Initial Token Offerings, Friend or Foe?

A qualitative study of capital procurement using initial token offerings

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Master of Science Thesis TRITA-ITM-EX 2018:445
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Kapitalanskaffning och kryptovalutor
En kvalitativ studie av kapitalanskaffning med initial token offerings

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Abstract

This thesis investigates the emerging phenomenon of Initial Token Offerings, which is a tool for capital procurement for ventures being built using token ecosystems within their products. Through a series of interviews with representatives from venture capital, blockchain specialized venture capital, investors, and academia, the author connects the sentiments held by those representatives to the existing literature of behavioral economics. The sentiments expressed mainly focus on: the role of regulations; the development of investors during capital procurement; and the potential for experimentation in the field of token economies. The thesis discusses the implications of the technologies and potential future outcomes. The author also raises the question of whether this is the first non-regulated financial ecosystem that could provide an interesting perspective for behavioral economists as future research is done on the effects of regulations.

Key-words: initial token offerings, crowdfunding, behavioral economics
Sammanfattning

Den här uppsatsen undersöker det nya fenomenet Initial Token Offerings, ett verktyg för kapitalanskaffning för bolag som bygger produkter med en kryptografisk token ekonomi som en del av sin plattform. Genom en serie intervjuer med representanter från riskkapital, blockkedjespecialiserat riskkapital, investerare och forskare försöker författaren koppla de koncept och tendenser som tas upp i intervjuerna till fältet beteendeekonomi. The koncept som tog upps består till största del av: den roll regulatoriska aspekter kan spela; utvecklingen av investerarens roll vid kapitalanskaffning; och vikten av fortsatt experimentation gällande finansieringsmodeller inom kryptografiska tillgångar och plattformar. Uppsatsen diskuterar också implikationer och möjliga framtida resultat. Författaren lyfter också frågan om kryptografska tillgångar ger forskare en unik möjlighet att studera effekterna av individers tendenser och regulatorisk påverkan ur ett beteendeekonomiskt perspektiv.

Nyckelord: initial token offerings, crowdfunding, beteendeekonomi
Preface

This thesis would not have been possible without Fabian, my supervisor who through conversations helped guide me forward; Claire, who helped me both before the thesis even began but also helped out along the way; and also the interviewees, who kindly accepted my invitations to sit down and have conversations with me.

Thank you for making this possible,

Robin
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1 Introduction

“Probably rat poison squared,” says Warren Buffett, it “Ought to Be Outlawed” says Nobel Laureate Joseph Stiglitz. Bitcoin and cryptocurrencies received much attention during 2017, alternatives to the printed bills and minted coins the digital currencies are not created by a government or a singular entity but is supported by a small team of developers using blockchain technology. The digital coins have opened up for innovations, and entrepreneurs are trying to grasp the potentials within this new field of applications. Robert Shiller, also Nobel Laureate, is doubtful regarding the permanence of these digital currencies, arguing that Bitcoin and similar implementations will not become permanent features of the financial world. These new cryptocurrencies are argued back and forth concerning their ability to circumvent regulations and if they can replace traditional means of value transfer. However, a critical aspect of them is also the way they can change how venture capital is structured and facilitated.

As blockchain application platforms grew in size, so did their need for capital procurement in order to support their growth, and as early startups in an open-source community, the ways of gaining capital and structure the applications as a venture or company seemed few. Here emerged initial token offerings as a tool for providing entrepreneurs with a digital, decentralized, means of crowdfunding from the community surrounding the open-source projects. Although not all venture that uses initial token offerings (ITO) today are open-source, many of the successful ones are. However, the effects of crowdfunding in this capacity are far from clear.

Crowdfunding has been viewed through the lens of many academic fields, including; game theory (Turi et al. 2017), economics (Agrawal, Catalini, and Goldfarb 2014), entrepreneurial venture (Ingram, Teigland, and Vaast 2013), as well as discussions on their statistics, implications, and underlying effects (Mollick 2014). However, there has been very little interest in examining the implications, underlying assumptions, and models for the investment model of Initial Token Offerings. Behavioral economics have revealed interesting insights in other areas, but its application to crowdfunding and, particularly, ITOs. Most of the material surrounding blockchain-based platform have speculated in the future effects of the technology, but few combine the viewpoints of the market. This thesis aims to bridge this gap. Through alignment of sentiments held both by traditional actors who remain cautious; investors who have dared to cross into the field of cryptographic assets; and
finally, that of academia. In order to provide support both from empirics but also applied theory. This thesis aims to provide a partial bridge of the gap between the effects observed in the market and using behavioral economics to relate the findings.

With these recent developments of 2017 and the growing interest for cryptocurrencies and its applications, it raises the questions as to what benefits there are to be had by participating in initial token offerings - both for investors and fundraisers alike. This thesis aims to provide the reader with an understanding of the current sentiments of investors, crowdfunders, and researchers within the sphere of ITOs in Sweden. It aims to explore the relationships and opinions held by actors within the field of cryptographic and traditional investments. As to guide the research, the following research questions have been formulated:

**Primary research question**: What are the sentiments held by investors and academia relating to initial token offerings?

**Secondary research question**: What, if any, effects suggested by behavioral economics can be observed in regards to the sentiments identified?
2 Background and theoretical framework

2.1 Crowdfunding

Crowdfunding has emerged as a new way of providing financial capital to new business ventures. Platforms have emerged that facilitate the mediation of financial capital, securities, and other mediums of exchange to raise capital from a crowd. The crowdfunding community was founded in part because of the high barriers to entry within traditional investment; where requirements are high for both parties involved in the transaction. With crowdfunding, web platforms such as Kickstarter, Pepins, or even traditional banks \(^1\) are providing more people with investments opportunities and for more people to seek investments for their ideas and products without having to use an investment bank with managing the funding rounds.

It is, however, important to note, crowdfunding is not to be confused with crowdsourcing. Brabham (2013) illustrates the differences: “crowdfunding describes a funding model for financing projects and ideas through general public participation in soliciting funds, while crowdsourcing is a distributed problem-solving and production model to leverage the collective intelligence of online communities to serve specific organizational goals.” Both Brabham (2013) and Griffin (2012) align on the idea that crowdfunding is few or singular investors provide the process of acquiring capital from a large number of investors simultaneously - as opposed to traditional funding.

Griffin (2012) highlights the fact that most crowdfunding ventures are performed with the aid of digital intermediaries in the form of platform available on the Internet, describing it as “a means of capital formation that connects entrepreneurs with investors over the Internet.” Figure 1 shows the ecosystem of crowdfunding\(^2\); where founders, backers, venture capital, and crowdfunding service providers, operate within the confines of laws and regulations and shows the routes used for transfer of capital between the parties.

2.1.1 The different drivers of crowdfunding

Not all types of crowdfunding are equal, Ingram (2018) identified four drivers or versions of crowdfunding in the literature; donation, rewards, equity, debt issuance. These are displayed below in Table 1.

\(^1\)See Nordea Finland: https://crowdfunding.nordea.fi/
Figure 1: Ecosystem of crowdfunding. Image from Beaulieu, Sarker, and Sarker (2015)
Donations

Donation-based crowdfunding where the reward to the investor is intangible and have no economic value other than to the investor. This means of reward scheme is not unusual in crowdfunding. Previously adopted mainly by large non-profits such as the Red Cross and Médecins Sans Frontières, the donation-based model has been seen to be deployed successfully when investors perceive the impact of the venture to be substantial enough for the community or prospect for the consumers to merit an investment (Belleflamme, Lambert, and Schwienbacher 2014). Donations rely on altruistic and philanthropic reasoning by the investor.

Rewards

The rewards-based model has proven to be successful on platforms such as Kickstarter, where funding has been provided to numerous projects; including the smartwatch Pebble that raised more than $20 million. The model provides investors with tangible rewards in exchange for monetary investments. The rewards can be done through early-access offerings of products being produced, “first of the line”-editions, and other novelty products; including merchandise such as t-shirts, stickers, and tote bags. Rewards have been shown to act as a motivational trigger for investors (Thürridl and Kamleitner 2016).

Equity

Equity in regards to crowdfunding is not the same as equity within accounting practices but is to be considered as a stock share or ownership of the venture. Equity crowdfunding is a form of financing in which entrepreneurs make an open call to sell a specified amount of equity or bond-like shares in a company on the Internet, hoping to attract a large group of investors (Ahlers et al. 2015). The exchange of capital for equity is one where the investors make bets on the future success of the organization. The product or service being offered
Debt

Similarly to equity, debt in regards to crowdfunding is not to be understood as debt in accounting, but as an outstanding loan or a bond that the venture can extend to investors. Similar to bank loans, an interest rate drives peer-to-peer lending; the cost of capital the investors attributes to their investment. Peer-to-peer lending is not a widely applied funding model for crowdfunding, but platforms do exist, and the area has been researched. Researchers of peer-to-peer lending have questioned the ability of organizations to use the lending mechanism as a way of raising capital, as their insufficient credit history may stave of potential investors (Lin, Prabhala, and Viswanathan 2009).

<table>
<thead>
<tr>
<th>Driver</th>
<th>Description</th>
<th>Example of platforms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Donations</strong></td>
<td>Investors contribute financial resources with no expectations of tangible or intangible returns. Non-profit organizations often adopt the model.</td>
<td>Kickstarter, Indiegogo, GoFundMe, CrowdCulture</td>
</tr>
<tr>
<td><strong>Rewards</strong></td>
<td>Investors contribute financial resources with expectations of tangible returns. Could be a product or a service that the venture aims to deliver that is then promised to the investors.</td>
<td>Kickstarter, Indiegogo, CrowdCulture</td>
</tr>
<tr>
<td><strong>Equity</strong></td>
<td>Investors provide capital investments in hopes of financial returns as the venture grows and becomes profitable.</td>
<td>FundedByMe, Pepins, Crowdcube, Tessin</td>
</tr>
<tr>
<td><strong>Debt</strong></td>
<td>Investors issue debt to fundraisers, that are paid back over a period of time with interest.</td>
<td>Trustbuddy (bankrupt 2015), Lending Club, Mintos</td>
</tr>
</tbody>
</table>

2.1.2 The effects of crowdfunding

Crowdfunding is often mediated through web services, such as Kickstarter or Indiegogo, which shape their platforms in ways that will impact the
which possibilities for data representation possibilities that will be available to ventures. While also presenting the investors with a reduced form of the venture, as some information loss will occur in the translation between mediums such as text and video. This reduction of availability of information will favor certain projects over others. Projects that are harder to explain without social feedback cues would be less able to achieve fair funding on the platforms. Alternatively, provide it at an increased cost of capital compared to traditional sources of funding. (Agrawal, Catalini, and Goldfarb 2014).

The venture who manages to signal quality using the reduced medium of a web service are often successful compared to those who fail to provide sufficient signals to the market (Mollick 2014).

The ability to assess the potential of investment opportunities is one of the significant factors for traditional investors, but while also being able to invest based on the knowledge that may not be widely available. Crowdfunding ventures are required to broadcast their project above a confidence level that can guarantee a return that outweighs the potential loss an investor may incur (Turi et al. 2017).

Turi et al. (2017) found that entrepreneurs are willing to subject their projects to crowdfunding when there is no fear of disclosure. The crowdfunding process subjects the projects to different ways in which they have to emit trustworthiness and reliability to the investors. They also identified an reputation effect as serial entrepreneurs were more likely to raise funding through crowdfunding successfully. Projects that focus on specialized subjects and are timely in their execution would also benefit from an increase in trust from investors, attracting sympathetic investors to the venture by categorization rather than innovation.

It has been argued that crowdfunding allows for fraudsters to fleece uninformed investors and offerings with sub-par quality may trick potential investors with illusions of grandeur (Griffin 2012). However, Mollick (2014) found that the majority of successfully funded rewards-based crowdfunding venture deliver the promised goods, but that the projects are often delayed. Suggesting that the level of fraud may not have been that which was expected by some research.

There are also side-effects from crowdfunding that relate to the organizational structure of the venture. Baeck and Zhang (2014) found that equity-based crowdfunding appears to have a net positive impact on the turnover as well as employment numbers and in most cases profit levels, see Figure 2. Suggesting that at least for those three areas, there are almost guaranteed benefits to
be had with fundraising through crowdfunding. It is important to note that this was not compared to the changes occurring when funds were received from traditional investors and may provide a skewed image of the effects of fundraising.

Figure 2: Crowdfunding’s effect on profit, turnover, and employment. Image from Baeck and Zhang (2014)

But not all effects are of a positive nature. Beaulieu, Sarker, and Sarker (2015) discusses the case of a glowing plant that raised capital through crowdfunding, which after a successful venture gained much attention from environmental groups and agencies arguing that the invasive nature of the product could be harmful to other products or available natural habitats as the plant could radically change the experience of others, but for reasons that are personal. The example of somebody planting a glowing plant in a national park was used as an argument in the discussion of whether or not the glowing plant should be available in the broad consumer market.

2.1.3 Regulations in crowdfunding

Researchers believe that regulation may hold the key to increased diffusion of crowdfunding (Griffin 2012; Valanciene and Jegeleviciute 2013). With the Act (2012) enacted in 2012 the USA eased the securities regulations facing new
venture making donation-based crowdfunding a part of the establishment, but it would have to wait until an update in 2015 for the first regulations for equity crowdfunding in the USA.

The Australian government stated in 2015, where they state that there they are simplifying the process for equity crowdfunding and the reporting of such financing. China granted the first equity crowdfunding platforms licenses in 2015.

2.1.4 Details of the JOBS Act

In May 2016, the Title III of the Act (2012) regulation came into effect. The JOBS Act is to date one of the more enclosing and full regulatory implementations to date. The effects Creating “Regulation Crowdfunding” and providing the United States Securities and Exchange Commission (SEC) with a set of rules for crowdfunding venture:

1. require all transactions under Regulation Crowdfunding to take place online through an SEC-registered intermediary, either a broker-dealer or a funding portal
2. permit a company to raise a maximum aggregate amount of $1,070,000 through crowdfunding offerings in a 12-month period
3. limit the amount individual investors can invest in all crowdfunding offerings in a 12-month period and
4. require disclosure of information in filings with the Commission and to investors and the intermediary facilitating the offering

Creating both an artificial hard market-cap for ventures solely funded by crowdfunding and creating a bureaucratic process for the capital-seeking projects. The SEC also applies:

Securities purchased in a crowdfunding transaction generally cannot be resold for one year

Cryptographic assets are inherently tradeable in their current form. If cryptographic assets are to be considered securities, they would lose their ability to be traded.
2.1.5 The regulatory environment in Sweden

There is currently no specific legislation for crowdfunding in the Swedish market. An investigation (Finansdepartementet 2018) was presented to the Swedish government on the 19th of March 2018 for consideration. The report started in 2016, aimed to investigate the effects of crowdfunding, provide background and material for legislative actions on the part of the Swedish government.

The report suggests that a new entrepreneurial law is enacted, relating to the process of mediation platforms specializing in funding through the use of crowdfunding. It remains to see what the effects of the report will be. The report focuses on platforms providing the service of mediating financial resources through the use of crowdfunding. The investigation finds that the currently enacted laws in Sweden do not include nor regulate the usage of crowdfunding and suggests legal amendments, both in the form of an additional law as well as updates to the existing legal framework to support the growing economy of crowdfunding.

For this thesis, it is particularly interesting to note the clarification made in the report. Among the propositions are article 1.1: “Suggestion for the law regarding operations of mediation of financing.” The article aims to provide legislation to the use of equity and rewards based crowdfunding ventures. For the use of cryptographic assets what is important to note is the 1.1.1§2, where the legislation specifies the instruments to be considered for the law. In paragraph §2.6, when defining owner and debt shares, the legislation specifies that the service platforms are not to offer shares that are to be items of trade within the capital market, in Sweden defined as the combination of the stock market and the credit market. The current formulation leaves the market for crowdfunding platforms of tradeable cryptographic assets still unregulated.

Other state authorities have remained passive in the context of cryptographic assets and their relationship in the economy. The tax authority, Skatteverket (2014), in Sweden has provided guidelines for the accounting of cryptocurrencies which might suggest that there are at least recognition of the digital currencies and there effects from a regulatory standpoint.
2.2 Initial Token Offerings

This section will introduce the reader to a brief background of Initial Token Offerings (ITO), followed by an introduction to the concept of ITOs and the effects currently observed within the market, specifically, subsubsection 2.2.2 will discuss the current state of affairs for ITOs. But first, what are ITOs?

Initial token offerings also referred to as initial coin offerings (ICO), is a sophisticated way of combining the innovators and early adopters (Rogers 2010) of blockchain technology and the emerging markets of crowdfunding. They are said to open up new possibilities for entrepreneurs and investors alike. Tapscott and Tapscott (2017) writes:

“Done right, ICOs can not only improve the efficiency of raising money, lowering the cost of capital for entrepreneurs and investors, but also democratize participation in global capital markets.”

The technology allows for entrepreneurs to perform crowdfunding venture without a third party acting as a mediator. In an ITO the entrepreneur(s) specify an amount of capital to be raised by selling a - often - fixed number of token, the entrepreneur(s) may retain a portion of the token in which in turn exposes them for market valuation of the tokens sold. Each investor then receives a pre-defined amount tokens in relation to the committed financial capital. Catalini and Gans (2018) provides an overview of the ICO model used during the capital acquisition round:

ICO stage:

1. The entrepreneur sets the quantity of tokens, \( m_0 \); the minimum price each token will issue at, \( e \) (as an exchange for dollars [or other fiat currency]); the share of tokens the entrepreneur will retain, \( a \), and whether the ICO is made contingent on whether \((1-a)m_0\) tokens are purchased ex ante. The entrepreneur also specifies the tokens available in periods 1 and 2 (\( m_1 \) and \( m_2 \)).

2. The entrepreneur auctions the tokens (in either a multi-unit English auction or second price auction). Other agents choose to purchase tokens or not.

3. If the total purchases exceed the minimum threshold, the venture proceeds with the development of the digital platform, otherwise all contributions are returned and the venture
After a successful ICO stage, the venture proceeds to launch the platform and the tokens are often listed on exchanges where they can be traded for fiat currencies or other tokens used by other platforms. This makes many of the tokens act as shares of traditional ventures, but there are a lot of different versions of tokens that can be used by venture, these will be discussed more in depth in subsubsection 2.2.4.

2.2.1 The background for ITOs

In 2013, Vitalik Buterin published the white-paper\textsuperscript{2} for Ethereum; a decentralized computer system which would run the Ethereum Virtual Machine, enabling users to issue smart contracts which would be executed in a decentralized system and stored in a blockchain.

The Ethereum blockchains host many exciting projects and tools, one of which is the ERC20 smart contract. Fabian Vogelsteller proposed the ERC20 token standard together with Vitalik Buterin in 2015, as a way for creators to issue their tokens (e.g., Bitcoins, Ethers, Dogecoins et al.) using a standardized interface. The authors summarize as: “The following standard allows for the implementation of a standard API for tokens within smart contracts. This standard provides basic functionality to transfer tokens, as well as allow tokens to be approved so they can be spent by another on-chain third party”. By using the ERC20 tokens, new projects were able to create a token which would be used on a to-be-platform, creating a means of fund-raising without an existing platform.

The ERC20 standard was the first of its kind, but ERC223 improved the protocol. ERC20 contract was subject to an issue locking up currency once a contract had closed its withdrawal. The ERC223 standard will not allow this to happen if the receiving contract cannot emit new tokens, the currency would enter into a locked state. The ERC223 is also backward compatible with ERC20, leaving the infrastructure surrounding ERC20 intact. However, there was no change in how the capital was transferred between investors and founders. The capital acquisition model applied for the ERC20 and ERC223 are the same.

\textsuperscript{2}A white-paper may describe the project’s suggested solution, business model, development plans and relevant background information for the problem which is to be solved
With these contracts, the community has been able to create over 1600 crypto assets listed on CoinMarketCap\(^3\), with a combined market cap of $430B.

### 2.2.2 The current situation for ITOs

The market for ITO’s did during 2017 have an exponential increase in the funding being provided to fundraisers all over the world, see Figure 3. The cumulative for 2017 is $3.4B and year-to-date for 2018 being $4.9B (Limited 2018). ITO’s have been used to provide funding for projects in a variety of industries and business areas, see Figure 4 and Figure 5

![All-Time Cumulative ICO Funding](https://chart.example.com/ico_funding)

**Figure 3:** Cumulative funding for Initial Coin Offerings 2014-2017. 2017 accounts for $3.4b of the total amount

However, the motives of investment have been split between a short-term capital gain and ecosystem longevity. Tapscott and Tapscott (2017) notes that most of the investors of ITO’s are more interested in the gambling aspect of expected returns as opposed to providing funding to projects that they believe in and wish to support. Either way, ITO’s have allowed entrepreneurs to raise more substantial amounts of capital, and faster, compared to traditional venture capital (Kastelein 2017).

The ITOs have also allowed for the creation of a secondary market, which was

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\(^3\)https://coinmarketcap.com/
Figure 4: Categories for ITO funding during 2017. Illustration from Limited (2018).

Figure 5: Categories for ITO funding during 2018. Illustration from Limited (2018).
nonexistent for crowdfunding before. The token is listed on exchanges and traded by investors who wish to either partake in the ecosystem surrounding the token or speculate in the value appreciation of the token. This secondary market allows the investors to easier exit their positions and reduces the potential for capital being locked into the venture, which is a risk in traditional crowdfunding.

Much of the activity involving cryptographic assets is still unregulated in many parts of the world. Some countries have chosen to ban ITOs altogether, see China (Russell 2017). European countries have issued warnings to their citizens regarding speculations in the appreciation of cryptographic assets, see Finansinspektionen (2017) and Securities and Authority (2017). There exists initiatives to increase standardization and procedures to promote legitimacy and support market adoption of the technologies created, such as 307 (2016) standard.

2.2.2.1 Distributed Autonomous ICOs

DAICOs are a combination of Distributed Autonomous Organizations and ITOs, these are the act as organization capitalizing on the wisdom of crowds and performing business operations in a decentralized manner but with input from the investors in the organization.

For further reading see: DAICO: https://ethresear.ch/t/explanation-of-daicos/465 DAO: https://www.ethereum.org/dao

2.2.3 Token economies

Token economies refer to the economies that arise on a platform which operate through payments of an internal currency for which creators and consumers can exchange a medium of value in a created ecosystem. For example, the execution of smart contracts on the Ethereum blockchain is paid for by the purchase of “gas” which can only be bought with the internal currency of Ethereum, Ether. Ether which has an inherent value stemming from the perceived utility of the public as the price is regulated only by the desires of the open marketplace (Ray 2018).

Many of the cryptocurrencies, such as Litecoin (Project 2018) or Bitcoin (Core 2018), aims to change how traditional transactions are exchanged, but token economics also introduces a new business model for the transactions to
interface with where investors are also part of the ecosystem that provides the value proposition. Instead of having a traditional version of a fiat-currency which is used throughout societies, the token economy aims to create tokens which specialize in the transaction of a specific service or product. The tokens are necessary to create decentralized systems as they also act as a reward mechanism for the continued maintenance of the system, also called “mining.” The token can be acquired either through sales of the service facilitated by the smart contract on the blockchain, by purchase from a secondary marketplace; e.g., exchanges, or through an initial token offering.

2.2.4 The taxonomy of Initial Token Offerings

Taxonomy is the scientific field of classification; a taxonomy is used to describe the existing classes within specific fields. Such as the Linnean taxonomy of biology or the Swiss Cheese model for risk management for accidents. A fully encompassing taxonomy grants the academic field of study, as well as the general public, a way to interpret things uniquely. Reducing the otherwise present effects of miscommunication and misunderstandings. The Linnean taxonomy for example allowed for rigorous classification of herbs and plants, which with standardized feature and names could be used as reference and standard in the field of biological studies.

With the myriad of tokens ecosystem created, there is destined to exist different nuances and twists of both existing products created in a token economy but also new services and ideas being implemented. The categorization of the existing token has proved to be daunting (Hileman and Rauchs 2017; Xu et al. 2017).

No widely accepted and applied general taxonomy of cryptographic tokens exist today, but attempts are being made at describing and generalize attribute of tokens into asset classes. One of the more ambitious taxonomies is that offered by Brave New Coin4, who engages in research regarding blockchain and digital currencies. The taxonomy is displayed in Figure 6.

2.2.4.1 Utility token and securitized tokens

Although there are no uniform vocabulary or taxonomy for the cryptographic assets created through ITOs there are two modes of operation that apply to

4https://bravenewcoin.com/about-us/
Figure 6: Graph displaying a taxonomy for cryptographic assets, grouped into two major categories: General Cryptographic assets and Protocol Tokens. Illustration from Rafael Delfin (2018)
the assets: they are either utility-based or securitized.

Utility tokens are used to facilitate the purchase or use of a service or good. The token here acts as a medium of value transfer between consumer and provider. Both businesses and individuals can use utility tokens within the ecosystem created by the token. The token can be purchased from exchanges or traded between individuals. An ecosystem built on a utility token can exist in a maximum amount decided by the creators of the ecosystem or be subject to inflation rates where new tokens are created throughout the lifetime of the ecosystem. This inflationary effect helps the developers to provide an incentive for consumption of tokens and reduce the impact of lost tokens - as cryptographic assets can be hairy things that are prone to be subject to individuals ineptitude.

Securitized tokens, on the other hand, are tokens that can be expected to be resellable by purchasers in a secondary marketplace, for either profit or loss. The SEC writes in a statement: “Prospective purchasers are being sold on the potential for tokens to increase in value – with the ability to lock in those increases by reselling the tokens on a secondary market – or to otherwise profit from the tokens based on the efforts of others. These are key hallmarks of a security and a securities offering”\(^5\), regarding ITOs and securitized tokens. Securities and securities offerings are subjects of regulation per other investment instruments. These tokens are therefore primarily used, or marketed, as an investment opportunity and aim to achieve the same result as stock share in publicly traded companies; where financial capital is contributed to a cause, with the expectation of future growth and returns on investment.

2.3 Behavioral economics

Fama (1970) postulated that securities are always priced efficiently with regards to the information available within the market. The efficient market hypothesis, an idea which has remained front and center of economic theory, states that the theory put forth by Fama (1970) can be applied to the real-world financial markets. The hypothesis relies on three arguments: investors are rational and value securities rationally; if investors are not rational, their trades are random and therefore cancel each other out; if multiple investors are irrational in similar ways, there exists an arbitrage opportunity for a rational investor, which in turn would eliminate the influence on value by irrational investors. However, as shown by Black (1986), investors do not act rationally but are prone to trade more on noise than information and not provide an accurate valuation of securities in their portfolios.

What behavioral economics tries to achieve is to connect the areas of economic theory and behavioral psychology. With a conviction that their combined efforts would provide a better understanding of the forces at play within markets where both fallible humans interact with rigorously defined legal frameworks. The idea is not to replace the neoclassical economic theory, but augment it. Not to suppose that all human interact in rational ways and be surprised when they do not, but to allow for this nuance of irrational behavior also provide information about the system under study (Do 2011).

The economic theories provide economists with a way of understanding the effects of an economic phenomenon and make predictions that can later be refuted or accepted, by increasing the interplay of human interactions and fallacies in the economic theories the realism within them can be increased. Similarly to economic theory, which through assumptions reduce markets into vectors of effects that together create a synthesis that is the market, studies within behavioral psychology argue that the identified effects with human interactions and psychology can be extrapolated. From the experimental environment and be shown to exists within other economic, and non-economic, markets in a more general sense. These effects can be both in line with economic theories, but sometimes they will contradict the assumptions on which general economic theory relies. That is not to say that behavioral economics make no assumptions on its own, it does, but assumptions regarding the individual as opposed to the market (Barberis and Thaler 2003; Do 2011).

The discrepancy between the investors’ preconceived ideas and biases and
the notion of efficient homo economic markets can produce results that are unfavorable for parties involved. Biases such as loss aversion can have such effects as investor retaining positions in losers in the market, to delay the feeling of “loss” and with a notion of possible future profits when the stock “bounces back” (Odean 1998).

With works of Thaler (1985), Kahneman and Tversky (1984), Bondt and Thaler (1985), and others interested in what part the human factors play in “efficient” markets, researchers have found an interesting point of conflict between the “pure” economic theories and those that appear to rule the world of financial decision making in the real world.

2.3.1 Biases

Behavioral psychology focuses on two major categories, that of judgment and that of choice. Judgment is the process of people estimating probabilities, such as “should I take this bet?” or “what are the chances of me right in my opinions?” While choice focuses on the process which people go through when deciding from a set of actions, e.g., “do I want a blue or red ice cream?” and “do I want a risky or non-risky pension fund?” (Camerer, Loewenstein, and Rabin 2011). Individuals are affected by their own biases when performing these operations.

Some of the most well established biases within the academic field are: overconfidence, when one’s judgment is argued with undeserved confidence; conservatism, individuals form opinions that are then maintained without rational reflection; sample size neglect, when a trend is observed in a small sample and then is extrapolated to hold true for the general case; and home bias, where availability of salient data overly influences decisions usually due to cultural and geographical boundaries (Mankert 2006).

Conservatism

Once an opinion is formed, changing it is a costly exercise that people tend to avoid, creating a form of inertia. Researchers have shown that individuals tend to maintain opinions for too long and without revision (Lord, Ross, and Lepper 1979; Barberis and Thaler 2003). The effects are also strengthened by the fact that one tends not to go searching for information that may contradict
the position one holds. If they would be faced with new information, it will often be followed by the excessive scrutiny that is perhaps unwarranted and was not applied when forming the opinion.

For economists, this presents an interesting issue with regards to the traditional models applied as if they were the ones to form the opinions and name the axioms of how markets functions and interacts: what is stopping the conservatism within the economists to take over when faced with the facts laid out by behavioral economics.

The effects of anchoring plays an integral part for conservatism, where people tend to anchor their opinions to something that was learned prior. The effects of anchoring have been shown to exist within bidding, brand loyalty, and real-estate pricing (Northcraft and Neale 1987; Ritter 2003) to name a few. The concept describes that if a house is put out onto the market at a price of $100,000, the likelihood increases that the final price of the house would be around $100,000, while the same house could have entered the market at $150,000 and received a higher purchasing price when bidding was finalized. As buyers tended to rate the value of the house in the context of the listing price, as opposed to the valuation of the house itself. This effect is also a form of heuristic modeling, where people assume that the given price is given for a reason, and should, therefore, be considered when one bid on the house.

**Home bias**

The home bias suggests that investors are more likely to invest in assets that are close to them geographically. Such as American investors maintaining a portfolio that heavily favors American stocks, although the stock market in America only makes up 40% of the world market (Barberis and Thaler 2003). It has been argued that the bias stem from an “invest in what you know”-mindset, where investors know their local markets better than they do international or foreign ones. The direct consequences of this bias may be smaller than some of the others, but it does put the portfolio at great geographical risks when there should not be a reason for it to exist. Investors can make the conscious choice of limiting their geographical scope, but those who do not are still subject to their biases.

The bias for domestic, cultural, and intellectual home bias has been widely studied since the 90’s. Researchers have found evidence of home bias for
portfolio management (Coval and Moskowitz 1999; Kang and others 1997). It has also been linked to trading frequency and portfolio diversification, as well as overconfidence on the part of the investor (Graham, Harvey, and Huang 2009). The effects of the geographical home bias appear to be reduced if investors believe themselves to be competent and maintain an extensive portfolio, but also that inversely those with the self-perception of less competent and a smaller portfolio tend to be subject to home bias (Graham, Harvey, and Huang 2009).

**Sample size neglect**

When investors are granted an opportunity with a minor amount of previous data, the investors may rely upon heuristics to assess the potential of the situation. These heuristics are often ones that have been shown to be useful for other decisions, or it may be invented for this specific purpose and try to provide a proxy for more information regarding the opportunity. The effects here that seem to impact investors decision making is the law of small numbers. Where the investors attribute too much importance to a few available data points, that are currently showing a trend but one that may subside as time progresses. Often the sample size neglect is combined with a survivorship bias, where one focuses on those that “made the cut” as opposed to those who had to be sacrificed along the way.

One example of sample size neglect is the gambler’s fallacy when one believes one can be on a hot (or cold) streak or the previous results of a fair coin toss would influence future ones. Here the gambler is not following the logic supposed by Bayesian logic, but one of intuition and gut feeling. When one considers the problem without submitting to ones first intuition it becomes evident that the previous tosses will not affect the following one, so, therefore, there can be no such thing as hot or cold streak when it comes to fair coins.

**Overconfidence**

Overconfidence refers to the dissonance that occurs when investors fail to account for what they do not know when making an investment, leading them to be overly confident in their abilities and understandings. Research has shown that novice investors are more confident than their more experienced...
peers, suggesting that experience could be a remedy for overconfidence (Shefrin 2002).

Mankert (2006) discusses how research has shown that portfolio managers may be surviving on their demise. As survival bias and selection bias may cause investors to employ riskier, that is at a reduced utility, strategies to gain a more significant return. Those who manage to achieve returns do so due to variance and volatility in the market, but a significant portion of those investors also go bankrupt. Leading to an overconfidence bias in those who survive, where they receive more capital for their former success and become more overconfident in the process.

Overconfidence was shown to exists for investors that made the switch to online trading, where investors were more prone to attribute their success to their abilities as opposed to luck. Moreover, as Barber and Odean (1999) found, online investors have an impression of themselves as being educated and in possession of knowledge as it is easier to gain access to data and information when using online services. By trading online, the traders are also subject to an illusion of control, since they can execute trades quickly and with the “click of a mouse” their levels of overconfidence is encouraged.

2.3.2 Framing

Framing refers to the circumstances surrounding the judgment or choice. For example, which is more likely to increase consumer willingness to visit the cinema during the daytime, a discount for movies shown during the day or an added fee paid by the evening visitors?

According to economic theory, frames of operation are transparent to investors and should not impact their rational decision making, but research has shown that this is not the case. Mankert (2006) provides a set of well-established research results that exemplify frame dependence: the disposition effect, loss aversion, mental accounting, and prospect theory.

The disposition effect

Similar to the overconfidence bias, the disposition effect reflects the investor’s inability to judge which assets will appreciate and drop in value given the current frame. If an investor is more likely to sell an asset in which the value...
has already appreciated as if the gas tank is about to dry up and there will be no more climbing up the hill, while maintaining a “loser” in the hopes of a change in the attitude of the market towards that asset (Odean 1998).

This one may also be connected to loss aversion, as it is argued that one of the driving forces for maintaining losers is the delayed realization of losses. If one continues to hold the asset, one could turn a profit, but if the asset is sold at a loss, it is a guaranteed loss. This bias clouds the judgment of the investor, where if the current value of assets would be adequately assessed the correct move could have been to sell a loser to prevent further losses or hold on to a winner as there may still be room for growth.

Loss aversion

In classical economic theory, where *homo economicus* is the dominating species, investors are rational beings that operate within the confines of logic and reason, as does everybody else that interacts with them. This notion of efficiency in markets, where prices are representations of the actual value of a commodity or security and there is no such thing as “from the perspective of” for a single investor, is one that is foundational to economic theory. However, when an individual comes in possession of a commodity, the person will instantly value it higher than previously. This phenomenon is called an endowment effect, where an owner attributes a higher valuation by being the owner of the item. The value placed on the item may have no connection to the actual value perceived by others. This effect is called loss aversion, where the thought of losing something one own hurts more than the act of acquiring something which one is without (Tversky and Kahneman 1991).

Mental accounting

Kahneman and Tversky (1984) found individuals to be in the habit of maintaining a mental accounting system, where capital can be considered to be in separate boxes. Consider a budget, where capital is earmarked towards a specific cause, say spare parts to machinery, which then cannot be spent on anything other even if one wanted to - without revising the whole budget. This system of operations seems to exists even within the human psyche,
where the restructuring of a budget is an expensive task that one would instead not do.

Take the example of gambling, if an individual gambles and wins, it will be considered more comfortable to continue gambling with the winnings as opposed to if the gains were considered part of ones accumulated wealth. For investors, it is easier to invest capital from profits than it is taking capital from ones other “accounts” and putting it up for investment, as the realized gains are already within the account “investable assets.”

Prospect theory

The idea behind prospect theory is to provide an alternative to the otherwise prolific expected utility model (EUM) used by economists. Constructed by Kahneman and Tversky (1979), it would become one of the central research topics for the remainder of the 20th century, according to Shiller (1999). The theory relates how the consumers choice is influenced by probabilities and related outcomes (Laibson and Zeckhauser 1998).

The theory posited that the axioms of EUM were not to be held valid in all cases. Kahneman and Tversky (1979) shows with examples how the human beings are not always economically rational. An easily understood example is the choice between two sets of games: game A) 50% chance of receiving $1000 and 50% chance of receiving $0; compared to game B) 100% chance of receiving $450. The expected value of game A would be $500, and that of game B would be $450. Therefore the value of game A would be higher than game B, and a homo economicus* would have chosen game A without much hesitation. However, when the experiment was tried on real human subjects, game B was favored. People tended to value a sure win higher than the chance of receiving more but also risk receiving nothing. Displaying signs of loss aversion even in regards to matters which are not yet in their possession but are guaranteed to be of actions are taken to ensure it, the effect has also been called the certainty effect, as people favor guaranteed outcomes over uncertain ones (Tversky and Kahneman 1992).

Within traditional economic theory, using the EUM, the utility functions look something like Figure 7 where there is a concave function that follows utility and wealth. However, Kahneman and Tversky (1979) suggests that the utility function is not a one defined in absolute values of wealth, but
relates to gains and losses. For behavioral economics, the utility graph is posited to be concave for gains but convex for losses, as depicted in ??.

Meaning that losing something would dramatically decrease the perceived value of the opportunity or asset.

![Utility Graph](image)

Figure 7: Traditional utility function. Illustration from Mankert (2006)

### 2.3.3 Herding behavior

By considering the position of others, investors can relate their own choices to those positions held by peers. Creating an “I do if they do”-thought process, where investors are afraid of being the sole pursuers of their path as opposed to remaining with the “herd” and conforming to opinions and positions held by others.

As shown by both Scharfstein and Stein (1990) and Shleifer (2000), investors tend to choose their portfolios excessively close to that of the market index or chosen benchmark. In combination with a tendency to let other investors decisions impact the contents of the portfolio, this lets the investors feel as though the risk of underperformance is reduced, as others have also chosen the same strategy for their portfolio. This tendency to strive towards
Figure 8: Behavioral utility function. Illustration from Mankert (2006)
reduced risk by utilizing the beliefs held by the market is a prime example of herding behavior, where the market converges on a singular belief with little deviation.

Scharfstein & Stein, 1990 found that professional investors are often choosing their portfolios in ways that are excessively close to that of the choice of benchmark, often the market portfolio. By using the benchmark, the investor can minimize the risk of underperformance but also rely heavily on the investments made by other professionals. By doing so, the investor could argue that they avoid missing an opportunity and a loss of reputation, as they are in the same boat as other professional investors. Shleifer, 2000, also found that investors are prone to prefer stocks that have done well recently and sell those that have underperformed to signal reliability to those who are invested in the managed portfolio.

2.3.4 Heuristics

People are inherently bad at judging situations within reduction or abstraction. By utilizing rules-of-thumb, or heuristics, humans can cope with complex situations by creating approximate strategies for actions. These rules are often algorithms constructed by either experience or through the use of some proxy from another situation. Their accuracy is not always exact, but they usually yield sufficiently good results to warrant their existence (Kahneman 2003).

For example, if there is a story going around regarding infected chicken meat, but only meat from a specific farm are the problem. How is one to know which packages in the store are safe to eat and which one should avoid? One could apply the heuristic, or approximate strategy, that all chicken meat is subject to risk and therefore avoid it all altogether. Now, of course, this would mean that one would not have chicken for dinner, but one would also not risk salmonella or whichever bacteria is causing all the commotion. The approximate strategy would allow one to achieve the desired result, but in some cases, the heuristics can have detrimental effects as they do not always produce the desired result.
3 Methodology

3.1 Research approach

The study was performed with an exploratory (Blomkvist and Hallin 2014) and opportunistic (Riemer 1977) means of operation, meaning that the author tries to explore the research area and its usage. As the thesis aims to explore rather than explain, this approach aids the research in previously unexplored areas of knowledge (Collis and Hussey 2013).

The study relied on an abductive approach in regards to empirics and literature, where the author returned to the literature during the process of writing the thesis and adapted the interviews as the project continued. The goal of the thesis was not to produce a statistically valid quantitative result, but a qualitative result where the author could identify trends, similarities, and shared points of perspective within the interviews and the academic literature to position the emerging ITO technology within the field of crowdfunding and innovation diffusion.

Below follows discussions of the data sources, data collection, and data analysis respectively.

3.2 Sources for data

To ascertain a comprehensive perspective of the current conversation and generation of ideas from as many as possible, the background of the interviewees will be of mixed nature. They all possessed knowledge that is relevant to the field of study and is believed to be able to contribute to the research questions. The interviewees were identified to have insights within the fields using online searches and news articles, see table Table 2 for metadata regarding each interview.

3.2.1 Interviews

The author interviewed individuals with insights into traditional banking, token investments, and crowdfunding. The interviews were recorded for posterity and reliability purposes.
For Interview #1, the head of venture capital at a large Swedish bank was chosen as the subject. The interviewee has been at the bank for over 15 years in the venture capital department, holds a Ph.D. in physics as well as an MBA. This interview aims to assess the current impressions of the “traditional” segments in regards to the emerging one. The interview would also allow the interviewer insights into their processes surrounding the attributes being affected by the new technology.

Interview #2 was with an investor specializing in blockchain investments. Being the co-founder of an investment company as well as having a background in traditional finance. After starting as a portfolio manager in the late 80’s, the interviewee has been an active proprietary trader, and still is, but started an investment firm in 2017 that engages solely in blockchain related organizations and opportunities. The interview aims to assess the differences that could be identified by somebody who had made a shift from the traditional to the emerging technology.

Interview #3 was with a post-doctoral researcher who focuses on information systems and entrepreneurship, also with a focus on crowdfunding and digital economies. The researcher also holds a law degree and as well as a degree in economics, political science, and philosophy. The goal of the interview was to assess the current standing of research within the field of crowdfunding and token economics as well as to contrast the other interviews less academic perspective with one that is heavily influenced by current research.

Interview #4 was held with a general partner of a venture capital firm specializing in early-stage funding of innovative and fast-growing companies. The firm operates mostly within Europe but also has a small presence in the United States. The interviewee has a background from management consulting, after which the focus turned to venture capital and focusing on early-stage investment for startups. The interviewee has been operating within venture capital for 15 years. The goal of the interview was to provide a broader picture of what the sentiments of venture capitalists are in regards to crowdfunding and ITOs as well as provide support or critique for the data gathered from other interviews.

Interview #5 was with a marketing director of a company trying to establish an investment platform for blockchain venture. The interviewee has a background in e-commerce startups and has been a part of the startup scene in Stockholm since the early 00’s. They also focus on helping early-stage blockchain companies in getting started and creating a community around the establishment of new blockchain ventures. The interview aimed
to provide data into how companies aim to assist entrepreneurs within the system of ITOs and to provide the thesis with insights into how cryptographic funding has developed and what the future may contain.

Table 2: Table of interviews

<table>
<thead>
<tr>
<th>Interview</th>
<th>Description</th>
<th>Date</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Head of Venture Capital of large Swedish bank.</td>
<td>2017-02-23</td>
<td>VC1</td>
</tr>
<tr>
<td>2</td>
<td>Co-founder of blockchain investor. Focusing on ICO trading and seed funding for companies focusing on blockchain applications</td>
<td>2017-02-23</td>
<td>BI1</td>
</tr>
<tr>
<td>3</td>
<td>Post-doctoral researcher focusing on entrepreneurship and information system; specifically blockchain applications, cryptocurrencies, and crowdfunding</td>
<td>2018-04-27</td>
<td>R1</td>
</tr>
<tr>
<td>4</td>
<td>General Partner of venture capital firm specializing in early-stage ventures and fast-growing companies</td>
<td>2017-04-27</td>
<td>VC2</td>
</tr>
<tr>
<td>5</td>
<td>Marketing director in Sweden for a blockchain investment platform</td>
<td>2017-05-04</td>
<td>BI2</td>
</tr>
</tbody>
</table>

3.2.2 Literature review

The thesis focused on three main areas of research: crowdfunding, Initial Token Offerings, and innovation diffusion. Literature was gathered using online tools, including search portals such as Science Direct search portal, Google Scholar, KTH Primo; the library at The Royal Institute of Technology, Stockholm.

Non-academic online outlets specializing in cryptocurrencies and related subjects, including Coinschedule and Fortune magazine, was also used due to the novel nature of the subjects discussed in this thesis there is a gap between the academic portion and the societal discussions.
During the literature review, a large academic gap was identified. As of May 15, 2018, the combined search of “initial coin offering” and “crowdfunding” generated 38 hits on ScienceDirect.\footnote{Crowdfunding is also rather low in representation with 739 hits.}

The process of the literature review was performed in conjunction with the research, following an abductive research approach (Blomkvist and Hallin 2014). The process allowed the author to return to the literature as the thesis progressed; creating a process of reviewing the gathered literature and relating it to the gathered data to enable accuracy in the gathered works of literature ability to relate the findings from the interviews with the current academic perspective.

### 3.3 Collection of data

The data were collected using semi-structured interviews, with an approach inspired by grounded theory. The interview questions developed throughout the thesis as new questions arise, and more topics were discussed with interviewees. The choice of semi-structured interviews was made as it will allow the author to facilitate comparability between responses; is well suited for identification of attitudes, motivations, and beliefs; ensures that the respondent is in no way assisted by a third party while answering as opposed to when answering a survey or similar (Dearnley 2005).

Interviewees were asked about their position; their current relationship to funding, crowdfunding, and initial token offerings is; and what their thoughts are surrounding the subjects. Each interview was adapted for the specific interviewee, but each had the same central focus of three major areas: crowdfunding, initial token offerings, and their impressions of (dis-)advantages compared to traditional corporate finance. The method included added questions that would arise during the interviews, which could also be included and shape future interviews to increase the level of detail and understanding of the interviewee’s sentiments, understanding, and positions (Collis and Hussey 2013).

The interviewees were not sent the questions before the interview, to reduce the possibilities of scripted answers or the interviewee performing research that could dilute their positions and opinions of the subjects discussed during the interview (Dearnley 2005). The interviews were recorded to allow the interviewer to process and analyze the interview afterward. During the
interviews, brief notes were made to ensure that the author could adapt to questions that could arise during the interview. After the interview, the author made annotations regarding covered subjects and questions that could provide a foundation for future interviews. The interviews were transcribed in a thematic system as to help in the analysis to identify similarities and concepts that would arise in multiple interviews.

3.4 Data analysis

There are many methods for analyzing data from qualitative sources, such as the grounded theory approach (see Glaser (2002)), constant comparative method (see Boeije (2002)), and the reduce-present-conclude presented in Miles and Huberman (1994). This thesis uses the last one, as the other two focuses on explanatory approaches while this thesis aims to be exploratory. The thesis conducts a thematic analysis of the material gathered through the interviews.

Thematic analysis refers to the process of initially creating a familiarization with the data; followed by a codification process in which the data is reviewed, defined and compiled; and finally, a produced version of the themes is produced.

To be able to draw conclusions and discuss the qualitative data, the method suggested by Miles and Huberman (1994) of reduction, presentation and conclusions is be used.

Miles and Huberman (1994) argues that by first reducing the empirics to central themes, concepts or idea. Whereby the interviewer can provide a simplification of the data collected in order mold it to something that can be more generalizable, this may reduce the available nuances that are central to qualitative data, but it is also a necessary step to gain a more comprehensive perspective throughout the research.

In the second step of presenting, the reduced data is structured, ordered, and grouped in such a way as to facilitate the third step, concluding. The process of presenting the data is made possible using codification of crucial points identified in the reduction of the data.

Finally, conclusions are drawn from the presented data. By analyzing and interpreting the data made visible through the preceding steps, the author can draw conclusions that are identified in the empirics as well as discuss
their implications and validity in regards to the data gathered. This step will have to take into account the loss of precision in the data, due to the information reduction process of the first step. By relating the presented data in light of the literature presented in section 2, the empirical data is also placed in relation to the current understanding within academia of the features being discussed.

3.5 Quality of data: generalizability, reliability, and validity

The reliability of qualitative studies is very much dependent on the quality of sources and may be hard to replicate entirely. The situation studied by qualitative research is augmented and supported by quantitative research. The results of the study are of a qualitative nature and will need quantitative support to be able to show that observed phenomenon is generalizable.
4 Results

The results from the interviews are presented under headings regarding the interviewed subjects area of specialization. The presentation is done for the reader to grasp the viewpoints held by different segments of the market. Each section contains the thoughts and sentiments expressed by the subjects and are only subject to the author’s interpretation, but the ideas are those of the people interviewed. Section 5 will contain the author’s thoughts combined with the results presented in this section.

4.1 Venture capital

VC1 is hesitant towards the use of crowdfunding and the issuance of tokens: arguing that the potential for fraud is high and that non-professional investor is not equipped to deal with the due diligence process that precedes an investment. VC1 believes there is an ideological aspect to the investments that are being made within the cryptographic sphere. VC1, who works at a bank, is, however, highlighting the effects token and token economies could have on the overall banking world. According to VC1, banks - particularly European banks - are not worried about the currently held potential of lowered transactions costs for financial transactions but argues that the high transaction costs are an American phenomenon.

VC1 notes that their team can meet with a maximum of a hundred companies within a year, as their due diligence processes for investments are time-consuming and demanding.

VC1 is positive towards the secondary market opportunity of ITOs, as they reduce the path to liquidity compared to traditional crowdfunding. VC1 find the emerging market of cryptographic assets interesting, but believes that they would be best suited in a specialized fund with professionals who are knowledgeable within both blockchain based solutions but also the affected markets are part of the investment decisions. VC1 believes specific crowdfunding platforms are drumming up interest in investments in the general public, without also acknowledging the fact that there is much work to be done for investments to be successful. Quoting: “I am too aware of how hard it is to do good due diligence, I have how much sideways things can go.”

VC1 is positive towards the technology supporting ITOs but points to the
“to-be-built” system that is prolific within the sphere of cryptographic assets. There should always exist ownership of technology risk, a structured liquidity plan and a plan for the technological development according to VC1.

VC1 argues that it is hard to perform due diligence on little paperwork, promoting a process involving several meetings and social encounters are required for successful investments to be made but cites that the size of the investment merits such rigorous processes beforehand.

VC1, coming from the side of venture capital in the form a bank, argues that for other VC firms the heavy focus on the team, the technological aspects are risk factors while VC1 feels that their teams can focus on the effects of the technologies they invest in as opposed to looking at the potential. Other venture capitalists firm is looking for market opportunities, and ways of increasing their margins, and are not focusing on the technology’s implication on other areas of the market. VC1 mentions a specific blockchain related venture where another venture capital firm was heavily invested and the investment would, later on, fail due to technological aspects in the production, that according to VC1, were overlooked in the investment phase.

VC1 discusses the importance of knowing where one’s intellectual boundaries are as an investor. Relating to machine learning and other cutting-edge technologies, VC1 would not trust his judgment regarding investments relying on those technologies stating that his abilities would require assistance from others to assess the investment opportunity.

VC1 argues that the stock share as an invention is an efficient and effective invention that cannot be easily replaced with a cryptographic asset. The simple mechanics of the stock share, with an input of financial capital and an output of productivity, cannot easily be rivaled. VC1 argues that the stock share has assisted in the growth and development of the market, with institutional concept surrounding it such as the limited liability company and the bankruptcy instrument. The simplicity with its construction has allowed for efficient valuation models and a set of arithmetics to be created, only adding to the stock share strengths according to VC1.

VC1 points to the rigorous sets of rules and traditions that guide the usage of traditional stocks, where the minority owner is still protected, and the system is transparent in the sense that the financial effects of decisions are transparent.

VC1 discusses the market implications of pre-mined tokens or coin and finds that their effects are unclear concerning the investor. Both in the ecosystem
that performed the emission, but also products that are built in the said ecosystem which will inherit the aspects of the asset.

VC1 is skeptical of cryptographic token emission but submits contract in a peer-to-peer network may have useful aspects where the custody of contracts is changed from the traditional models. VC1 find that the ITOs may shift part of the risk onto the investors, and is questioning the complexity an individual investor can handle. By using an analogy of smart-phone application fatigue: smart-phone applications have reached market saturation, and consumers are trying to reduce the number of interfaces they interact with, which limits the impact each application can achieve. VC1 argues that individuals require levels of abstraction to simplify their processes. According to VC1, the average investors is better served using index funds, or similar services, as opposed to services that cater to the investment-oriented person. VC1 believes that the market segment of individuals interested in managing their investments only amounts to 5-7% of the population.

VC2 believes crowdfunding will disrupt the venture capital business. Arguing that the role of a venture capitalist may have to alter to a changing landscape of financing new business ventures. According to VC2, there are patterns to be observed in how traditional financiers conduct business and how the “new generation” interacts. Older generations focus heavily on personal, face-to-face meetings, and therefore travel a lot, while the younger generation uses services such as Skype and similar to facilitate the relations with their investments. VC2 believes that the future of investment may be controlled by angel syndicates, where an angel investors drive an investment round for an entrepreneur and then collects capital from institutional investors.

VC2 argues that the slow growth of crowdfunding stems from the entrepreneur’s drive to maintain relationships with the investors and utilize the investors as tools for building the company. However, also discusses that crowdfunding may have a role in either initial seed funding or in a late stage where the company and the product are developed, and the crowdfunding round would help increase liquid capital and spread risk for a potential IPO. VC2 believes that entrepreneurs are not expecting investors that invest late to help the entrepreneurs build the company but will only provide financial capital for the venture, in regards to using crowdfunding just before taking the company public.

According to VC2, entrepreneurs are selective in their process of early investors. VC2 argues that for an investment to be successful there needs to exist trust both on the part of the investor but also the entrepreneur. VC2
think that digital mediation may hamper the ability to produce personal relationships between business actors. But also notes that Amara’s law may be present; stating that the implications of the technology are overestimated in the short run, but underestimated in the long run - both for crowdfunding and cryptographic assets.

VC2 discusses the current boom in the market, noting that during current nine-year-long boom few newly started companies have existed in a recession. VC2 points to the existence of business angels in a boom are not guaranteed in a recession, but argues that they as venture capital in the form of institutional capital will remain invested in companies in which they believe. Further arguing for the relationship and establishment of trust that precedes the investment, as their assessment of the company focuses on long-term investment and are therefore not as affected by market volatility in the short term. VC2 believes that venture capital will have to move into the crowdfunding space in the future but notes that the business triangle of fund-risk capital-entrepreneur has not changed much since its advent in the 60’s. VC2 believes the model for crowdfunding in the future may emulate the same triangle, but one can replace the risk capitalist with a syndicate, with perhaps a business angel or risk capitalist at the wheel.

VC2 presents the argument that all parts of society are becoming digitalized, and that crowdfunding and is a natural progression of corporate financing, regardless of the current boom in the market. However, questions crowdfunding inability to grow during the boom.

VC2, regarding the choices of companies to not use crowdfunding: “But the best companies did not choose that route. So why didn’t they? I believe it is because they want personal relationships with those who invest. Had [a music platform] gone for crowdfunding, a hell of a lot of money would have poured in. However, they did not. First, they went to angels whom they trusted, then to the institutional capital whom the entrepreneur trusted and then they progressed from there”.

Regarding ITO investments, VC2 states that the firm is confident to invest in such venture, but that there have yet to emerge one in which they want to take part. For an ITO opportunity to be deemed relevant, VC2 want to see a strong team, that acts in a market with “close to infinite size,” that the product or service being developed fits into the current market, and that there is an honesty underlying the venture. VC2 emphasizes the honesty and trust part of the ITO.
Regarding regulations, VC2 argues that more serious actors will enter the market, regulated or not, as with other industries. VC2 continues that most markets self-regulate and ousts bad actors, especially in a world of digital footprints.

As for innovations, VC2 argues that similar to the change from the Internet to mobile-first, services may be reproduced but targeting new platforms. Where the central consumer demand remains unchanged, but service may or may not solve it better using a token economy. VC2 is positive that blockchain applications will emerge but notes that it will take time for the “real” applications to be developed and deployed.

4.2 Blockchain venture capital and investors

BI1 started investing in blockchain applications because of conviction in the future of the applications that would be created in the cryptographic asset space. With a desire to learn the industry of tokens, BI1 initially started “mining” cryptocurrencies but then progressed into active involvement in the developer community of those ITOs BI1 of which BI1 was an investor.

BI1 performs both seed fundings of blockchain applications and investments in ITOs. For ITOs BI1 places emphasis on the market fit of the product or service platform in what is envisioned, but for seed funding, the team building the ecosystem is judged as more important. The alignment of future visions of the venture to those held by BI1 is a crucial factor for successful funding on the part of BI1. However, notes that the team’s relevance for the product will decrease as the network within the ecosystem grows. BI1 believes the time of the individual entrepreneur is passed.

BI1 is skeptical to the current development of cryptographic assets, noting that few of those “1300-1500” that exist today will do so in 2 years time, even if their services or products may be useful. BI1 argues that there exists satiation of the market, where it is harder to build a successful network within the crypto sphere today with giants such as Bitcoin and Ethereum. BI1 compares the current market of cryptographic assets to that of car manufacturers in Sweden during the early 20th century, arguing that a reduction in discrete actors be a natural progression of a system reaching maturity.

During both the interview with BI1 and BI2 the topic of the ITO by a large communications platform provider, BI1 notes their usage of an already
established network will benefit them greatly in their establishment, meanwhile BI2 questions their valuation and applicability of a token economy. BI1 argues here, similarly to how market saturation caused by Bitcoin and Ethereum may force other services out, that the communications platform may present a sub-par solution, but it will be the established network of users that determines who will survive amongst the ITOs. BI1 is doubtful of ITOs that aims to build the platform using the funds committed during the ITO, but think that for an ITO to be successful an ecosystem has to exist already. This idea is also supported by BI2. BI2 believes that more non-blockchain related companies will look into utilizing token economies in other parts of their business. BI1 argues that the traditional banking industry will have to reduce in size and service offerings, as new ITOs emerge specializing in performing those tasks but using token economies instead.

BI1 believes in the democratization of investments, where ITOs allows for smaller actors to invest and save capital even in corrupt countries. However, points to that the effects of these new economies may also be positive for people in not-as corrupt countries, arguing that the traditional system in place today is fragile and the effects of a downturn could be devastating. BI1, however, believes that the creation of ITO will be limited to developed countries, as the situations in emerging economies increase the volatility of the service.

BI1 argues that in the future there will exist an extended taxonomy of tokens, perhaps as an emulation of the financial instruments that exist today. Where the emerging ecosystem may indeed fall back onto traditional models of operation, but BI1 argues that there would be a shift of power to the consumer and a reduction of administrative red tape. BI2 argues that if we see a shift towards securitized tokens, they could come to replace traditional share certificates.

On the part of risk mitigation on the part of the investors, BI1 argues that it is up to every investor handle the risk as they see fit. BI1 submits that there may be a place for intermediaries performing risk analysis for investors, but notes that this is due to human nature and not in line with the “religion.” Platforms that are not decentralized have already been shown to fail.

BI1 avoids ITOs that wants to achieve something in 5 year times, arguing that the step needs to be taken now, and not somewhere in a distant future. However, the team should have a five-year plan but focus on solving a problem of today not one of the future. BI1 points to the abilities of cryptocurrencies such as LiteCoin or BitCoin being able to deploy tools faster into an existing
ecosystem compared to somebody solving the problem on their own with an external solution.

Back in 2014 one was able to follow the technological developments in the blockchain community, but it is not possible according to BI1. The explosion of innovation has surpassed the individual investors capacity. However, according to BI2, the investor community as a whole has taught themselves how to maneuver in the new ecosystem. With the help of rating providers, although many are sub-par.

Regarding institutional capital, BI1 believes that the more extensive networks will be the receivers of the investments. However, also points to the possibility of the institutional capital driving the forces for crowdfunding away, where fewer possibilities would be available for smaller investors if the ITOs are consumed before they reach the market. BI2 also supports this argument.

BI1 is more interested in the industrial investments a venture may present opposed to the strictly financial gain that is achievable. The BI1s firm wants access to the product the ITO would deliver, and be early adopters of the technology being created. BI1 argues that the technology of blockchain and distributed ledgers succeed the capacity of individual organizations and that we are walking into an open-source world. Where individuals can produce for several platforms in the form of consultants as opposed to companies acquiring patents of solutions that are then sold to other companies. BI1 believes that the corporations of the future will be mainly consultants, specializing in helping traditional companies build blockchain solutions.

According to BI2, the developments for ITOs are going towards emulation of traditional models. Both in regards to regulations, as BI2 argues, that ITOs are not a "good" way to finance projects. However, also notes that the system appears to be self-regulatory and given time the system will find tools and methods to work more efficiently. BI2 predicts that we will see significant developments both this coming year, but also moving forward. BI1 argues for a future scenario where the Swedish securities central agency is replaced with a tokenized system. Instead of having a share certificate for stocks the information kept by a token.

The ideological theme emerges at several points throughout the interview with BI1. However, BI1 admits to being more interested in the philosophical and humanitarian aspects than those surrounding legal frameworks and regulations. These regulations, BI1 argues, will emerge as a natural consequence with market growth.
BI2 argues that one of the most significant changes caused by tokens is the ability for open-source projects to all of a sudden be able to create companies and build structured ventures surrounding their ideas. So at first, these ventures turned to the community surrounding the open-source project when initializing these processes. Previously project could maybe receive support from some IT-giant if they were sufficiently useful for their cause. However, tokens made it possible for open-source projects to finance their projects and provide compensation towards enthusiasts.

Initially, BI2 says, these communities were quite technical in their abilities concerning the project, but during 2017 more interest from the business side of the market became interested. These business interests made the ventures subject to speculative interests. However, notes that the engagement with the community becomes increasingly important with this way of financing ventures. If one removes the speculative parties, BI2 argues, the investors can form a closer relationship with more investors than would be possible using traditional funding. The community would also provide a more diverse group of individuals as opposed to that which an investment firm can offers, say BI2.

This increased interest is what caused more ventures and entrepreneurs to enter into the space of cryptographic assets, not because of a use-case for the ITOs, but as a way of financing the project, according to BI2. However, BI2 argues that for a project to be successful, the venture needs to stem from an idea building upon a token economy.

BI2 argues that ITO as financing method is still in its adolescent. Stating that it is not particularly efficient and that the dynamic it creates between investors and participants is less than perfect. Pointing to the fact that most ITOs today use donations as a driver, where investors do not receive any equity-equivalence in the venture. There is also not demands for quid pro quo on the part of the fundraiser if one views the capital as donations, which according to BI2 is a problem.

BI2 notes that many ITOs have been speculative and that the speculative forces have taken over. BI2 discusses how ITOs started as a way of rewarding early supporters of a project, which then was overrun by financial interests.

BI2 discusses the DAICO model, proposed by Vitalik Buterin found of Ethereum, where investors can lock capital to stage gates within the project. This model would open up for the investors to have a say in how their capital is spent. The capital is only contributed if the stage gate to which it is
BI2 discusses the potential for “pivoting” on the part of early ventures. Commenting that if capital is locked within a DAICO, the mobility of the project is hampered and its ability to respond quickly to changes in the marketplace could be removed. This is one of the aspects that BI2 argues requires more experimentation when it comes to models for capital procurement. Also noting the drawback of ITO, that if the venture fails during its ITO, there are no second chances.

BI2 discusses the reasons for failure to complete projects when one use ITOs to raise capital. One of the reasons mentioned is lack of motivation after completed ITO, comparing it to the traditional investment sequence where a small team is provided with minor capital and are expected to deliver within six months. While for the project using ITO, the capital exists instantly. However, also notes that one of the critical aspects for once the ITO is complete is to assemble the necessities for the project. Often the project requires the capital to get started. With the explosive growth of the minor field, competence has turned scarce and it no longer widely available which may flip the apple cart for projects.

BI2 argues that those projects that are successful realize that industry-specific knowledge and business knowledge is a requirement for success and act accordingly. However, also notes that never before have as many individuals on LinkedIn titled themselves “ICO advisor,” which according to BI2 is a sign of the speculative interests that are in play.

BI2 does not see the speculative interests as something categorically negative. They are a natural tendency in all new technological leaps; it was the same thing when the Internet was starting to evolve according to BI2. However, notes that the speculative has brought in investors who may not be as educated as they should be regarding their investments, and suggest that a legal framework should be adopted to protect those who cannot perform their due diligence. However, if the framework would be too strict, BI2 comments, the technology facilitating the investments cannot be controlled by a jurisdiction as the distribution of, say, Bitcoin is global.

According to BI2, Sweden will not be the first to move on regulatory practices. However, the European Securities and Markets Association, ESMA, will provide a legal framework that Sweden can then adopt. While other countries have been more progressive in establishing regulations, which BI2 argues is good as it forces ESMA to respond and also provides ESMA with actual
The environment as an entrepreneur has never been more interesting, says BI2. With a technology that allows for the choice of channel for investments and provides opportunities that were not available before, BI2 argues that a world of possibilities is available to the entrepreneur.

BI2 argues that one of the reasons for Swedish companies international success has been their ability to think globally from the beginning. The goal of global business is well suited for ITOs as the communities tend to be international from the start as opposed to one which starts out locally.

The growth of ITOs has fueled itself, according to BI2. As speculative interests entered into the system, those who were there early could reap the rewards. Which then, in turn, were invested into more ITOs.

In the future, quality projects will not have any problem with acquiring capital, according to BI2. However, notes that it may come in a different form than that which is operated by ITOs today. BI2 could see a future where more of the ITOs is done in private, with venture capitalists or institutions acquiring the tokens. However, without the public ITO, one would have to find others means of diffusing the tokens into the market.

4.3 Researchers

R1 argues that crowdfunding in its current form outperforms traditional investing on several points. The main one being matching entrepreneurs with funding givers in a much more structured way, it also reduces the information search cost through digital aggregation platforms where entrepreneurs can showcase their ventures.

According to R1, one of the drawbacks of the current crowdfunding market is the lack of secondary market. This creates a lock-in effect for the investor where the capital is tied up and cannot be liquidated quickly.

R1 describes that although crowdfunding is performed using digital means in a distributed network which virtually everybody has access to, there still exists relatively strict geographical boundaries. Creating paradox, as R1 puts it, where legal constraints prohibit investments from fully utilizing the medium of exchange that is primarily used for crowdfunding. However, R1 notes that this mostly affects those venture that focuses on equity-driven investments as legislation is often more rigorous regarding equity, while reward-based
crowdfunding suffers more from the aspects due to geography. The bias is further developed through investors choice of limiting their investments to “ecosystems, companies, and countries that they already understand. That creates a local bias”. 

R1 describes how the boundaries surrounding investments may not only be geographical, but also intellectual, stating: “There is some data to believe that and actually academic studies, particularly on venture capital and private equity, don’t just say that you should invest in the geography you know but the very strong, that the most successful investors are those who invest in industries they know and in people with social capital, that they can make sense of, those are the three metrics; industry, geography, and social capital.”

Although many of the aspects of crowdfunding are performed using digital tools, many of the processes involved are still conducted in a cumbersome non-digital way. R1 points to such things as signing ownership certificates and financial oversight. For the financial oversight though, R1 discusses the potential of a consumer and investor benefit in a slower process to reduce the effects of faulty heuristics and incite investors to perform additional due diligence before committing capital to the venture. If it were not for these drawbacks, R1 argues, crowdfunding would be more an efficient way for entrepreneurs to obtain investments and for investors to screen potential investment opportunities.

Adding to the drawbacks, R1 continues, research has shown that herding effects exist. So with critical mass, individuals pile into an investment without critical reflection. Some projects have also been victims of their success and suffered from over-subscription, where the venture has raised a more substantial amount of funding than they had anticipated. Which may in turn force the entrepreneur to scale in undesirable dimensions, such as forced growth or change in target markets.

R1 argues that blockchain based solutions seem to counter the inefficiencies of crowdfunding.

R1 believes there needs to be a serious discussion regarding digital solutions that overcome geographical boundaries, where there still may be in the public interest to achieve consumer protections and similar services. Because, according to R1, “when you democratize investment, there is a high possibility of unskilled investors becoming irrationally exuberant and making poor decisions, and then you compound that with herding effects, it has the potential for disaster, so that needs to be something we think about.”. R1
would prefer that these discussions involve people with knowledge from the crypto sphere as often these discussions happen behind closed doors and the effects would be exacerbated in this case as policymakers have low levels of knowledge regarding the area. R1 continues, research has shown that crowd-investors can make very good decisions and emulate the heuristics used by a professional investor, and within that context “maybe the paternalism is unwarranted.”

R1 discusses the high levels of frauds observed in the field of ITOs and notes that there has been an irrational exuberance present, but argues that with more and more information available to potential investors, investors are becoming more cautious when investing in new ecosystems and regulates their investments accordingly. This, according to R1, is positive from the investor side but there still is much work to be done in increasing the legitimacy and professionalism of ITOs.

R1 discusses different modes of performing an ITO: pre-sale of utility tokens, pre-sale of equity tokens, or pre-sales in which the developers who are building and controlling of the infrastructure take a controlling stake of the tokens. The latter ones, R1 argues, has one of its strength in retention of control over the platform on the part of the entrepreneur and the developers. It provides the venture with initial capital, the potential to mitigate currency fluctuations in the ecosystem, and allows the venture to influence consensus mechanisms which can be crucial to respond to environmental changes. R1 also notes that ITOs may have benefits for soon-to-be ecosystems or those that already exist in a minor capacity, as the ITO would allow the ecosystem to overcome a cold-start problem with an already vested interested in the platform from an invested community. R1 argues that equity token sales provide the secondary market that crowdfunding is left without, but also submits that it is a change of operations or something beyond a digitalization of existing investment mechanisms.

R1 discusses the impact of having long-term vested interest in the ecosystem, the potential for the entrepreneur in this capacity remains to be seen as system evolve. The effects of local currencies such as the Brixton Pound have had effects on the ecosystem in which it is being used. Those who use it become invested in the ecosystem and the assets can increase involvement if designed correctly. R1 believes this is something positive as regional currencies have been shown not always to work, see Greece and Germany in the Euro-zone for example. R1 argues that a similar truth may exist for industries, where a tokenized asset design specifically for that market and
demands could be more beneficial than a general currency, e.g., fiat currencies. This is also argued further, that the emerging ecosystem within cryptographic assets is providing the market with a digital playground for experimentation and exploration, where niche assets can be created in ways that are fungible and tradeable across ecosystems, but with specialized functions within the ecosystem.

R1 discussed the drawback of having venture capital involved in a venture may be forced scaling, that is: scaling the service or product outside that of the scope of the entrepreneurs. However, also the potential for involvement of experienced investors, as crowdfunding often only provide financial capital. Investments in early-stage start-ups are very risky which require knowledge of how to assess them accurately, according to R1. However, R1 suspects that those who invest in ITOs that have high levels of knowledge and are aware of the scope of what they are investing in are in the minority. Because of reasons that reside outside the sphere of cryptographic assets, but more because of dimensions with humanity where greed and fast money can promote desperate measures. Which in turn blur the boundaries even more, as greedy investments are grouped with “smart” investments.

Although R1 argues that there need to be discussions regarding consumer protections and regulations that can provide a legal basis for ITOs. However, notes that there already exists self-regulation and flagging behavior, that R1 believes will increase as ITOs become more mainstream and broadly applied. Similar to the effects seen in traditional stock investments, individuals educate themselves when investing. Therefore a need for regulations may be reduced, as the market may self-correct through an organic process. R1 also believes if instruments similar to those that lower the required educational level of investors in traditional markets, such as passive portfolios in the form of an index fund, the risks will reduce for potential investors.

R1 discusses the potential implications of Google, Facebook, and other large-scale online service providers that use advertisements on their platform are prohibiting the display of ITOs related ads. According to R1, this may have a positive impact as it would force those who wish to invest in ITOs to actively engage in information search as opposed to stumbling upon them by chance and being engaged through passive communications.

R1 is also cautious for the future of ITOs and warns for the potential of securitized and re-securitized tokens and token economies reaching the same conclusion as the financial crisis of 2009 where heavily securitized derivatives
caused the real-estate market to collapse in the USA with widespread effects within the global market. As R1 puts it: “there will be more transparency, but nevertheless, [a] systemic [risk] and I think that is something we need to guard against.”

4.4 Summary of chapter

This chapter presented the results of the conducted interview. The topics discussed included: the role of regulation, the role of investors, the role of fundraisers, the long-term perspective of new ways of providing funding for ventures, the importance of secondary markets for liquidity for both investors and fundraisers, the role of the entrepreneur, the benefits and drawbacks of utilizing crowdfunding when starting a new business venture, the benefits and drawbacks of utilizing crowdfunding when taking in new capital as an existing venture.
5 Discussion

Below are discussions for topics that emerged during the interviews presented in the synthesis and the author aims to relate the interviews both to the existing literature but also discuss the statements from the interviews critically. It is also important to note, the author, being at least partly aware of one’s biases offers a cautionary thought of not suffering from sample size neglect. Although the discussion that follows will be one of interest, the thesis is still a qualitative one and not a quantitative one. The discussion should, therefore, keep in mind that the representativeness of the findings may not be actual in the general case, but at least offers the reader insights into possibilities surrounding both the present and the future of ITOs.

In this section we will discuss a few central themes: 1) the democratization of investments, the often heralded vision of ITOs; 2) information disclosure in crowdfunding; are ITOs suffering from the same limits?; 3) Network establishment as entrepreneur, regarded as an important factor in traditional venture capital; 4) The impact of the team behind the ITO; 5) Geographical impact on investments, how much bias is there for products close to home?; 6) The role of the investors, how and if it will change with ITOs; 7) Choice of funding, the choices entrepreneurs face when choosing funding; 8) The herding effects within the market of ITOs; 9) The regulatory aspects; and finally, 10) A discussion of behavioral economics in relation of ITOs in general.

5.1 A democratization of investments?

The decentralized nature of ITO’s has also led them not to be aggregated in the same way online crowdfunding has been in the past. Instead of relying on platforms that allow the fundraisers to exists in an eco-system together with other venture, the ITO’s exists “over” a blockchain medium. There exist websites and similar services that aggregate a portion of upcoming ITO’s and provide visitors with some material surrounding them, such as their whitepaper or a link to the ITO’s website.

By demanding more of the investors in term of technical abilities, the ITO’s may have created a self-reinforcing due diligence process. The usage of blockchain mediated investments, though initially praised for the ability to lower the bar of entry and democratize the field of investments, may have
provided the market with a new Bloomberg-like service that still leaves the area specific novice in the dark.

As Mollick and Nanda (2015) found a considerable overlap between experts and the population in distinguishing valid and desirable investments, the increased requirements on the investors may not be only adverse in consequence. Interviews discussed both the negative aspect of increased pressure for due diligence and higher levels of area-specific knowledge, but as one interview puts it: “the most successful investors are those who invest in industries they know.”

However, the discussion of the after-market sales (R1, VC2, BI2) and trades of the token are still subject to low barriers to entry. As the only requirement placed by trading platforms are processes of “Know Your Customer.” If an investor can validate the necessary credentials and provides sufficient funds, nothing is standing in the way for the investors to act of their own accord in the free market of tokens. The effect as mentioned earlier of increased technical abilities on the part of the investor would only apply in the case of a pre-sale, or when a transaction with the smart contract facilitating the ITO is made. But this artificial boundary may disappear with time, as new services would allow investors more comfortable access to the medium, as those innovations will unlock untapped resources in the current system of tokens.

Yet, as argued by R1, if other services such as Google and Facebook limits the usage of adverts for ITOs then investors will have to spend more time performing both due diligence and learn how to invest without assistance from dumbed down versions of tools. Although, as discussed earlier, humans are prone to err. If investments are democratized, how does society face the challenges that come along? The idea that investments are easy and everybody should do it on by themselves fails to realize the effects biases and heuristics have on to-be investors who are not experienced.

If democratization occurs through the use of ITOs, one might expect a reduction in home bias presented by investors due to an instantly global market, as opposed to having a company with a regional presence which in turn is listed on a local exchange. For ITOs, the spatial location is diminished and would appear to be mostly influenced by regulatory stances by the region or country.

However, with the area being such a newly constructed one, the sample size neglect and overconfidence biases would have a severe impact. How is one
supposed to sample within the tumult of ITOs that are one day prosperous and the next hit rock bottom? With the volatility exhibited by the market, investors will be prone to both become overconfident when proven right but may over-correct wrong decisions if proven wrong.

The current framing of investments is that it is excluding in nature (BI1, BI2), with certifications, conventions, and regulations surrounding the area ruled by large investment banks and financial institutions. With that framing, it would appear as though investors are losing out, which may trigger loss aversion on the part of those who are today not involved in investments. While promoting the educational efforts of ITOs on the part of individual investors, both VC2 and BI1 could see a future where fund-like structures emerge, which would then again create a level of abstraction between the investor and the market. Some could argue that this fatigue is a problem, but if everybody spent their time making only investments, there would be nothing to invest in. Not everybody will be interested in investments and maintaining their portfolio. Nevertheless, do we need more inexperienced investors in the market today, increasing volatility and creating arbitrage?

5.2 Disclosure, trust, and crowdfunding

Turi et al. (2017) found that entrepreneurs are willing to subject their projects to crowdfunding when there is no fear of disclosure. The crowdfunding process subjects the projects to different ways in which they have to emit trustworthiness and reliability to the investors. The argument can be made that the fear of disclosure for ICOs is low, due to the intricate and detailed nature of the applications. The service and goods offered are often sophisticated and innovations in their ways. They only converge fully on the means of funding. The projects are often pre-financed by some other means of capital and are using ITO’s to increase their available funds without forfeiting equity or stake in the ownership of the company.

The fear of disclosure described in the literature and focused on by many in the space of crowdfunding appears to be of less interest in the ITO’s. As BI1 puts it: “everything can be considered open-source these days [..] the important factor for them is their network” in regards to Facebook and their platform. This idea of distribution through disclosure is in ways something positive, which opposes part of what Turi et al. (2017) described; when the desire of the venture is distribution, the effect of fear of disclosure may be reduced.
Turi et al. (2017) argues for artificial incentives, such as neutralizing mistrust in the market and for funders to issue debt-based convertible notes that can act as a means of ensuring a non-total loss of investment. The convertibles can either be managed through private funding on the part of the venture or through a “head of team” signaling financial support. The “head of team” is a third party, privy to information that is not disclosed to the public, who accepts to cover the investments of the venture to signal trustworthiness and belief in the success of the venture. Turi et al. (2017) focuses their arguments around the fear of disclosure and mistrust effects, as these hamper the co-utility of crowdfunding. They summarize their arguments, “given the online platforms facilitating the investment crowdfunding industry, and the artificial incentives we propose, there exists a co-utile protocol concerning the respective utility functions of the agents which is optimal at a predefined optimal debt contract through the convertible note.”

BI1 focuses on the implications following a seed-funding of using an ICO, but many ITO is being used as a secondary means of raising capital, where another traditional corporate-financier has provided the initial investment. This effect is also displayed in the interview with VC2, where it is argued that the primary benefit and usage areas for ITO’s should be either as initial seed funding or just before going public to spread risk. The additional capital could also cover costs associated with taking a company public, where the nature of the company is comprised of a mixture of both traditional financial capital as well as the economy created surrounding the issued token.

This increased diffusion of information and transparency towards the investors may reduce the disposition effect if investors know more about their investment they should also be able to be more able to create an accurate valuation. However, then again, a venture is more than what it presents. Humans are inherently bad at knowing what they do not know, which leaves openings for disasters. Even if investors would be able to “more accurately” assess the ventures, there would still be a risky investment to make - which needs to be remembered.

5.3 Building the network

VC2 and VC1 focus heavily on the team abilities, VC2 highlights the importance of the relationships established by the entrepreneur in the early stages of the venture. BI1 and BI2 describe the emerging networks of communities surrounding the new business ventures within the cryptographic sphere as
critical to the success of platforms.

We can observe that both faculties are adamant in arguing that the relationship between organization-investor to be one of critical importance, but observe that the nature of exchange is different in the instances. For traditional venture, there is a focus on the interpersonal relationship between investor and entrepreneur, but for cryptographic asset platform, the focus is on the interaction between the community of investors and the entrepreneur. As posited by VC2, where the future of venture capital is dependent on syndicates for investment may already be seen to begin to establish. However, with an inverted relationship, instead of having a group of non-involved investors that are guided by, for example, a business angel; one has a community supporting an entrepreneur from a non-local perspective.

The impact of these communities are still subject to study, see Ingram (2018) and Stam (2009) for examples. However, their role in the establishment of a new mode of crowdfunding appears to be central. They are often the first to invest, be it time spent developing the ecosystem or resources contributed to the cause.

With these networks, that can grow at a reasonable pace at first but accelerate as more and more people join the community. There is the risk of herding behaviors. As is appears that network and network size is one of the more focused on aspects of ITOs, the growth of a network would promote more growth as the value of the venture would grow and, similarly to how the efficient market hypothesis predicts the removal of arbitrage, there would be a removal of perceived arbitrage.

Turi et al. (2017) discusses the concept of co-utility for crowdfunding that two agents within a system can act in a way as to serve one agent’s agenda but at the complementing benefit of oneself. So by acting in a self-serving manner, the agent would work in tandem to achieving each other’s goals. With investors also becoming part of the broader network that is to be the ecosystem, their part as contributors to the system may increase as opposed to traditional passive investments made into stocks available in the broader market of securities. This view is also supported by BI2, arguing that there is not a widening of the gap between investors and entrepreneurs when it comes to ITOs but that the opposite is true. As the community surrounding the entrepreneurs gains a vested interest in the survival of the venture, the entrepreneur may find that the relationships available are far more rewarding than that one can achieve if it is required that they are in the same geographical space as the entrepreneur.
5.4 It could be a team effort

Conducted interviews reveal notions of impact created by the teams that are seeking funding through crowdfunding and using blockchain-based solutions. Both interviews with VC1 and BI1 reveal an intrinsic valuation of the group constellation as opposed to one solely focused on the project being created, VC2 also supports this. The idea that the team is central to the venture seems to be in line with the traditional models of financing, where there is a significant focus on the developers and the company as opposed to the specific product or service being offered, see Fried and Hisrich (1994).

However, the assessment of a team’s abilities relies heavily on heuristics, such as how well past performance predicts future and how social interaction interplay with venture success. As shown by research, overconfidence exists when investors are to evaluate stocks, what is stopping the same phenomenon to be true for evaluation of teams?

It would also be safe to assume that geographical components play a part in an evaluation of a team. VC1 describes how, ideally, one should be able to ride a bicycle to the board meeting as a good analogy for how much impact the spatial relationship between investor and company can have on the success of the financing venture. This notion of importance attributed to proximity would, in turn, increase the tendency for investments being influenced by home bias, as one would be very limited in one’s region of investment. This home bias may not only be represented in the geographical sense but a more encompassing manner.

5.5 Geography and the church tower

VC1 argued for the thesis of local investments that one should invest in the vicinity one can see from the local church tower. This effect has been illustrated in traditional venture capital, see Cumming and Dai (2010) and Chen et al. (2010). There is a tendency to favor local investments over those that are spatially distant to the venture capital firms area of operation. However, as noted in Agrawal, Catalini, and Goldfarb (2011), these tendencies appear to be reduced when a broader audience is granted access to the investment opportunities through crowdfunding. Both BI1 and BI2 also argue the same effect of the reduced impact of proximity, and the geographical aspects are not as crucial in the distributed crowdfunding ventures. However, R1 notes that even though the geographical church tower may not be applicable,
there exists an intellectual church tower, where individuals are subject to their estimations of markets and opportunities. R1 discusses how successful professional investors “invest in industries they know”, which is not always the sentiments shown by blockchain investors (BI1).

As shown in subsubsection 2.2.2, the current distribution of services available through ITOs focus on areas such as: finance, investing and trading, communications, and gaming. These are all aspects that can be considered global in their reach, but both finance and investments are heavily regional in their relation towards regulations. This can create a sort of necessary home bias, where those who are well-versed with the local regulations and, not surprisingly, the locals.

While this emphasis on geography manifests a certain home bias on the part of investors, it also shines a light on the still relevant portion of social capital in ventures. Even if things are turned digital, there will still be a perceived “good” candidate for investment and a “bad” candidate, based on characteristics that are perhaps not in direct relation to the service or product. If the market starts out globally, how will the geographical aspect affect the investment decisions made by traditional actors?

5.6 The role of the investor

The roles of investors are unclear in the space of cryptographic ecosystems and platforms, as argued by BI2. R1 notes: “The key difference is that in crowdfunding there is mostly just investment of financial capital and those investors don’t organize themselves and certainly do not sit on the company’s board, so they don’t force decisions in a company.” which is also corroborated by VC2, in that one of the vital difference for entrepreneurs in choosing the source of capital is the effect venture capital can bring in terms of other resources besides financial.

BI2 discussed the entrepreneurial implications of Distributed Autonomous ICOs (DAICO) for the entrepreneur, as DAICO provides investors with safety provisions in the form of tying capital to a time-line or deliverables. BI2 argues that regardless if DAICOs are adopted, there will be a change in how capital procurement is performed. Where a change is made, as the world of tokens would provide both investors and fundraisers with more options than the traditional tools do. Such as an instant secondary market as well as a digital solution for shares and equity.
The argument can also be made, that not all ventures deserve funding. If more financial resources are contributed to the investments of startup, which according to R1 are high-risk investments, less capital will be available for other parts of society. So when unqualified investors are left to their device, their allocation of resources may not be in both their own best interest but also not in others as their inability to perform successful investments will also impact other negatively. With overconfidence displayed by investors, as discussed in subsection 2.3, one can also observe the same effect relating to fundraisers. With the explosive growth of the market, many projects received funding, but few have turned into long-term successes. With the lack of available data, the market may, in turn, be promoting a case of sample size neglect here as well. However, many of the project’s future remains to be seen, so one cannot say too much about the effects this early.

One topic that came up during several interviews was that of the pre-allocation of tokens. VC1 argues that when part of the available pool of token is allocated directly to the team and the entrepreneur, the “natural order” where the applied arithmetics that once applied to investments is disturbed and current tools and instruments applied would no longer apply in their former capacity. However, BI2 and R1 argue that this distribution may, in fact, be one of the drivers of those platforms that end up becoming successful as the allocation of tokens to founders would help them maintain control over the development of the platform and help the entrepreneurs manage their surrounding organization developing the platform. Which in turn could prove to be a beneficial arrangement for both investors and entrepreneurs, as they could both retain control of the project.

5.7 The twin-tipped blade of choosing investors

Expressed both by academics and professionals the idea of involvement from investors may be a choice of the entrepreneur as crowdfunding becomes more widespread as opposed to relying on a traditional channel of capital procurement (R1, VC1, VC2). With crowdfunding, the entrepreneur can access financial capital, but with seasoned professionals, there may be other benefits to be had. However, at the same time, a strategic approach used by a venture capitalist may not be in line with the vision of the entrepreneur, which in turn leads to friction either instantly or could be the potential for later disputes.

The drivers of choice from the fundraiser can differ. Some might value a
relationship higher if it can be established in person with seasoned investors, while other could favor the support of a directly involved technical community. The effects of the choice are not apparent, but the choice of seasoned professional investors has had the best track record of the two.

The investors are also affected by this, as they will have to signal to potential fundraisers their position and values if the market for potential ventures grows into a public domain where crowdfunding becomes the primary source of funding. VC2 argued for a future where crowdfunding rules the game of venture capital. For individual institutions this would not change much of the operations, as their part in the endeavor is to provide risk capitalists with capital. However, risk capitalists, on the other hand, could be replaced, or augmented, by investor communities similar to those technical communities that arise surrounding open-source projects.

5.8 Profiting in the herding economy

As psychological fear of losing out has a more significant effect on investors than those that are positive, there are market dynamics that investors can utilize. Within cryptographic assets there exists a notion of “fear of missing out” or “FOMO” for short, this is used to describe investors relationships to emerging assets and can act as a driving force for an increase in prices of assets. The effects have been seen within the token trading during the end of 2017, where many new investors entered into the market in hopes of short-term gains that exists within a bull market. Much of the profiting within the market has been made possible due to volatility, which is exacerbated by individuals who “hype” certain ITOs. One interesting example is software tycoon John McAfee, creator of computer security company McAfee, who turned it into a business model to provide “hype” around tokens.

It would appear as Bradley Cooper says in the movie Limitless: “Share prices are not based on how a company works, it is about how mass psychology works.” R1 also discusses the effects of herd mentality as one of the negative aspects with both crowdfunding and ITOs, where undue attention is given to ventures that perhaps are only proficient in accounting for this mass psychology and therefore receive a significant amount of capital that would not have been provided by more conservative investors. However, the opportunities for profits within tokenized economies are not critically affected by time,

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according to VC1. The effects of the technology, if successful, will not care for the small levels of volatility that are observed in the beginning but that one can rush things slowly and be trying to time the market may be a futile exercise. As Amara’s law would predict, the effect in the long term will be underestimated. This sentiment is also supported by BI2, in a capacity of long-term vested interest in not only the currency speculations that follows token economies but also in the long-term benefits of the ecosystem that surrounds blockchain technology.

BI2 also discusses the potential for speculative forces as drivers of value during the last year. That with more and more speculation going into the token economies does who were invested early have made substantial financial gains on the speculation of others. Which is turn, perhaps through mental accounting, has then subsequently been put from one ITO into another. Which then reinforces the speculative forces, where one early adopter may invest due to interest in the platforms, those who follow do so due to a perceived increase in value. So there would be a herding effect, lead by those who initially profited.

5.9 The role of regulators

While both VC2, BI2, and R1 believes that the area of cryptographic assets will regulate itself as time progresses there is still concerns raised by BI2 and R1 about the role played by regulators. Arguing that the implications and nuances within a said ecosystem are hard to grasp and few have a comprehensive understanding of the characteristics of the system. With concerns about over-regulation that would in turn limit innovation, as well as a concern for the protection of individual investors. However, as BI1 puts it, it could be up to each investor to regulate him- or herself. However, with the presence of the biases discussed in subsection 2.3, where people cannot remain neutral to framings and their natural biases. There may a be a need for regulations, as suggested by R1, to counter herding behavior and reduce the impact of sample size neglect.

One also needs to bear in mind the effects that are community or group based and those that are only attributed to individual behaviors. For example, overconfidence and loss aversion would be harder to regulate against as the effects of regulation would not change the biases of the investors. Availability of information and not knowing what one does not know will influence the behavior of investors in ways that would be hard to regulate. So while R1,
discusses the need for consumer protection, there is also the case where regulations will not help them as they continue to err due to them being humans.

For regulations to be applicable, they need to engage with the legal framework and support system that exists for traditional investment assets, similarly to how the current legislation in Sweden for the acquisition of capital was proposed to change to include crowdfunding. However, this proposition did not solve the problem arising with cryptographic assets, as the measure explicitly excluded assets that after emission would be tradeable, see subsubsection 2.1.5.

The efficient market hypothesis, which suggests that markets are efficient in removing arbitrage opportunities, that is contested by behavioral economics, has been shown to work for events with high frequency (Ritter 2003). The results of Ritter (2003) would then suggest that people and markets learn how to adapt to things that occur with enough frequency. As argued by BI2 and VC2, the market may self-regulate and become efficient in removal of bad actors and similar problems. With the rapid growth of ITOs during 2017, the investors started to find heuristics and models for evaluation of ventures. These appear to refine as the industry grows and more opportunities arise. However, even if the market of potential investors learns, the opportunities for growth and change from the entrepreneurs’ side is limited as the ITO event is likely to be a low-frequency event for the person trying to create something new. In combination with low-frequency amateur traders, the situation would warrant safeguards that can provide a safety net or a play-book to reduce the potential risk involved for all parties.

However, then again, one of the benefits of ITOs is the removal of intermediaries with risk premiums, so depending on what one’s preferences are the availability of riskier options would suit some entrepreneurs more than others. Regulations and similar frameworks would limit the potential for risk adoption on the part of the entrepreneur and in turn, reduce the access to capital that would have to be attributed to the increased costs that legislation brings to the table.

It is also important to note that if regulations are too strict and cannot provide flexibility towards both investors and fundraisers, there is a potential for the system to remain on the outskirt of the legal system. BI2 discussed the potential for decentralized systems to exist outside the reach of legal enforcement. R1 also discussed the importance of clear frameworks and a need for guidance in how to handle economies that transcend geographical
and cultural boundaries. With this in mind it will be important for legislators to maintain a balance where the innovation is not destroyed, but also create ways for the ITOs to interface with the regular economies. Crowdfunding today already suffers from unclear directives and less than favorable conditions, although its effect has a proven track record, see Mollick and Nanda (2015) and Mollick (2014).

5.10 A new perspective for (behavioral) economists

The area of ITOs and new form of capital procurement without regulations or paternalistic frameworks provides economists with a previously unseen opportunity to study the effects of human behavior in regards to markets and financial effects. The more traditional markets offer insights, but only where investors are left to their own devices. Here the investors are not only entirely left to their device, but are also often inexperienced investors and therefore lack many of the forgiving effects that experience of an area can bring.

How are people valuing token economies? What are the metrics that actually determine the worth of the platform? It is often argued that the “value” of Facebook is its access to a vast network of users. This model of valuation appears to be the case often argued for token economies, that the potential for growth is where the potential for value lies. Which in turn also appears to fuel the speculative nature of the tokens, as more and more join the network the value should potentially increase exponentially. However, that would be a Ponzi-scheme, not intentionally but due to human behavior.

With greed being one of the driving forces of human endeavors (VC2, R1) and the implicit notion of one having more than another being something to strive for, it is possible that this volatility of markets cannot be removed. However, then the question is, how do you contain it while both maintaining the benefit but also not close the system down to further innovation? It could be argued that if considerations are made to reduce the impact of the tendencies of human behavior, the system could be off to a good start and a reduced impact of irrational behavior could also calm the market down.

However, it is not only the investors who are affected, as the market stands now, speculative interests thrive on the volatility, but at the cost of those who are interested in creating something new (BI2). To quote Vitalik Buterin, creator of Ethereum, “If all that we accomplish is Lambo memes
and immature puns [...], then I will leave.” This new tool and ecosystem for fundraiser and entrepreneurs may present interesting points of research that emerge when entrepreneurs can choose different routes and opposed to the worn down traditional one. One where fundraisers can gain access, and provide rewards, to contributors in an open way. As many of the biases and heuristics found by behavioral economics apply to the collective of investors, there should also exist ones within the entrepreneurial area. Why are some biased towards believing traditional venture capital offers them a better solution? Why are some the other way around? As discussed by BI2, one should not go down the ITO route unless one’s service approaches a problem from a blockchain perspective in the first place. However, we already hear rumors of Facebook\(^8\) issuing their own cryptocurrency. We could also be seeing more and more “traditional” platforms introduce tokenized features into their existing systems if it could prove beneficial.

5.11 Summary of chapter

We have now discussed a lot of themes that emerged during the interview and related them both to each other but also to the existing body of literature within behavioral economics. We could identify many areas where behavioral economics could, in part, explain the tendencies discussed during interviews. The reader was also made privy to some of the thoughts of the author, as those were also put in relation to the empirical results and the theoretical framework established prior in this thesis.

The area of ITOs is still one that is immature and will continue to grow and shape other aspects of the financial aspects of ventures. There will have to be more experimentation before the roles and tools within this new system of capital procurement are decided upon. But more on this below in the concluding remarks.

6 Conclusions and future research

6.1 Token economics

Traditional actors are still questioning the applicability of token economies (VC1, VC2). But most are positive towards crowdfunding, all except VC1. There is however a consensus surrounding the need for experimentation and further development of the funding tools (R1, VC2, BI2). The ITOs and their ecosystem created today may not be those that survive the test of time. As with all new technologies, it is going to be a rough start where some are going to have to suffer losses.

But as shown in section 5, the effects suggested by Turi et al. (2017) appear to be less evident for token economies than other crowdfunding ventures. With effects as important as information disclosure, it begs the question of what more there is that is not evident at first sight.

Today, most ITOs rely on the donation-model (Belleflamme, Lambert, and Schwienbacher 2014), while a few are striving towards an equity model (Ahlers et al. 2015). The optimal solution is probably somewhere in between. As the tokens stand now, there is far too much ambiguity to fit into the narrow scope of traditional market mechanics. As discussed, both in the thesis and the interviews, there is a need for further developments in the field of token economics. An initial taxonomy, as the one described in subsubsection 2.2.4, could provide fertile ground for future developments. As a general taxonomy is often a prequel to more advanced research, the importance of the roles played by regulators and that played by communities are both intensified as their unification surrounding a taxonomy will perhaps be what is required for further progress and develop the technology.

The purely monetary effects of token economies is still clouded. Neither are the effects of economic ecosystems within a token ecosystem clear from an investors’ point of view. The appreciation effects the underlying system inherits from the larger one have yet to be measured in effects, as some ecosystems allow for systems to propagate to an indefinite depth, those may be quite surprising. This in combination with speculative drives of investors could create a less than favorable dynamic where the system would emulate a pyramid-scheme, where the idea is that one can profit as long as the network grows.
6.2 Regulatory practices

As suggested by Griffin (2012) and Valanciene and Jegeleviciute (2013), the key for diffusion may lie in regulations. One can hope for a more clear and easily deciphered regulatory stance, with both Swedish regulations (Finansdepartementet 2018) starting to accept crowdfunding and ESMA, hopefully, moving towards establishing a sound legal framework surrounding the ITOs within Europe. However, as pointed out by BI2, this is the first time we have technology that is outside the reach of the traditional legal boundaries that previously held true. Which in turn has caused many of the behaviors observed by behavioral economists to rear its head. But as shown through the results of this thesis, regulations are seen as a necessity by a majority, but is also considered not the be the most vital issue at hand (R1, VC2, BI1, BI2).

Many of the regulatory aspects are those that apply to crowdfunding as well, where promising results have been shown as crowds tend to promote self-regulation, see Mollick and Nanda (2015) and Belleflamme, Lambert, and Schwienbacher (2014). And with the emerging Swedish regulation, see subsubsection 2.1.5, these aspects should be integrated into the legal textbooks within a near future. As they are adopted, hopefully, the use of crowdfunding will not be shunned and perhaps even promoted as an alternative to the traditional capital route. But there needs to be action on for the case of ITOs.

So to conclude the remarks on regulations and legal framework for this thesis: if ITOs are to become an appreciative asset of the financial community, efforts needs to be made in order to reduce the impacts of unwanted side-effects, such as those posed by behavioral economics, and promote the development of capital procurement models. A step in the right direction would be to promote the application of instrument that are tried and true within traditional economics and apply them also to the new model. This would allow for a smoother transition period and increase adoption by traditional actors. As shown with Facebook, there is commercial interests within the sphere of cryptographic assets. If regulations cannot be preemptive, they will have to be responsive and with the capacities of tech-giants; it will be hard to keep up if the head-start becomes too big.
6.3 Behavioral economics

The ecosystems of cryptographic assets are a fascinating field of study for the behavioral economists as the removal of all regulations forces the psychology of the human mind to rule. The effects caused by the human psyche creates an interesting dynamic where a natural process of “regulatory” practices emerge, but many of the unconscious biases are still present and needs to be addressed if consumer protections is a desire. As discussed in subsection 2.3, many considerations need to be made if the systems are to be constructed with the best interest of investors in mind. Although, one would also have to take a stance in regards to what “best” refers to within this context.

As observed through this thesis, many of the effects suggested by behavioral economics, see subsection 2.3, have manifested themselves within cryptographic asset ecosystems. Herding behavior, also observed for traditional crowdfunding, may have had severe impacts on the adoption of ITOs. Over-confidence on the part of the investors, as the area is still uncharted territory; those who possess advanced levels of knowledge are few and far between. There is also conservatism on the part of those who argue on the traditional side of things, where the potential of ITOs is often depreciated, but also on the part of investors within cryptographic assets, who argues that there can be no consolidation of traditional systems and this new one.

6.4 Future research

The area of ITOs is a hairy one, filled with challenges and potential for exploration. The area will require much more research, especially concerning how ITOs mature and what the long-term effects are both on investors and fundraisers. With all the trouble it has brought along, the future may hold many treasures and, as the saying goes, only time will tell. Future research may want to examine one of the following questions:

What are the effects of long-term exposure to vested interest from the public from the entrepreneurial side? For traditional venture capital the stake is made by a group of investors and then a market within the public is established, with the emergence of token economies this may change. Many of the applications that today rely on tokens stem from projects that once had a devout following of early members within the community. Their role, and the role they could play, is not widely identified in the literature.
How can fundraisers who utilize ITOs increase participation on the part of investors? In similar vein as the previous question, the role played by traditional investors is often one of advisory, capital or networking. What the effects are when ITOs are involved is not well researched. The idea was hinted upon in the interview with VC2, who suggested a model where investors are, instead of being singular actors, contained within a syndicate or similar. The dynamics of these groups, both internally and towards the project, would be an interesting area to look into more deeply.

What are the effects that control how well an ITO performs, both in development and ability to raise capital? This is more of a general question, one that perhaps could be answered statistically. But with the volatile marketplace and turbulence surrounding ITOs, their cause-and-effect patterns are unclear. Which actions pose to promote and which are merely a nuisance is today not well-documented.
References


