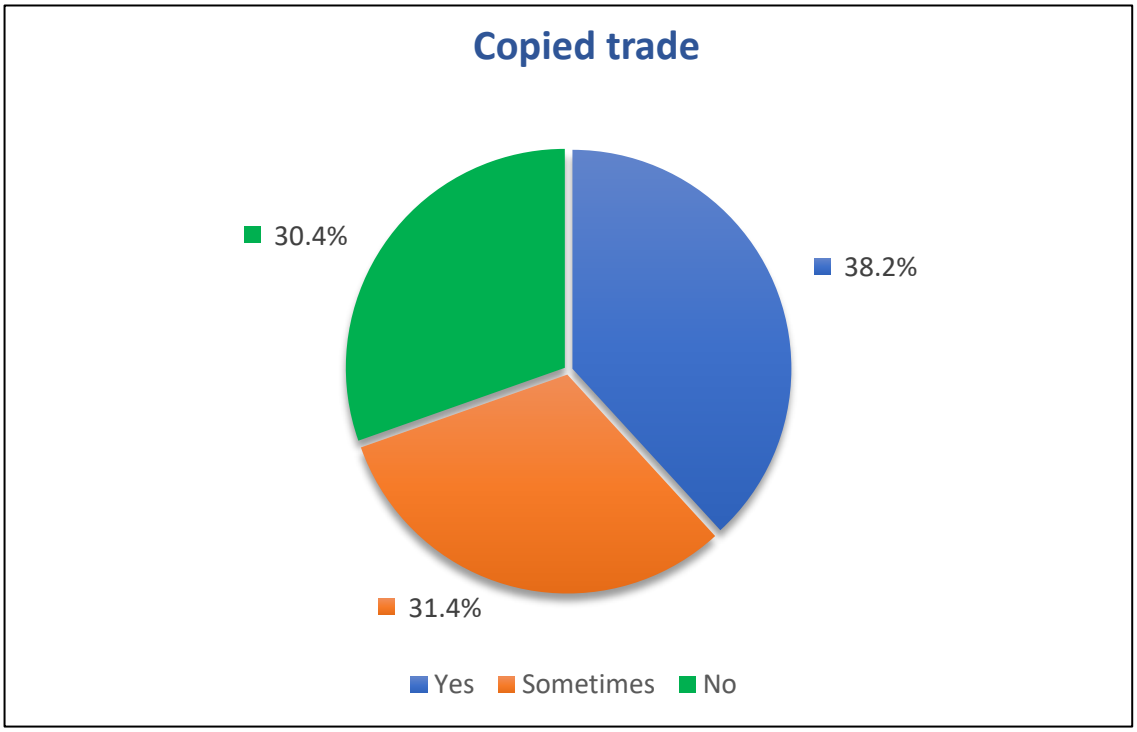

Figure 4.7: Copied trade responses

Another question particularly asked the respondents if they know what they are doing in order to gauge the attitudes and understanding of cryptocurrency investors in Malta. Surprisingly, the majority of the participants know what they are doing only occasionally, which is an indication of herd behaviour, or a sign that translates into gambling behaviour. In fact, 53.8% of the participants

claimed that they are not always sure of what they are doing. However, 35.8% asserted that they always know exactly what they are doing, while an astonishing 10.4% reported that they have no idea what they are doing.

4.5 Non-Parametric Tests

4.5.1 Knowledge Distribution Across Different Levels of Income

As mentioned in Chapter 3, utilising Kruskal-Wallis, a non-parametric test, the author was able to conduct certain analysis. In this case, this test was performed to determine whether there is a significant difference of knowledge across the different levels of income. The Kruskal-Wallis tests confirmed this, as can be observed in Figure 4.8 below, where the p-value = 0.001, which is less than the significance level of 0.05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distribution of Knowledge CCs is the same across categories of Annual income.	Independent-Samples Kruskal-Wallis Test	<.001	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Figure 4.8: Distribution of Knowledge of CCs across annual income

Moreover, Figure 4.9 below shows the distribution of knowledge across different levels of income. The light blue lines distinguish from the green lines as the relationships marked in blue demonstrate a significant difference between them, while the relationships marked in green imply no significant difference between them. The analysis concludes that there is a significant difference of knowledge between people whose annual income is below €20,000 and those whose annual income is above €50,001. The same

distinguishable difference is visible between investors earning €20,000-€30,000 and those earning above €50,001, and between those earning below €20,000 and those earning between €30,001-€40,000. This test concludes that there is a significant difference of knowledge between bottom earners and top earners, with the top earners, thus those generating an annual income of above €50,001, having the strongest knowledge in the field.

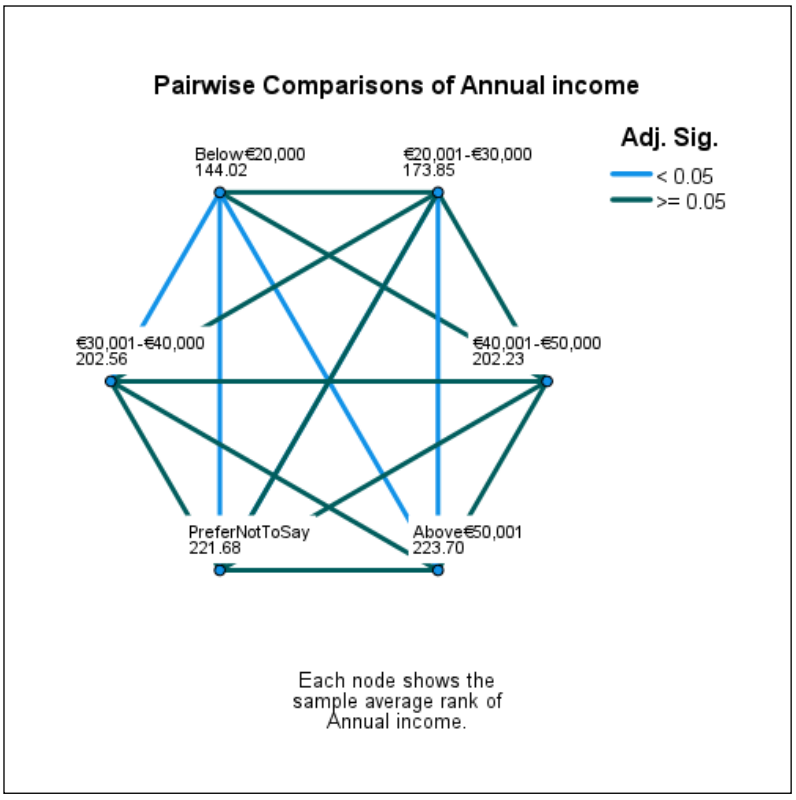

Figure 4.9: Pairwise comparison of annual income

4.5.2 Knowledge Distribution Across Different Levels of Education

The Kruskal-Wallis test was also performed to assess the distribution of knowledge of cryptocurrencies across different categories of education levels. Figure 4.10 below depicts the hypothesis and the test carried out through the SPSS software. The p-value = 0.21 thereby concluding that there is a significant difference of knowledge across different levels of education.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distribution of Knowledge CCs is the same across categories of Education level.	Independent-Samples Kruskal-Wallis Test	.021	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Figure 4.10: Distribution of knowledge of CCs across education levels

To further elaborate on this notion, the researcher investigated which education levels show the greatest variation in cryptocurrency expertise. Figure 4.11 demonstrates how knowledge of cryptocurrency increases as one moves up the educational ladder. The greatest difference between knowledge and education level lies at MQF Level 8, followed by MQF Level 6 and MQF Level 7, suggesting that there is a significant difference of knowledge if one is highly qualified. The figure below also concludes that the knowledge of cryptocurrencies of those investors whose education level is minimal, such as no formal education or MQF Level 3, is also minimal.

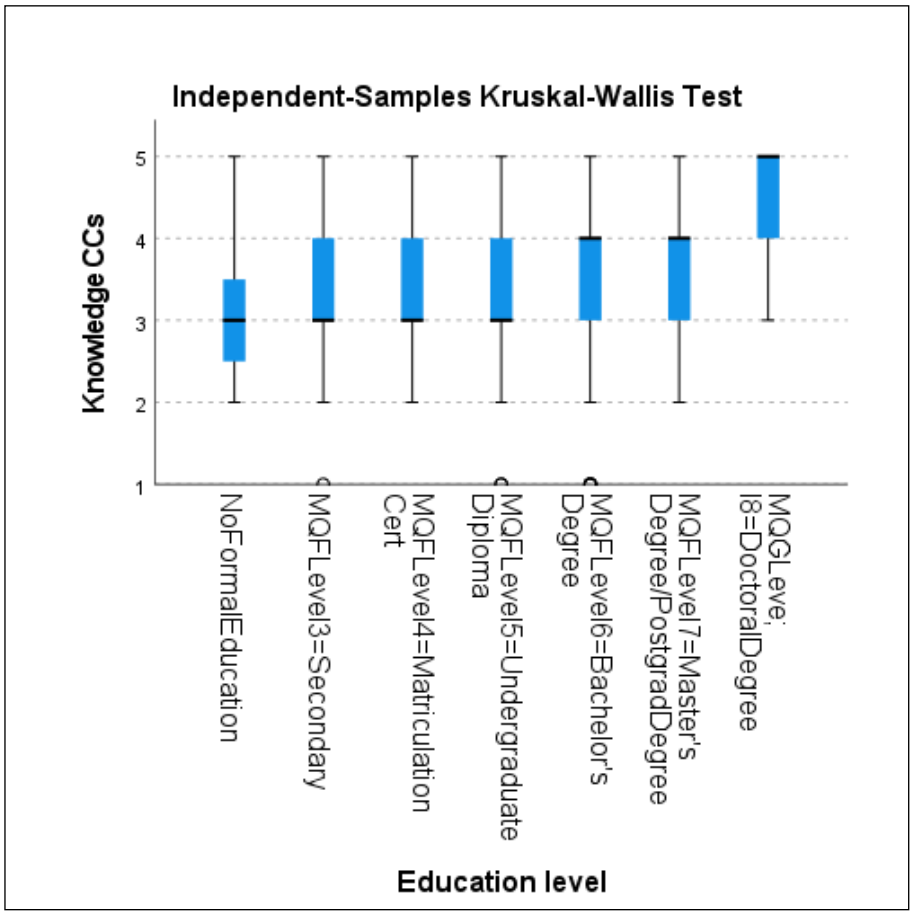

Figure 4.11: Graphic of distribution of knowledge across education levels

4.5.3 Motives to Invest Distribution

The questionnaire distributed to the cryptocurrency investors also explored the motives for one to invest. The researcher wanted to understand the main reasons Maltese investors look into cryptocurrencies as an investment vehicle. The author was able to ascertain whether there are various investing incentives among investors by using Friedman's two-way analysis. The hypothesis that there are distinct motives for people to invest is rejected when tested, as shown in Figure 4.12 below, because the p-value is 0.000, hence significant. This means that there are, in fact, a variety of reasons to invest, and each investor has their own set of goals.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distributions of Reason to Inv Gambling, Reason to Inv Store Value, Reason to Inv Spec Inc Price, Reason to Inv LTG, Reason to Inv STG, Reason to Inv Thrill, Reason to Inv Divers, Reason to Inv Hedge Inflation and Reason to Inv Success Others are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.000	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Figure 4.12: Motives to invest distribution

The study presented above also concludes that there are more compelling reasons to invest. The mean of the survey-collected reasons to invest may be seen in the descriptive statistics in Section 4.2. Long-term growth is the primary motive for Maltese cryptocurrency investors to invest as this factor had the highest mean, that is, 3.98. This was followed by the motive for one to speculate an increase in price of the cryptocurrency held, with a mean of 3.89.

These analyses can be further understood by observing Figure 4.13, illustrating the long-term growth reason, and Figure 4.14, noting the speculate increase in price motive, which depict the data collected for the specific motives mentioned.

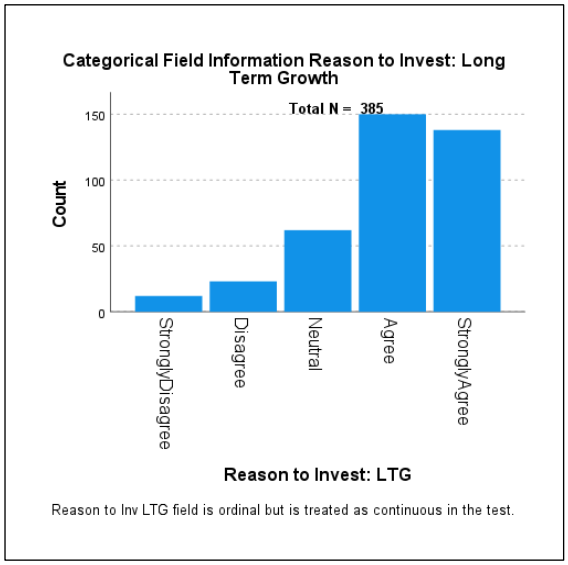

Figure 4.13: Distribution of reason to invest - LTG

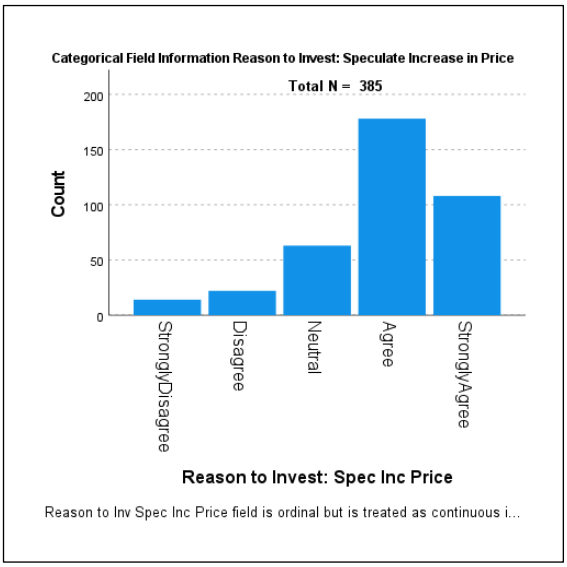

Figure 4.14: Distribution of reason to invest - Speculation

4.5.4 Disincentives to Invest More Distribution

The questionnaire also examined the factors that discourage investors from pursuing more investments in cryptocurrencies. The survey covers a number of factors that discourage people from investing more, thus enabling the researcher to determine whether there are more significant factors that discourage people from investing more using Friedman's two-way analysis. The null hypothesis is rejected, as shown below in Figure 4.15, since the p-value = 0.000, hence significant. This means that there are many reasons to not invest more, and thus, there are more obvious disincentives to do so.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distributions of Discourage to Inv More Market Crashes, Discourage to Inv More High Volatility, Discourage to Inv More Low Adoption, Discourage to Inv More Unreg Market, Discourage to Inv More ScamsTheft, Discourage to Inv More Savings and Discourage to Inv More Others are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.000	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Figure 4.15: Discouragement to invest more distribution

Market crashes and high volatility are the two key factors that discourage people from investing more, as can be noted by observing the means in the descriptive statistics table in Section 4.2. This indicates that market collapses and excessive volatility are the major reasons Maltese investors hold off making more cryptocurrency investments. High volatility, with a mean of 3.41, and market collapses, with a mean of 3.50, are the two disincentives with the greatest means. The respondents' answers that led to this result are shown in Figures 4.16 and 4.17 below.

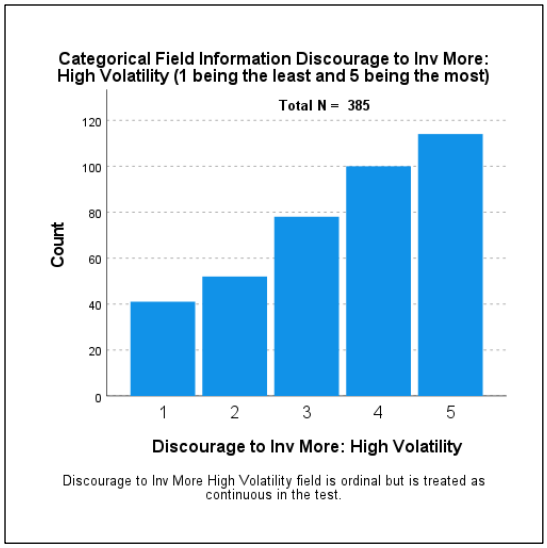

Figure 4.17: Distribution of discouragement to invest more – High volatility

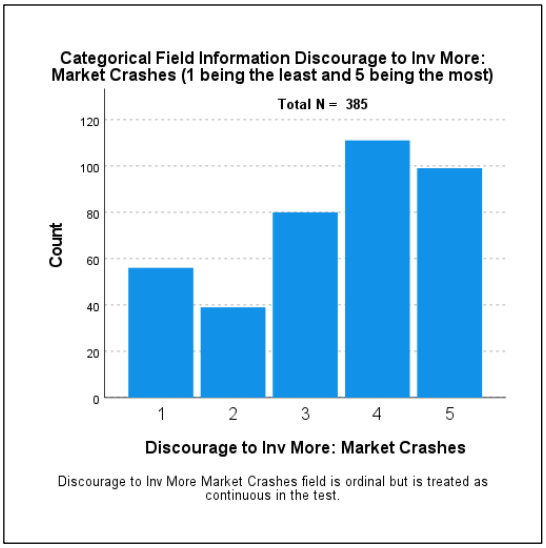

Figure 4.16: Distribution of discouragement to invest more – Market crashes

4.6 Linear Regression

4.6.1 Sum Invested in Cryptocurrencies

To determine what influences the amount invested in cryptocurrency, the researcher utilised linear regression. According to Figure 4.18 below, the regression model explains 25% of the variability of the dependent variable, with an R Square of 0.250. Despite the fact that this may appear low, the F-statistic = 25.246 in Figure 4.19 is statistically significant, with a p-value of 0.001.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.500[a]	.250	.240	1.246

a. Predictors: (Constant), HerdBehVarInfo, Age, Knowledge CCs, Gender, Annual income

b. Dependent Variable: Total Inv in CCs

Figure 4.18: Total invested in CCs modelled with herd behaviour and demographic variables - R square

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	196.041	5	39.208	25.246	<.001[b]
	Residual	588.609	379	1.553		
	Total	784.649	384			

a. Dependent Variable: Total Inv in CCs

b. Predictors: (Constant), HerdBehVarInfo, Age, Knowledge CCs, Gender, Annual income

Figure 4.19: Total invested in CCs modelled with herd behaviour (Info) and demographic variables - Significance

The regression model shown below in Figure 4.20 contained variables for demographics and a herd behaviour variable that included responses about information sources used by investors that the researcher considered to be herd behaviour sources. These sources of knowledge for investing include friends, family, colleagues, and online platforms. The dependent variable is the extent to which people invest in cryptocurrencies.

The author could determine from the regression result below that older investors tend to invest more in cryptocurrencies than younger investors, which is logical, given that older individuals ought to be wealthier. This is established since the t-statistic, which has a value of 3.247, is statistically significant.

Furthermore, as evidenced by a t-statistic of 4.328, richer individuals who reported having high yearly incomes also appear to invest larger quantities in cryptocurrencies. Finally, having a thorough understanding of cryptocurrencies influences how much money is invested in them. This was also statistically significant, with a t-statistic of 7.375.

The amounts of money invested in cryptocurrencies, however, do not appear to be affected by gender or the information source one uses. With t-statistics of -0.647 and -1.325, respectively, both variables had statistically insignificant results. The characteristic that the author believes to be an indicator of herd behaviour is thus not statistically significant, which means that it has no effect on the amount of money invested in these assets.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.589	.429		1.373	.171
	Age	.222	.068	.152	3.247	.001
	Annual income	.195	.045	.210	4.328	<.001
	Knowledge CCs	.551	.075	.343	7.375	<.001
	Gender	-.131	.169	-.035	-.774	.439
	HerdBehVarInfo	-.084	.083	-.046	-1.021	.308

a. Dependent Variable: Total Inv in CCs

Figure 4.20: Total invested in CCs modelled with herd behaviour and demographic variables -Coefficients

The researcher also conducted a linear regression with the same dependent and demographic variables as the regression above, but with a different herd behaviour variable. For this regression, the author took the herd variable as the

responses, where investors were asked to what extent their investments are influenced by their family, friends, colleagues, online platforms, and celebrities/influencers.

As seen in Figure 4.21 below, the regression model explains 25.1% of the variability of the dependent variable, with an R Square of 0.251. Despite the fact that this may appear low, the F-statistic = 25.435 in Figure 4.22 is statistically significant, with a p-value of 0.001.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.501[a]	.251	.241	1.245

a. Predictors: (Constant), HerdBehVarInflAll, Age, Gender, Knowledge CCs, Annual income

b. Dependent Variable: Total Inv in CCs

Figure 4.21: Total invested in CCs modelled with herd behaviour (Influence) and demographic variables - R square

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	197.144	5	39.429	25.435	<.001[b]
	Residual	587.506	379	1.550		
	Total	784.649	384			

a. Dependent Variable: Total Inv in CCs

b. Predictors: (Constant), HerdBehVarInflAll, Age, Gender, Knowledge CCs, Annual income

Figure 4.22: Total invested in CCs modelled with herd behaviour (Influence) and demographic variables - Significance

According to Figure 4.23, the outcomes of this regression were remarkably comparable to those of the prior regression. The age, yearly income, and knowledge variables may all be used to draw the same conclusions as the previous regression because they are all statistically significant, whereas gender is statistically insignificant. The regression's herd behaviour variable yielded a statistically insignificant value of -1.325, indicating that the influence investors receive for their investments is unrelated to the amounts invested in cryptocurrencies.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.739	.464		1.592	.112
	Age	.216	.068	.148	3.158	.002
	Annual income	.197	.045	.212	4.373	<.001
	Knowledge CCs	.533	.076	.332	6.985	<.001
	Gender	-.110	.170	-.030	-.647	.518
	HerdBehVarInflAll	-.112	.084	-.062	-1.325	.186

a. Dependent Variable: Total Inv in CCs

Figure 4.23: Total invested in CCs modelled with herd behaviour (Influence) and demographic variables - Coefficients

4.6.2 Reasons to Invest

The research sought to determine some of the primary factors that influence people to invest in cryptocurrencies, and how those factors relate to other variables.

From the survey conducted, it transpired that the primary motive for investment is long-term growth. Through linear regression, this reason was tested with

demographic variables and the information sources investors use, which is the herd behaviour variable in this test. The model has an R square of 3.5% and an F-statistic of 2.759, with a p-value of 0.018, as observed in Figures 4.24 and 4.25.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.187[a]	.035	.022	1.009

a. Predictors: (Constant), HerdBehVarInfo, Age, Knowledge CCs, Gender, Annual income

b. Dependent Variable: Reason to Inv LTG

Figure 4.24: Reason to Invest (LTG) modelled with herd behaviour (Info) and demographic variables – R square

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.045	5	2.809	2.759	.018[b]
	Residual	385.861	379	1.018		
	Total	399.906	384			

a. Dependent Variable: Reason to Inv LTG

b. Predictors: (Constant), HerdBehVarInfo, Age, Knowledge CCs, Gender, Annual income

Figure 4.25: Reason to Invest (LTG) modelled with herd behaviour (Info) and demographic variables – Significance

The coefficient values illustrated below reveal that only the cryptocurrency knowledge variable is significant, whereas the herd behaviour variable and other demographic variables are not. This is interesting because it suggests that those with high yearly earnings do not pursue a long-term growth strategy, whereas those with lower annual incomes are the ones who do so in an effort to get wealthy over time. People who are knowledgeable about the topic also

use this strategy in hopes of building a profitable growth portfolio. As the herding variable is insignificant, this implies that people who pursue a long-term growth strategy do not take into consideration information sources that are related to herding, such as, opinions from family, friends, colleagues, and online platforms.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.945	.348		11.347	<.001
	Age	.024	.055	.023	.439	.661
	Annual income	-.101	.037	-.153	-2.771	.006
	Knowledge CCs	.163	.060	.142	2.692	.007
	Gender	-.131	.137	-.050	-.958	.339
	HerdBehVarInfo	-.042	.067	-.032	-.628	.530

a. Dependent Variable: Reason to Inv LTG

Figure 4.26: Reason to Invest (LTG) modelled with herd behaviour (Info) and demographic variables – Coefficients

Another major reason to invest, according to the collected data, is speculating an increase in the price of the asset. This model emerged with an R square of 1.3%, an F-statistic of 0.960, and a p-value of 0.442, as noted in the figure below. For this regression analysis, the researcher used the speculate an increase in price as a dependent variable, with the demographic variables and herding behaviour variable being the other variables.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.112[a]	.013	-.001	.996

a. Predictors: (Constant), HerdBehVarInflAll, Age, Gender, Knowledge CCs, Annual income

b. Dependent Variable: Reason to Inv Spec Inc Price

Figure 4.27: Reason to Invest (Speculation) modelled with herd behaviour (Influence) and demographic variables – R square

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.758	5	.952	.960	.442[b]
	Residual	375.875	379	.992		
	Total	380.634	384			

a. Dependent Variable: Reason to Inv Spec Inc Price

b. Predictors: (Constant), HerdBehVarInflAll, Age, Gender, Knowledge CCs, Annual income

Figure 4.28: Reason to Invest (Speculation) modelled with herd behaviour (Influence) and demographic variables – Significance

The coefficient findings with this y-variable produced only insignificant values. All this suggests that this investment reason has no relevance, and that everyone is somewhat speculating since factors like age, gender, income level, knowledge, and who convinced a person to invest are irrelevant.

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.446	.371		9.287	<.001
	Age	.013	.055	.012	.230	.818
	Annual income	-.013	.036	-.019	-.349	.727
	Knowledge CCs	.004	.061	.004	.068	.946
	Gender	.087	.136	.034	.640	.523
	HerdBehVarInflAll	.124	.067	.098	1.831	.068

a. Dependent Variable: Reason to Inv Spec Inc Price

Figure 4.29: Reason to Invest (Speculation) modelled with herd behaviour (Influence) and demographic variables – Coefficients

4.6.3 Herding Behaviour Triggers

There is a chance that some investors view cryptocurrencies as a way to gamble in an effort to gain money because price fluctuations may be quite volatile. According to the results of the survey, the claim that investing is a kind of gambling was put to the test. The model produced a significant F-statistic of 3.220, with a p-value of 0.007, and an R square of 4.1%.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.202[a]	.041	.028	1.112

a. Predictors: (Constant), HerdBehVarInfo, Age, Knowledge CCs, Gender, Annual income

b. Dependent Variable: Reason to Inv Gambling

Figure 4.30: Reason to Invest (Gambling) modelled with herd behaviour (Info) and demographic variables – R square

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.898	5	3.980	3.220	.007[b]
	Residual	468.346	379	1.236		
	Total	488.244	384			

a. Dependent Variable: Reason to Inv Gambling

b. Predictors: (Constant), HerdBehVarInfo, Age, Knowledge CCs, Gender, Annual income

Figure 4.31: Reason to Invest (Gambling) modelled with herd behaviour (Info) and demographic variables – Significance

Additionally, the variable results in Figure 4.32 below suggest a significant relationship between herding and gambling behaviour. The significant value of the herding behaviour variable, which is a composite of herding information sources, suggests that herding influences how people invest in cryptocurrency assets. Intriguingly, this suggests that herding drives gambling behaviour in cryptocurrencies as this is the only significant relationship. Demographics do not influence gambling attitudes since the other demographic variables are not statistically significant.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.887	.383		4.927	<.001
	Age	.026	.061	.023	.430	.668
	Annual income	.001	.040	.001	.014	.989
	Knowledge CCs	-.114	.067	-.090	-1.717	.087
	Gender	.174	.151	.060	1.157	.248
	HerdBehVarInfo	.220	.074	.151	2.983	.003

a. Dependent Variable: Reason to Inv Gambling

Figure 4.32: Reason to Invest (Gambling) modelled with herd behaviour (Info) and demographic variables – Coefficients

In the questionnaire, the participants were specifically asked whether they know what they are doing, implying their ability to make informed decisions about their cryptocurrency investments. A number of variables, including demographics and the influential factors for investing, utilised as the herding variable, were examined against this variable, which was employed as a dependent y-variable.

The model generated an R square of 31%, with an F-statistic of 33.991, which is significant, with a p-value of 0.001.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.556[a]	.310	.300	.528

a. Predictors: (Constant), HerdBehVarInflAll, Age, Gender, Knowledge CCs, Annual income

b. Dependent Variable: Know What You Are Doing

Figure 4.33: Knowledge of actions modelled with herd behaviour (Influence) and demographic variables – R square

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	47.385	5	9.477	33.991	<.001[b]
	Residual	105.670	379	.279		
	Total	153.055	384			

a. Dependent Variable: Know What You Are Doing

b. Predictors: (Constant), HerdBehVarInflAll, Age, Gender, Knowledge CCs, Annual income

Figure 4.34: Knowledge of actions modelled with herd behaviour (Influence) and demographic variables – Significance

The regression findings in Figure 4.35 below have an intriguing result since the knowledge of cryptocurrencies variable is unimportant, with a t-statistic value of -10.647, but the herding variable is significant, with a t-statistic value of 3.128. This implies that investors who exhibit herding behaviour are making irresponsible cryptocurrency investing decisions. The other investors, who are well knowledgeable about the area, understand what they are doing.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.583	.197		13.128	<.001
	Age	-.011	.029	-.017	-.387	.699
	Annual income	-.010	.019	-.025	-.531	.596
	Knowledge CCs	-.345	.032	-.485	-10.647	<.001
	Gender	.090	.072	.055	1.242	.215
	HerdBehVarInflAll	.112	.036	.139	3.128	.002

a. Dependent Variable: Know What You Are Doing

Figure 4.35: Knowledge of actions modelled with herd behaviour (Influence) and demographic variables – Coefficients

The study also examined the investment strategies people use when investing in such assets. The low-high was a frequent investing technique. This was evaluated as a y-variable, along with demographics and the factors that influence investment as a herding variable. The model produced a 4.5% R square, a significant F-statistic of 3.531, with a p-value of 0.004.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.211[a]	.045	.032	1.136

a. Predictors: (Constant), HerdBehVarInflAll, Age, Gender, Knowledge CCs, Annual income

b. Dependent Variable: Inv Strat Low High

Figure 4.36: Investment strategy (Low-High) modelled with herd behaviour (Influence) and demographic variables – R square

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.799	5	4.560	3.531	.004[b]
	Residual	489.419	379	1.291		
	Total	512.218	384			

a. Dependent Variable: Inv Strat Low High

b. Predictors: (Constant), HerdBehVarInflAll, Age, Gender, Knowledge CCs, Annual income

Figure 4.37: Investment strategy (Low-High) modelled with herd behaviour (Influence) and demographic variables – Significance

As can be observed in the below figure, all variables yielded insignificant values, and thus, neither demographic have a relationship with the low-high variable. However, the herding variable is significant, thus confirming that there is a tendency that investors who show herding behaviour are investing utilising a low-high strategy.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.453	.423		8.154	<.001
	Age	-.103	.062	-.087	-1.648	.100
	Annual income	-.096	.041	-.128	-2.333	.020
	Knowledge CCs	.059	.070	.046	.849	.396
	Gender	-.076	.155	-.026	-.492	.623
	HerdBehVarInflAll	.180	.077	.123	2.342	.020

a. Dependent Variable: Inv Strat Low High

Figure 4.38: Investment strategy (Low-High) modelled with herd behaviour (Influence) and demographic variables – Coefficients

Chapter 5: Discussion of Findings

Chapter 5: Discussion of Findings

5.1 Introduction

The key findings from this study are discussed in detail in this chapter. With the research objectives in mind, the researcher is able to draw various conclusions from the data that was gathered and later examined.

5.2 Discussion of the Salient Findings

This section emphasises the value of the primary research findings yielded by this study in light of the literature findings.

5.2.1 Demographic and Socioeconomic Backgrounds

One of the research's objectives was to provide some key insights into the socioeconomic and demographic characteristics of cryptocurrency investors in Malta. According to the analyses performed, the 25–34 age group dominates the other age groups in Malta, accounting for 44.4% of all investors, followed by the 35–44 age group, with 26.5%. This is exactly in line with the conclusions of a survey conducted by Gemini (2021) with the involvement of 3,000 Americans, which likewise found that the majority of investors are between the ages of 25 and 34, followed by the 35-44 years cohort. The research by Exton and Doidge (2018), which revealed the same dominance in terms of age ranges, is likewise consistent with these findings.

However, Maltese teens and young adults appear to participate more in this market, where 15.8% of the participants are between the ages of 18 and 24. This contradicts the Gemini (2021) study, whose participants from this age cohort accounted for only 3% of the respondents.

According to this study's findings, 82.9% of investors are men, compared to only 16.9% of women, indicating that men dominate the cryptocurrency trade. This comes as no surprise, considering that many other studies also supported these conclusions. For example, English et al. (2021) discovered that 79% of their investors were men, while the Gupta et al. (2020) study found 90% of holders who were men.

The study also found that the majority of investors in Malta had finished their education at a level no lower than an undergraduate diploma (MQF Level 5). In other words, the Maltese market is dominated by people with a high level of education, and few are those who invest in cryptocurrencies and lack a high level of formal education. A third of the investors (32.5%) hold a Master's Degree (MQF Level 7), followed by 30.6% with a Bachelor's Degree (MQF Level 6). The results of a comparable demographic survey done in Russia by Wciom (2019) revealed that 71% of cryptocurrency owners have a high level of education, thus correlating with this study’s findings.

Considering that the average monthly income in Malta in 2022 would be €31,427, this analysis implies that the majority of investors have an average income (Average Salary Survey, 2022). The majority claimed that they make between €20,001 and €30,000 annually, followed by €30,001-€40,000.

Additionally, 20.5% of Maltese investors claimed to make more than €50,000 annually which, in comparison to the typical Maltese salary, is high.

5.2.2 Level of Knowledge of Investors

This study also evaluated whether the investors are genuinely knowledgeable because one has to be knowledgeable about the topic to make an informed decision. If a person makes an investment without fully understanding it, they are either gambling, or under the influence of another person. Furthermore, the notion that knowledge is often associated with having a greater level of income was challenged. To establish any patterns, knowledge of cryptocurrency was compared to various income levels. This study suggests that there is a difference in knowledge between individuals whose yearly income is below €20,000 and those whose income is over €50,001, based on the findings discussed in Section 4.5.1. Similar differences are seen between individuals making between €20,000 and €30,000 and those making above €50,001. This means that top earners who make more than €50,001 have the most in-depth knowledge of the subject, indicating that there is a knowledge gap between poor earners and high earners.

According to the data collected from the questionnaire, it appears that most investors do not have a complete lack of understanding about the topic. Some 39.7% claimed to have a basic level of knowledge, while another 37.4% claimed to have a good level of knowledge. Only 11.2% of the investors have advanced expertise in this area, compared to just 9.6% who have poor understanding. Relating back to the literature, the study by YouGov found that 98% of those people who claimed that they understand cryptocurrencies failed a quiz on basic concepts of Bitcoin, stablecoins, and NFTs (Strack, 2021).

Therefore, this could imply that respondents might claim to know more than they actually do.

In addition, the analysis found differences in knowledge across different categories of education levels when expertise across different levels of education was put to the test. At MQF Level 8, followed by MQF Level 6 and MQF Level 7, there is the greatest disparity between knowledge and education level, indicating that there is a considerable knowledge gap if one is well qualified. Therefore, investors in cryptocurrencies with minimum education levels, such as those with no formal education or MQF Level 3, also have poor awareness of cryptocurrencies.

Finally, one's understanding affects how much one invests in cryptocurrencies. As seen in Section 4.6.1 of the study, this link was statistically significant, indicating that investors who are more informed about the topic are more likely to invest more. This is reminiscent of the study by Deutsche Postbank (2018), where 50% of the respondents never invested in cryptocurrencies due to their insufficient knowledge. Age and income were also correlated with this, and thus, the more mature and wealthier the investor is, the greater the amount of money they would risk.

5.2.3 Investment Strategies and Motivations to Invest

Knowing one's initial motivations for investing and the approach one takes to investing may aid in understanding why Maltese investors are looking to buy these investments and how they behave while doing so. By analysing the data using Friedman's test, the author was able to determine that there are several

reasons why investors choose to invest, and that everyone has a unique set of objectives.

The information obtained indicates that long-term growth is the primary motivation for investors to acquire cryptocurrencies, with price speculation being the secondary major driver. This is consistent with the literature since Baur et al. (2018) demonstrate that the primary use of cryptocurrencies is as a speculative investment. Moreover, the researcher observed, through linear regression, that individuals pursuing cryptocurrencies for long-term growth are the ones with lower income, hoping to get richer by this means, as the investors with high annual income do not seek cryptocurrencies for long-term growth.

According to Guesmi et al. (2019), cryptocurrencies are a perfect alternative investment vehicle for portfolio diversification. As per the data gathered in this study, Maltese investors likewise consider this to be a common, but less significant than speculation long-term growth. Interestingly, through linear regression analysis, this study also confirms that all investors are speculating in one way or another, as observed in Section 4.6.2. DeMatteo (2022) highlights that the most common motive for people to seek cryptocurrencies is speculation in the hopes that the asset will be worth more over time.

According to this data, a self-managed portfolio looks to be the most popular investment technique, closely followed by the ‘buy low sell high’ method. In contrast, relatively few people use a portfolio manager to handle their cryptocurrency investment because this turned out to be the least popular investing strategy. This study used regression analysis to arrive at the

conclusion that people who are more knowledgeable about cryptocurrencies are also more likely to self-manage their investments.

While the survey included responses from those who have previously purchased cryptocurrencies, it also explored the factors that discourage investors from making additional investments in these assets. There are several issues that deter investors from seeking out more of these assets, as was noted in Section 4.5.4 through the Friedman's study. The most discouraging reasons were primarily market collapses and extreme volatility. This rather contradicts Backman's (2021) explanation, who acknowledges that these assets are undesirable because of poor adoption. This, however, is consistent with Zdenek et al.'s (2021) findings, noting that the most unappealing feature of cryptocurrencies is their high volatility.

5.2.4 Assessing Herd Behaviour

It is well known that herd behaviour, as described by Mokhtarian and Lindgren (2017), contributed to the rise in popularity of cryptocurrencies, which can provide exceptional returns compared to conventional investments. Individuals who behave in this way mimic others in hopes of making money, but when this does not work out, there are significant losses at stake. Therefore, this study served as an understanding and assessment of the herd behaviour environment within the Maltese cryptocurrency investors.

Regression analysis allowed the study to draw the conclusion that herding behaviour is quite evident in Malta's cryptocurrency industry. Additionally, the study suggests that herding drives gambling behaviour, and that, due to their

positive correlation, those who herd tend to bet more. This further demonstrates the irrational nature of these investments as people who make unacknowledged investments as a result of herding are pushed to embrace a gambling strategy.

Additionally, regression analysis in Section 4.6.3 of this study's findings showed that people who behave in a herd are uninformed about the investments they are making. This is especially concerning because, making these investments entails significant risks, with the possibility of losing most of the money invested. Through their research, Ghosh et al. (2016) also identified herd behaviour, which supports the idea that the value of a cryptocurrency asset plummets as soon as people become aware of its true worth. Conversely, this research confirms that informed investors are unaware of the risks associated with their investments.

Based on the data acquired in this study, it is clear that investors follow the advice of others and are therefore affected in their investing choices because of a lack of understanding. Indeed, many respondents acknowledged that they turn to these herding sources for additional information and expertise. In addition, based on the success of the influencing factor, many also depend on other people.

Regression analysis employed in this research also led to the intriguing conclusion that investors who invest in cryptocurrencies for quick profits are more likely to exhibit herding behaviour. In fact, regression research further showed that herding even occurs among those who use the ‘buy low sell high’ approach, a popular investment tactic for those trying to invest in

cryptocurrencies for a fast profit. This is also in line with the literature as Rodriguez's (2021) study found that 44% of crypto investors invested in cryptocurrencies in hopes of high short-span growth.

5.3 Conclusion

The analysis in this chapter aimed to explain and discuss the quantitative data gathered in this study. The tests conducted brought about several interesting conclusions.

The majority of investors in Malta are young individuals, especially those between the ages of 25 and 34. Elderly people and teenagers are not frequently observed within the market. Most people have a significant level of education—at least a MQF Level 5—and the majority have a MQF Level 7 (Master's Degree).

Most participants also reported having average income, while a sizable percentage also claimed to earn more than the typical person in Malta. The income distribution also showed a difference in cryptocurrency knowledge, with people in lower income groups appearing to know less than those in higher income brackets.

The analysis also revealed that consumers search for these instruments for a variety of reasons, with long-term growth standing out as the primary one. Therefore, persons in lower income brackets predominantly search for cryptocurrency.

The self-managed portfolio is seen as the most popular investment method, but experienced investors appear to use it most frequently. This is followed by the ‘buy low sell high’ technique.

Significant herd behaviour was observed in this study. The concept that Maltese cryptocurrency investors typically imitate other investors was substantiated by several results. The study found that herding affects gambling behaviour as well, with herders frequently gambling more.

Additionally, the findings demonstrate that persons who exhibit herd behaviour are unaware of the hazards associated with their financial decisions. Due to their ignorance of the subject, it has been shown that many people rely on other people's opinions, rather than seeking out more knowledge and experience. Lastly, investors who join the market in search of instant gains do so in a herd-like manner. In actuality, this kind of behaviour is exhibited by people who choose the ‘buy low sell high’ approach.

Chapter 6: Conclusions and Recommendations

Chapter 6: Conclusions and Recommendations

6.1 Introduction

This chapter concludes the research with a discussion and concluding observations of the main findings and significance of the study. Additionally, a few recommendations are offered for potential future studies.

6.2 Summary of the Research

Studying the demographic and socioeconomic background of Maltese cryptocurrency investors was one of the study's main goals. While identifying the most common investors, the author attempted to illustrate the diversity of the investing community. The study also explored what drives consumers to invest in these assets, and what deters those same investors from investing more. Another key goal of the study was to identify any herding behaviour by determining whether investors are affected by others, and what information sources they utilise to make investment decisions. This was then linked to which category of people tend to pursue this kind of behaviour.

The researcher used social media to distribute a questionnaire to a number of Maltese investors in order to gather all these insights. Since the questionnaire included certain personal questions and was completed by those who had made some investment in cryptocurrencies, the responses were fully anonymous. A total of 385 valid replies were obtained by the researcher, which was sufficient enough to reflect the Maltese population.

The survey's first section included questions about demographics and socioeconomics in order to collect information about the investors' background, requiring respondents to provide their age, gender, average yearly income, and highest level of education. The questionnaire proceeded by inquiring about the investor and cryptocurrencies, while probing the extent of the respondent's knowledge of the topic, the main motivations for investing in these instruments, and the total amount invested in cryptocurrencies as of May 2022. The rest of the questionnaire was designed to identify any herding behaviour, and the investors were asked about their information sources, their level of influence when picking an investment, why they rely on other people's opinions, whether they have ever copied a trade, and whether they know what they are doing. Moreover, the participants were asked about their investment strategy for cryptocurrency investments, as well as what hinders them from investing more than they presently do.

An analysis of the responses using the SPSS programme followed, through which a number of tests and analyses were carried out to compile significant data and offer a conclusion that addressed the study's research objectives. Descriptive statistics and pie charts of frequency were used, as well as a number of non-parametric tests, including Friedman and Kruskal-Wallis tests, which were followed by a number of tests of linear regression.

Subsequent to a thorough analysis, the data indicated that, as in all other nations around the world, men dominate the market. Additionally, young individuals in Malta, particularly those between the ages of 25 and 34, make up the majority of investors. It further transpired that teenagers and the elderly are not typically observed in the market. The majority possess a strong level of

education—at least a MQF Level 5—and the majority have a MQF Level 7 (Master's Degree), which indicates a well-rounded formal education.

The majority likewise fall within the average income range; however, a sizable group also declared to have high income in comparison to Malta's average income. The distribution of income also revealed a difference in the extent of cryptocurrency knowledge, with individuals in lower income categories appearing to be less knowledgeable than those in higher income brackets. However, a significant group of individuals asserted to have at least a basic level of expertise in cryptocurrencies.

The survey also found that there are a number of reasons why people look for these instruments, with long-term growth standing out as the main one. Data revealed that people in lower income categories look primarily for cryptocurrencies for this reason. What followed was speculation, which transpired to be common throughout the community as a whole. However, it has also been noted that many people are discouraged from investing more money than they already do because of the severe volatility and frequent market crashes associated with these assets.

Meanwhile, the self-managed portfolio is perceived as the most popular investment method, but experienced investors appear to use it most frequently. Next was the ‘buy low sell high’ technique.

In this research, significant herd behaviour could be noted. Numerous findings supported the idea that Maltese cryptocurrency investors frequently copy other

investors. According to the research, herding also influences gambling behaviour, with individuals who herd often gambling more.

Additionally, this finding demonstrates that persons who exhibit herd behaviour are unaware of the hazards associated with their financial decisions. Due to their ignorance of the subject, it has been shown that many people rely on other people's opinions, rather than seeking out more knowledge and experience. Additionally, for many investors, their reliance is partly dependent on the success of the information source. Finally, investors who enter the market in search of instant gains do so in a herd-like manner. In actuality, this kind of behaviour is exhibited by people who choose the ‘buy low sell high’ approach.

6.3 Significance of the Study

The study's conclusions give Malta's cryptocurrency investors a personality. They establish the backgrounds of the majority of investors, the reasons why individuals look for these investments, and what causes herding behaviour in people. The study further explains why individuals follow other people's advice, and what discourages investors from making larger investments in these assets.

The researcher also wanted to determine whether Maltese investors are knowledgeable about their cryptocurrency investments, or whether most people simply invest after being influenced by people around them, hence herding. Therefore, the study also aimed to capture any herding behaviour. This behaviour is usually linked to the cryptocurrency market due to extreme price

fluctuations that these assets sometimes experience and due to the fact that this subject has been a hot debate for years, especially through social media platforms.

The study is also significant because it warns platforms that allow cryptocurrency trades to be vigilant of who their investors and target customers are. This research provides information about Maltese cryptocurrency investors, which may be helpful when focusing advertising for cryptocurrency-related products and services.

The value of this research also lies in the fact that it enables experts and researchers involved in the adoption of cryptocurrencies to recognise who makes up the bulk of the market. This survey offers demographic information about the most common age, gender, and level of expertise among cryptocurrency investors.

Furthermore, as this study reveals the significance of herd behaviour in these trades, this has implications for both these platforms and regulators. Platforms and authorities should take into consideration the fact that herding can be a risky activity, potentially leading to a person losing income that they might need for their everyday lives. Platforms that allow users to invest in cryptocurrencies should explicitly aim to educate their consumers through advertising or by letting them trade based on their degree of knowledge by administering a test to the users.

6.4 Recommendations for Further Research

This study looked at cryptocurrency as a potential investment vehicle. Of course, cryptocurrency can also be used to purchase goods and services. It would be interesting to learn how cryptocurrencies would be implemented and accepted as a means of payment, and whether users would be interested in their usefulness from the perspective of Maltese citizens.

The integration of cryptocurrencies in funds administered by Maltese firms can also be the subject of another investigation. Interviews with fund managers from various Maltese companies would be necessary for this study in order to get their perspectives on whether they already include cryptocurrencies in their funds, and whether they would consider doing so.

Lastly, it would be fascinating to examine herding behaviour in other fields, given that it has been noted in the cryptocurrency market. More significantly, a study exploring herd behaviour in politics would undoubtedly be significant. It might even be correlated with these findings in terms of who is most prone to herd.

6.5 Conclusion

The primary aim of this study was to delve into the cryptocurrency market in Malta. As cryptocurrencies have surged in their popularity, with some people outrightly forbidding their adoption and investment, others perceive these virtual currencies as a way of the future and as an ideal investment vehicle.

This research gives a background of who the Maltese investors are, mainly the demographic and socioeconomic backgrounds of most investors. More interestingly, the research provides insight into what inclines investors to put their hard-earned money into these investments, and what discourages them from investing more than they already do.

People make investments when they put their hard-earned money into an investment, hoping that it will eventually provide a payoff for them. Therefore, it is crucial for an investor to be aware of both the potential rewards and losses by understanding the risks associated with the investment. Due to market herding behaviour, this is not always the case with Maltese investors.

Finding evidence of herding in Malta's cryptocurrency market hints at a number of ideas. Firstly, this supports the conclusion reached by the vast majority of studies conducted worldwide, namely, that market herding makes it improbable that these cryptocurrencies are accurately valued. Confirming herding also implies how simple it is to influence individuals on social media to engage in a particular action, in this context, invest in a financial product. Finally, this demonstrates that a sector in Malta engages in herding behaviour, albeit many other sectors may also exhibit similar behaviour.

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Appendices

Appendix 1: Structured Questionnaire

An analysis of investment behaviour in cryptocurrencies in Malta

Dear participant, I am a student at the University of Malta, reading for an MSc in Risk Management & Insurance. Currently I am conducting research for my dissertation, entitled

"An analysis of investment behaviour in cryptocurrencies in Malta" under the supervision of Dr. Jonathan Spiteri.

The aim of my dissertation is to analyse the investment behaviour in cryptocurrencies in the local scenario. The study delves into the motives of investing in cryptocurrencies, herd behaviour, demographic and socioeconomic backgrounds of investors, and others. The estimated completion time of this survey is of 5 minutes.

Should you agree to participate, I guarantee that:

You will not be asked to enter any sensitive information that may identify you and your anonymity throughout this research is guaranteed. Only I, Matthew Degiorgio, will have access to the data, which shall be stored on a secure drive. All data will be stored for a maximum of two years before being destroyed.

All information provided in this survey will be used solely for the purpose of this dissertation. Your responses will assist in the development of new knowledge and insights related to investment behaviour in cryptocurrencies in Malta.

Participation is entirely voluntary, and you are free to quit the survey at any moment and for no reason. All data collected prior to quitting the

survey will be deleted from records. You are free to withhold your responses or close the window at any time.

There is no deception in the data collection of this questionnaire, and no risks (either physical or otherwise) are foreseen.

Your rights under the General Data Protection Regulation (GDPR) and the Malta Data Protection Act 2018 to access, rectify, and where applicable erase your data from records will be upheld at any time, upon request.

Your participation and time to contribute to this research is appreciated.

Should you require any information or clarifications, please do not hesitate to contact me via email on matthewdeg99@gmail.com

Thank you, Matthew Degiorgio

By clicking ‘Next’ to continue, you are consenting to take part in this study.

1. Have you ever traded or invested in cryptocurrencies? *

Mark only one oval.

- ◯ Yes
- ◯ No

An analysis of investment behaviour in cryptocurrencies in Malta

2. Gender *

Mark only one oval.

- ◯ Male
- ◯ Female
- ◯ Other

3. Age *

Mark only one oval.

- ◯ 18-24
- ◯ 25-34
- ◯ 35-44
- ◯ 45-54
- ◯ 55-64
- ◯ 65+

4. What is your highest completed level of education? *

Mark only one oval.

- ◯ No formal education
- ◯ MQF level 3: Secondary
- ◯ MQF level 4: Matriculation certificate / Upper secondary
- ◯ MQF level 5: Undergraduate diploma / certificate
- ◯ MQF level 6: Bachelor's degree
- ◯ MQF level 7: Master's degree / Postgraduate diploma
- ◯ MQF level 8: Doctoral degree
- ◯ Other: _____

5. What is your annual average net income? *

Mark only one oval.

- ◯ Below €20,000
- ◯ €20,001 - €30,000
- ◯ €30,001 - €40,000
- ◯ €40,001 - €50,000
- ◯ Above €50,001
- ◯ Prefer not to say

6. What is your level of knowledge on cryptocurrencies? *

Mark only one oval.

- ◯ Very poor
- ◯ Poor
- ◯ Basic
- ◯ Good
- ◯ Advanced

7. Up to May 2022, how much have you invested in cryptocurrencies in total? *

Mark only one oval.

- ◯ €0 - €500
- ◯ €501-€1000
- ◯ €1001 - €2000
- ◯ €2001 - €5,000
- ◯ €5,000+

8. What is the main reason behind investing in cryptocurrencies? *

Mark only one oval per row.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Gambling	◯	◯	◯	◯	◯
Store value	◯	◯	◯	◯	◯
Speculate against its price hoping to be worth more in time	◯	◯	◯	◯	◯
Long-term growth	◯	◯	◯	◯	◯
Short-term growth	◯	◯	◯	◯	◯
Thrill of trading	◯	◯	◯	◯	◯
Diversification benefits	◯	◯	◯	◯	◯
Hedge against inflation	◯	◯	◯	◯	◯
Pursue success others had	◯	◯	◯	◯	◯

9. Before and whilst investing/trading, to what extent do you utilize the following sources of information? (1 being the least and 5 being the most) *

Mark only one oval per row.

	1	2	3	4	5
Crypto forums (reddit, telegram, discord, etc)	◯	◯	◯	◯	◯
Own research	◯	◯	◯	◯	◯
Following market news	◯	◯	◯	◯	◯
Friends	◯	◯	◯	◯	◯
Family	◯	◯	◯	◯	◯
Work colleagues	◯	◯	◯	◯	◯

10. Do you follow any investment strategy for your crypto investments? *

Mark only one oval per row.

	Never	Rarely	Occasionally	Often	Always
Copy trading (etoro)	◯	◯	◯	◯	◯
Self-managed portfolio	◯	◯	◯	◯	◯
Fund managed by portfolio manager	◯	◯	◯	◯	◯
Buy low, sell high	◯	◯	◯	◯	◯
Other	◯	◯	◯	◯	◯

11. Do you consider yourself to know what you are doing? *

Mark only one oval.

- ◯ Yes
- ◯ Sometimes
- ◯ No

12. Have you ever copied a trade (purchased or sold a cryptocurrency) because someone else told you so? *

Mark only one oval.

- ◯ Yes
- ◯ Sometimes
- ◯ No

13. How likely are you to be influenced by the below factors to be invest in cryptocurrencies? *

Mark only one oval per row.

	Very unlikely	Unlikely	Neutral	Likely	Very likely
Family members	◯	◯	◯	◯	◯
Friends	◯	◯	◯	◯	◯
Colleagues	◯	◯	◯	◯	◯
Online platforms	◯	◯	◯	◯	◯
Influencers/celebrities (ex: Elon Musk)	◯	◯	◯	◯	◯

14. What are the reasons you rely your investment based on other people's advice? *

Mark only one oval per row.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
More knowledgeable					
More information					
Trust other people's judgement					
Based on their success					
Other reasons					

15. What discourages you from investing more than you already do? (1 being the least discouraging and 5 being the most discouraging) *

Mark only one oval per row.

	1	2	3	4	5
Market crashes					
High volatility					
Low adopting					
Unregulated market					
Scams/theft					
Lack of savings					
Other factors					