Executive summary

The young crypto market accommodates more than 250,000 transactions every day. Yet, it is burdened by volatility and high susceptibility to recent developments. Its controversy has intensified investor sentiment and gained rapid popularity in news and public media. One approach to analyse the phenomena in crypto is by leveraging behavioural finance. It has previously examined the role of emotions in trading in other financial markets. However, even though crypto behaves similarly to stocks, the digital assets are considered immature and are still in the process of being understood. Further investigations are needed to determine what drives the high volatility and what deters its adoption. Scholars have recognised this and research has sharply increased in the last couple of years with an ever growing speed.

The purpose of this study is to provide a review and structure of the yet fragmented field of research on what are the emotional impacts in crypto trading. I provide a focused overview by addressing two research questions (RQ) and answer them in two studies respectively: RQ1: What is the current research on the role of emotions in crypto trading behaviour? RQ2: What are the emotional impacts of the individual trading order transactions? I thereby limit the scope of the review to the affective side of behavioural finance, which otherwise is complemented by cognition. The implications refer to the trading of crypto assets, which include digital currencies, all types of blockchain applications, smart contracts and ICOs.

The first study is a literature review, following the guidelines of a systematic research methodology. It outlines the current literature body by noting the patterns, the main findings and identifies the research gaps in the current state of the art. I conducted a key-word search in five databases and complemented the selected papers with other sources from forward and backward search. The final sample for full-article review consists of 86 peer-reviewed articles in top journals and conferences, selected according to specific inclusion and exclusion criteria.

The results of the systematic literature review reveal that public sentiment is a significant predictor of the crypto trading variables in the short term. Price, return, volatility and trading volume have a bi-directional positive relationship with sentiment. Positive emotions and optimism lead to price increases and positive returns. Such changes boost the trading activity overall, featured by higher frequency and more volume per transaction. However, in times of uncertainty the impact of positive sentiment becomes conditional. On the one hand, uncertainty keeps the momentum of either rising or falling prices for longer, thus increasing volatility. An example of such timing effects that moderate the relationship are bubble formations, as the one seen in 2017. On the other hand, when uncertainty is paired up with other emotions, the overall sentiment can quickly change in another direction. As a result, such implications are relevant for a restricted time frame and long-term effects are difficult to determine. Negative affect remains a significant predictor even in turbulent times and when the market dynamics slow down. The most vivid recent example is the COVID-19 pandemic, after which the sentiment impact aggravated. Yet, although negative emotions are more powerful in influencing the trading variables, the overall tone for crypto tends to be positive. The more optimistic language subsequent to positive sentiment in news and social media channels explains the trend of the cryptocurrencies' appreciation over time.

Most scholars study the market on a collective level. Hence, they are only able to indicate overall social sentiment. However, an individual-level perspective would be more accurate as it would grasp peculiarities, and the exact direction of the decision making. The circumstances under which traders decide to either buy or sell crypto are not yet clearly defined. Furthermore, the existing inferences are made based on the estimation of overall positive and negative sentiment, while specific emotions and their role are rarely discussed in detail. Lastly, the phenomenon of uncertainty is widely studied. Yet, its moderating role has a long way to go before we know to what extent it can alter crypto-trading behaviour.

To address some of these research gaps, I propose a research study design in the second study of this thesis. It brings forward novel research areas on a more granular level of trading decision making. It points to the second research question focusing on the emotional impacts of the individual trading order transactions. The suggested quantitative survey design in collaboration with a trading application has a few contributions. Firstly, it takes the perspective of the individual trader. Secondly, it identifies which are the specific emotions that provoke their trading behaviour. Thirdly, these are linked to the decision outcome of whether to buy or sell a crypto asset. Furthermore, the combined result is indicating whether these are the ingredients of a profitable trading strategy, compared to other trading assumptions.

The primary data collection of the study design aims to test whether positive emotions foster buying behaviour, and respectively – negative emotions are driving the selling of crypto. To do that I would employ a logistic regression. It would use the specific emotions from the standardised measure of PANAS-X. On the positive spectrum, Joviality and Attentiveness are expected to be significant, whereby Self-Assurance would have the highest impact attributed to the overconfidence bias. On the negative spectrum, Fear, Sadness and Hostility would all play a significant role. In addition, the strength of the previously established relationships is checked once again with the inclusion of Uncertainty as a moderating factor. Finally, the net return of the different order transactions is compared to determine whether emotions can influence profitability. The more immediate the trading decision and the more emotionally involved, the more investment mistakes people tend to make. Therefore, emotional irrationality may lead to potential losses. These findings are relevant for both the trading apps as service providers, who will better understand the experiences of their users, and help the individual traders to avoid mistakes due to sentiment.

Unexplored remain the long-term effects and the development of crypto trading markets. Despite the momentous emotional states, the implications on the value perception are only

briefly touched. Consequently, the reputation of crypto and its long-term development are to be scrutinised by future research. Filling this research gaps will contribute not only to the scientific advancements, but also to the main players in the crypto-market arena including individual traders, companies, government institutions and the society as whole. By better understanding their affect and biases, individual traders can create more sophisticated profitable trading strategies. By knowing the demand, firms can better evaluate the opportunity of issuing more ICOs instead of more equity. Moreover, government institutions can better estimate the risks of taking a step forward and following the example of El Salvador and Central African Republic to adopt crypto as an official currency.

Younger and not yet as mature as other financial markets, the crypto market is featured by high volatility and even more opportunities for speculation. With these prerequisites for irrational behaviour and the fear of missing out the role of emotions earned special attention in research, especially in the last couple of years. On the one hand, the current state of the art of the yet fragment field of emotions in crypto trading is presented in a more structured framework. The findings enfold the changes of the dependent crypto trading variables. On the other hand, to address some of the identified research gaps, I suggest a survey study design in collaboration with a crypto trading app. It shifts the focus to the psychological emotional states as independent variables and how they shape the crypto-trading decisions and thereby scrutinises the relationship between specific emotions and crypto on a more granulated level. Nevertheless, the still maturing the crypto market will further propel new research areas to provide a more in-depth overview under which circumstances and to what extent are specific emotions driving the trading of crypto.