

NHH



Initial Coin Offerings:

Domicile as One of the Key Determinants for Success

An empirical study of how regulations affect the success by studying the domicile of ICOs conducted in 2013 – October 2018

Master Thesis in Finance

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This thesis was written as a part of the Master of Science in Economics and Business Administration at NHH. Please note that neither the institution nor the examiners are responsible – through the approval of this thesis – for the theories and methods used, or results and conclusions drawn in this work.

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Abstract

The adoption of the Blockchain technology permits ventures to raise capital by conducting an Initial Coin Offering (ICO). This thesis assesses the determinants of successful ICOs and launches the domicile and its corresponding regulations as one of the key determinants for ICO success. To investigate the determinants, a logistic regression approach will be employed using a sample of 1,474 conducted ICOs in the period from 2013 to the end of October 2018.

The main finding is that the domicile and its corresponding regulations of an ICO influences the success of ICOs. Disclosing the domicile prior to a token offering will positively affect the success. Domiciling in a positively regulated environment will also positively increase the probability of ICO success. Moreover, hosting ICOs in China or South Korea prior to the ICO bans or intentionally domiciling in an unregulated environment will not positively affect the probability of success. Furthermore, the findings display that publishing a white paper or having a team with previous Blockchain or ICO experience will not influence the probability of success. However, the length of a white paper, releasing the project source code on a public repository and having large teams are positively related to ICO success.

In conclusion, the success of ICOs is dependent on several determinants, which collectively contribute to increase the transparency and reduce the information asymmetries associated with ICOs. The importance of domicile as one of the key determinants will contribute to the literature by extending the research conducted of determinants associated with ICO success and motivate to further research.

Preface

This thesis was written as a part of the Master of Science in Economics and Business Administration at the Norwegian School of Economics (NHH) during the autumn of 2018.

The topic of this thesis reflects my interest in Financial Innovation. Namely how the Blockchain technology contributes to disrupt the financial sector with respect to Initial Coin Offerings (ICOs). By investigating how the choice of domicile and its corresponding regulations is one of the key determinants of ICO success, I have firstly gained a comprehensive understanding of how regulations affect ICOs, but also enhanced my understanding of the Blockchain technology and its applications as well.

As the subject is currently emerging, the topic is yet to be fully examined from an academic perspective. Hence, it has been challenging to locate complementary research to the thesis, which has increased the difficulty of the writing process.

Nevertheless, the process has been an interesting and educational experience, where I have gained insight of a field that is currently unfolding. I am grateful that NHH in the latter year has realised the importance of this topic by offering courses with an emphasis on Financial Innovation.

I believe that this thesis provides some interesting conclusions regarding how the domicile is one of the key determinants of ICO success, which I hope will motivate to further research and potentially be viewed as an incentive for legislators to implement regulations.

Finally, I would like to express my sincerest gratitude towards my supervisor, Xunhua Su, for providing excellent guidance and valuable feedback during the process of finalising this thesis. His knowledge of and interest in this topic has made the writing process engaging and pleasant.

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Duy Son Huynh Tran

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1. Introduction

1.1 Motivation

Recent technological developments have altered the way ventures raise capital to fund their operations. Raising capital through venture capitalists or government grants forces additional constraints on the business, which may influence the outcome of the firm. With use of the Blockchain technology, ventures are now able to raise capital without enforcing these restrictions.

The Blockchain technology was first introduced in the paper of Nakamoto regarding the virtual cryptocurrency Bitcoin. The objective was to offer an elegant solution that would eliminate the need for intermediaries, since Nakamoto viewed intermediaries as the root cause of the last financial crisis (Nakamoto, 2008). This underlying technology is an open and public distributed ledger, which utilises the principles of cryptography to facilitate information. The technology allows an encryption of information, where networks can verify or disregard information without the possibility of the data being altered or accessed itself. The result is a decentralised network, where the necessity of intermediaries is nonexistent.

In the wake of Bitcoin, users of the Internet discovered other possible applications of the Blockchain technology as well. One of the very first iterations of the Blockchain technology, was an idea to add currency layers with a new set of rules on top of the protocol layer (Willet, et al., 2013). This is equivalent to adding new layers to the protocol layer of Bitcoin. By exploiting this insight, others could also add new layers, i.e. ideas, on top of an existing blockchain. The addition of currency layers upon the blockchain generates tokens or coins associated with the layer.

Since Bitcoin is tradeable and has a monetary basis into fiat money¹, ventures realised that this mechanism could be employed to raise capital. By generating new tokens or coins, which then could be exchanged into Bitcoins or other cryptocurrencies, ventures could raise capital to

¹ Fiat money is a currency that is supported by a government, but is not associated with a physical commodity (Investopedia, 2018).

develop their ideas. This innovative mechanism of raising capital illustrates the principle of Initial Coin Offerings (ICOs), where investors and supporters can assist ventures monetarily. Investors can thus contribute in funding projects by exchanging cryptocurrencies, such as Bitcoin or Ethereum, into the project's respective token or coin, hence the name Initial Coin Offering.

Since the very first ICO, the Blockchain technology has been extensively explored and new applications of the technology have emerged. Additional ventures are now using this device to raise capital to fund their ideas, which provides an alternative to traditional forms of financing. By publishing a white paper, a document with a business idea – similar to a business pitch – ventures can broadcast their projects to the users of the Internet. The market may thus offer capital in exchange for the issued project tokens if they wish to. The tokens have different claims, which varies across the projects, and can for instance represent access to a platform or a tradeable item that can be exchanged on a secondary market.

However, only releasing a white paper prior to conducting an ICO is not sufficient. Jong, Roosenboom and Kolk (2018) argue that there are several determinants that influence whether a token offering is successful or not. The common denominator for all these determinants is the fact that they provide additional information to the market and thereby increases the transparency of an ICO. The reduction of information asymmetries associated with ICOs makes investors more likely to invest and thereby increase the probability of ICO success. One of the determinants that is yet to be fully investigated is the domicile and its corresponding regulations, i.e. how regulations influence the success of Initial Coin Offerings.

There are several justifications for why the domicile and its regulations may be of importance. Since an ICO is a recent technological innovation, authorities have trouble adjusting the rigid and outdated legal frameworks to fit ICOs. Countries are therefore not coherent on how to deal with this novel device, which leave ICOs in a legal grey area. This observation is exploited by fraudulent individuals, who launch pure scams to enrich themselves by defrauding investors. Selecting an ICO that is domiciled in a location that governs the investors is therefore in the interest of the investors.

In addition, whether ICOs nor investors know what legal frameworks apply in cases where a governmental intervention occurs. Problems that may arise because of this are for instance confusion concerning taxation. Hence, authorities can provide the ICOs with clear regulatory

guidelines regarding ICOs as well shield investors from fraud by imposing regulatory measures. This incentivises the domiciles to construct a proper environment for both the token holders and the market by providing a conclusive legal framework.

There are also cases where the authorities have implemented measures to regulate ICOs. Some cases involve domiciles that are positive to ICOs, whereas others have taken a clear negative stance against ICOs. Whether this indeed influences the outcome of ICOs or not is yet to be determined, as the mechanism is currently emerging and this determinant is not completely investigated as of this date. This is precisely the motivation of this thesis and establishes the foundation for the research question presented below.

The thesis adds to the emerging literature of ICOs and in particular with regards to the determinants of ICO success. As of this date, there are few papers that have investigated the determinants. Adhami, Guidici and Martinazzi (2018) examines 253 ICOs from 2014 till August 2017 and find that the likelihood of ICO success is higher if the source code is public, when an ICO presale is hosted and if the issued tokens involve access to services or a right to share profits.

Furthermore, Jong, Roosenboom and Kolk (2018) investigates the success determinants of 630 ICOs between August 2015 and December 2017. They find that ICOs which disclose more extensive information to the market are more successful, i.e. reduces the information asymmetry. Moreover, having a GitHub repository available, a token presale, large project teams and not using bonus schemes are positively related to ICO success.

Moreover, Amsden and Schweizer (2018) investigates 1,009 ICOs from 2015 to March 2018 and find that better connected CEOs and larger teams will positively influence ICO success. Not making the source code public and releasing a short white paper is negatively correlated with success due to less transparency. Reducing the information asymmetry and increasing transparency are therefore crucial components in accomplishing ICO success.

This paper extends this literature threefold. First, the thesis will use a sample of 1,474 ICOs conducted from 2013 to October 2018, which is the largest sample used as of this date. The large amount of ICOs will give a more complete picture of the ICO landscape compared to other papers with a smaller sample. Second, the thesis will use a feature of the white paper instead of the white paper itself as a determinant of ICO success. The length of a white paper can be considered as a proxy for white paper quality as longer papers convey more extensive

information and thereby reduce the information asymmetry. Third, the thesis will investigate a determinant that is yet to be fully investigated. The domicile of an ICO may influence the success of ICOs as domiciles provide different environments and legal constraints. The differences in environments may therefore influence the outcome of ICOs.

1.2 Research Question

The objective of this thesis is to investigate the effect of domicile as one of the key determinants of ICO success by studying the domicile's regulations. Whether this has a positive or negative effect on the success of ICOs is yet to be determined. Given the nature of the motivation, the following research question is formulated:

”What implications do the domicile and its corresponding regulations have on the success of ICOs when taking other determinants into account?”

1.3 Outline

This thesis is structured as follows. Initially, a theoretical background review of asymmetric information will be given. Furthermore, a conceptual introduction to the underlying Blockchain technology is presented. Next, a comprehensive exploration of the world of Initial Coin Offerings is given. A conceptual explanation of ICOs and its origins, as well as a literature review of the determinants of ICO success will be discussed.

Further on, a chapter on how the research process was conducted. This chapter elaborates on how the research question is answered by formulating several hypotheses. Next, a chapter concerning the methodology is given. This chapter details how a logistic regression approach with its underlying assumptions is employed to answer the research question. The variables used in this thesis are also explained detailed and explained on how they were generated.

Next, a chapter regarding the data is given. The chapter encircles how the data was retrieved from several ICO trackers and then manipulated to obtain a complete dataset containing 1,474 conducted ICOs in the period 2013 to October 31st 2018. The data is then used to detail the current state of the ICO market, which is presented in the chapter afterwards.

Moreover, an empirical analysis is conducted. Since this thesis relies on a descripto-explanatory design, the chapter will present a descriptive and an inferential analysis of the formulated hypotheses. The analyses will jointly contribute to answer the proposed hypotheses as well as the research question. The aim of this chapter is to provide some insights on how the different determinants contribute to influence the outcome of ICOs with an emphasis on domicile as one of the key determinants.

The next chapter is devoted to discuss the results and how the main findings contribute to extend the currently thin fold literature. Finally, a conclusion is presented.

2. Literature Review

The literature review will initially present a theoretical background review of asymmetric information, which is the main issue associated with Initial Coin Offerings. Next, a conceptual explanation of the underlying Blockchain technology is given, before proceeding to a comprehensive introduction to the world of Initial Coin Offerings and its origins. This introduction will entail an explanation of how ICOs are conducted, as well as the strengths, weaknesses and controversies. Finally, a review of some of the determinants associated with ICO success will be given, before discussing why the domicile of ICOs is one of the key determinants for success.

2.1 Asymmetric Information Theory

To motivate for the issues associated with Initial Coin Offerings, a presentation of the theoretical background is necessary. Asymmetric information arises when the insiders have superior information regarding the venture, such as firm characteristics, compared to the outsiders. Information asymmetries between token holders and investors will therefore influence the outcome of an ICO by altering the investment decisions of investors. Hence, it is possible to view the actions of the token holders as a signal of private information to the market, which could alter the beliefs of the investors.

This problem is extensively examined in the literature. Akerlof (1970) studied the presence of asymmetric information in a market consisting of products of various quality. This is commonly titled as the Lemons problem, where the buyer and seller encounter information asymmetries. The idea is that buyers cannot assess the true value of a vehicle and will hence pay no more than the average price. Since the seller knows the true value of the car, Akerlof argued that the obtained average price favours the seller. This is because the average price would still be greater than the price the seller would receive if the buyer had the knowledge of the true value of the vehicle. Hence, there is a disadvantage for sellers of premium vehicles, as they would not obtain a superior value for premium cars.

Another example is Leland and Pyle (1977). They model a situation, where the entrepreneurs are filing for an Initial Public Offering (IPO) and thereby possess superior information of the true value of the firm. The uninformed investors do not have the knowledge of the true firm

value. The insiders will next decide on how much equity to retain in the IPO, which implicitly signals the private information to the outsiders. Retained ownership share will hence signal the true firm value and the internal beliefs. They showed that the entrepreneurs should retain more equity than optimal diversification allows. This illustrates that asymmetric information of the firm value may alter the beliefs of the outsider when the insiders signal how much they want to retain.

Myers and Majluf (1984) extend the idea of Akerlof (1970) further by analysing asymmetric information in a corporate finance context. They study a firm, which has the option to issue equity and invest or forego an investment opportunity. To finance the opportunity, the firm obtains external financing from uninformed outsiders. They showed the existence of information asymmetries between the firm and the outsiders, as the insiders would act in the favour of old shareholders. In equilibrium, the firm might forego positive NPV projects due to information asymmetries. Due to having to issue equity to finance the project, old shareholders are worse off and will not issue and invest. Hence, the presence of asymmetric information makes the firm to reject positive NPV projects.

The mentioned examples demonstrate the issues associated with ICOs, as the determinants seek to reduce the information asymmetries, such that both insiders and outsiders make informed decisions.

2.2 The Blockchain Technology

The concept of the Blockchain technology was originally introduced in the paper of Nakamoto regarding Bitcoin: A Peer-to-Peer Electronic Cash System. The main idea is that Bitcoin is a digital currency that could be facilitated between peers without the need of intermediaries. Nakamoto did also establish the foundation of a revolutionising technology that has many applications and the ability to disrupt and transform numerous industries (Nakamoto, 2008).

2.2.1 Blockchain: A Conceptual Overview

A blockchain is a public and decentralised ledger, where information is recorded and transmitted through a transaction between peers without the presence of an intermediary. A transaction may not purely entail information, but also involve other items such as assets, documents or values. The decentralised ledger records a list of all completed transactions since

the existence of the blockchain (Gupta, 2017). To explain how a transaction is facilitated and completed using the blockchain technology, figure 1 below will be used.

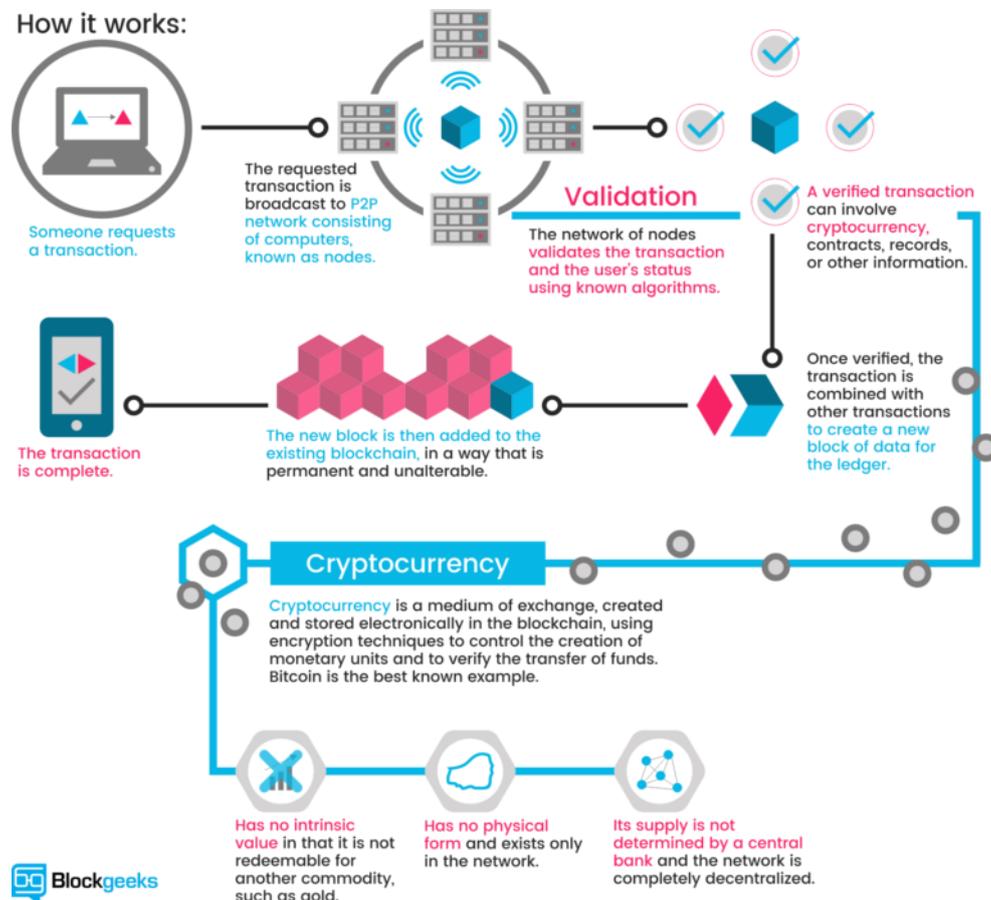


Figure 1: How a transaction is facilitated using the blockchain technology (Decastro, 2016).

A user will initially engage in a transaction by requesting either value, e.g. finances, or information such as data or documents. The engagement is completed through the Internet, where the transaction is broadcasted to a network of peers ready to participate in the transaction. The network is titled as a peer-to-peer network, where each peer represents a node. The nodes in the network will next verify the authenticity of the transaction using algorithms set by the blockchain.

The transaction is then carried into a block, where each block contains a cryptographic hash (Gupta, 2017). A cryptographic hash maps the input, which is of a variable length, into a fixed-length output, similar to creating a digital signature for the transaction (Madhuravani & Murthy, 2013). The proposed transaction will thus be mapped into a fixed combination of arbitrary letters and numbers, which represents a unique fingerprint for the transaction. The

process of assigning arbitrary letters and numbers is known as Cryptographic Hashing. The name Blockchain originates from the fact that the last line of code of the previous block will be the first line of code in the next block, yielding a tamper-free blockchain.

For the transaction to be verified and then carried into a block and ultimately added to a blockchain, a process named mining must occur. An individual that participates in the mining process is titled a miner. The objective of the process is to generate the correct hash for the transaction. To generate this hash, a miner must use a substantial amount of computational power to solve demanding mathematical problems. Once the correct hash is generated, the transaction is validated and recorded on the public ledger. It is then combined with other verified transactions to create a new block of data, which is then added to the existing blockchain in a way that is permanent and immutable. The transaction is thus facilitated and considered complete (Antonopoulos, 2010).

A blockchain can therefore be viewed as a ledger of recorded transactions that cannot be altered, because of the underlying cryptographic hashing process. Since each peer in the network engages in the transaction, all the participants will obtain the identical information in real-time. This means that all the peers will possess a copy of the public ledger. Consequently, the Blockchain technology represents an unalterable way of facilitating transactions of values or information to a network of users, where any user has access to the transaction history through their own copy of the public and decentralised ledger.

2.3 Initial Coin Offering (ICO)

The following section will introduce the concept of Initial Coin Offering, which is an application of the Blockchain technology. Initially, the origins and how an ICO is conducted will be presented together with its strengths, weaknesses and controversies. Next some of the determinants associated with ICO success will be examined, as well as giving an extensive review of how the domicile of ICOs is one the key determinants of ICO success. Finally, this section will conclude with a comprehensive review of the current regulations of ICOs in several domiciles.

2.3.1 Origins of Initial Coin Offerings

In the wake of the paper of Nakamoto (2008) regarding Bitcoin, users of the Internet gradually realised the vast potential of the Blockchain technology. An individual by the name of J.R Willet expanded on the idea of Nakamoto. By treating Bitcoin as a protocol layer, like a fundamental cornerstone, it is possible to add currency layers with a new set of rules on top of the protocol layer (Willet, et al., 2013). The addition of a currency layer would demand a generation of tokens or coins associated with the layer. Tokens and coins are used interchangeably. This extension is one of many innovative applications of the original idea of Nakamoto. The findings of Willet were later published in the Bitcoin Talk Forum in January 2012, but attracted minimal attention and hence remained unknown for some time (Shin, 2017).

During the San Jose Bitcoin Conference in 2013, Willet's findings gained massive support and popularity. By now, Willet fully realised the true potential of his findings and named his project as Mastercoin. The idea of Mastercoin was to launch a second-generation protocol on the Bitcoin protocol (Buterin, 2013). The development of a second-generation protocol entailed a generation of tokens or coins, which allowed Willet to attract monetary investments. This was achieved by exchanging Mastercoin tokens for bitcoins, which have a monetary basis in fiat currency. Willet managed to raise capital through the exchange of tokens for bitcoins, and thus launched the world's very first Initial Coin Offering.

The Mastercoin project reportedly raised US \$500,000, which later appreciated to over US \$5 million (Bester, 2017). Today, the project is still present in the current ICO landscape, but is renamed as Omni, which has emerged into a decentralised asset platform on the Bitcoin blockchain (Omni Layer, 2018).

Since the creation of the very first token sale, other individuals have extended on Willet's innovative application of the Blockchain technology. This has resulted in a wave of ventures using the mechanism to raise capital to fund their projects. Consequently, Willet pioneered the idea of raising capital through an Initial Coin Offering, where he provided the world with a contemporary device to connect capital-providing investors with growing ventures.

2.3.2 The ICO Process

An Initial Coin Offering (ICO) represents an innovative and decentralised way to raise capital with the use of the Blockchain technology. By privately issuing and selling virtual tokens or coins to a pre-determined price, a team can raise the necessary capital to launch a venture. This is achieved by exchanging existing cryptocurrencies, such as Bitcoin or Ethereum, into the respective project's token (Robinson, 2017). Launching an ICO consists of several stages, which will be elaborated in the following.

ICO Presale

Before conducting the official ICO, token holders have the option to run a pre-token sale, namely an ICO Presale. This stage is typically aimed at selected investors, which is comparable to a private placement and occurs before the official token offering to the public. The purpose of this occasion is to cover expenses and costs related to the launch of the ICO itself. Expenses such as marketing, promotion and design incur when attempting to maximise the exposure of an ICO. To cover these costs, developers often run a sale of the underlying tokens or coins at a discount compared to the public ICO price. The undervaluation of the tokens is done to attract investors to cover the expenses. Hence, the funding target in an ICO Presale is considerably lower compared to the main funding target of an ICO (ICOWatchlist, 2018).

After deciding whether to launch an ICO presale or not, the official Initial Coin Offering initiates. To explain how an Initial Coin Offering functions, figure 2 below will be used.

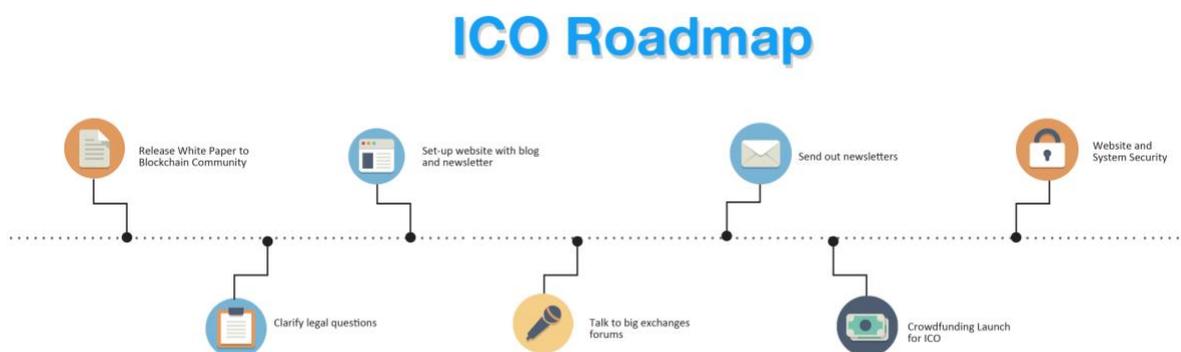


Figure 2: The main stages of an Initial Coin Offering (Hryniuk, 2018).

Stage 1: Publishing a White Paper

The Initial Coin Offering initiates when a venture publishes a document, which formalises and conceptualises the underlying idea of the project (Loizos, 2017). This document is titled as White Paper and describes the business model and the technical aspects of the project (Conley, 2017). The construction of a white paper is vital, as the purpose of this document is to attract investors, similarly to a business pitch. The function of the white paper is to secure an informed decision-making-process. Brummer (2018) argue that the white paper should contain several components to be considered as of high quality and thereby increase the likelihood of ICO success.

First, a white paper should include the domicile of the project to avoid information asymmetries on behalf of the token purchaser. If there is a lack or impossibility of identifying a venture's respective domicile, it would be troubling to identify which laws that govern the token holder and investors. Buckley et al. (2017) estimated that approximately 32% of Initial Coin Offerings did not disclose their domicile and hence created information asymmetries.

Moreover, the document should include an understandable problem formulation and offer a feasible technical solution to resolve this problem. The document should therefore include a valid business model that the public can audit and verify. This should be explained in an easy manner to ensure that all investors are equally informed. In addition, the underlying code of the solution should be uploaded to a public code repository, such as GitHub. In this way, both investors and enthusiasts can conduct a proper project due diligence and review the solution and feasibilities concerning the technical aspects.

Brummer (2018) also mentions that the white paper should address the developer team behind the project. The qualifications and credentials of the founders are of importance when assessing an ICO. In a recent ICO-scandal named Giza, the scammers used stolen LinkedIn pictures to advertise their ICO before exiting with roughly US \$2 million (Kharpal, 2018). This incident amongst many others, emphasises the importance of conducting a proper background check of the developer team and illustrates that a trustworthy team behind the white paper is crucial to avoid being conned.

The white paper should also contain a description of the token or coin to be issued. Since the participants exchange an existing cryptocurrency for a venture-based token, the developers of the venture should include details about the functionality of the token or coin, as well as how

the coins or tokens are generated (Conley, 2017). This property will be further explained in stage 2 below. After publishing the white paper, potential users, investors and supporters may independently review and discuss the white paper to improve and further develop the initial solution. This process ensures that the public is also involved in the creation of the project before the venture launches its official Initial Coin Offering.

Stage 2: Issuance and Sale of Tokens

Following the release of the white paper the token holders make an announcement regarding the issuance and sale of venture-based tokens or coins. The announcement will enclose the number of tokens available, the pre-determined token price and the duration of the token sale. The number of tokens and pre-determined token price establishes the foundation for the amount of capital the venture aims to raise. There exists multiple definitions of tokens and coins, but the selected definition is the most fitting one:

“A token or coin is a unit of value that an organisation creates to self-govern its business model, and empower its users to interact with its products, while facilitating the distribution and sharing of rewards and benefits to all of its stakeholders”

- William Mougayar (2017)

Mougayar’s definition briefly mentions an aspect of the issued tokens or coins that must be addressed. It must be stressed that a token or coin can represent any type of claim. The claim may be equity, currency or utility to mention a few possibilities. The precise claim of the token is solely dependent on the venture. Nevertheless, the function of the token should be disclosed.

Moreover, it must also be stated that a coin or token may not induce any ownership rights or voting rights like equities, which is a critical feature of many issued tokens or coins. An illustrative example of the difference in claims is the case of GameCredits. The venture allows gamers to buy and sell in-game items by using the company’s tokens instead of traditional credit cards (GameCredits, 2018). In this case, the claim of the associated tokens is therefore utility in contrast to Bitcoin, which is a means of payment.

The number of issued tokens varies and is dependent on the ICO. This is due to the usage of different models when issuing tokens, where each model follow a pre-determined mathematical algorithm. Some ICOs such as Golem, issue a fixed and definite number of

tokens, thus determining a fixed number of tokens available. In the case of Bitcoin, the tokens are distributed gradually as miners are rewarded with bitcoins for solving complex mathematical puzzles. Even though there is a continuous issuance of Bitcoins, the total number of bitcoins is fixed similar as Golem². Both these examples differ from Ethereum, which has a continuous issuance and supply of tokens (Petkanics, 2017).

The pre-determined token price is a fixed price that an investor pays to participate in the ICO. The price is solely determined by the token distributors. Different factors play an integral part in the valuation process. Typically, the token price reflects the internal beliefs of the project. Similar to an IPO, it is essential to avoid an undervaluation or an overvaluation of the tokens. If the tokens are undervalued, the venture is selling tokens below what the market is willing to pay. Thus, there is an unrealised potential embodied in the tokens. In the opposite case, an overvaluation leads to selling tokens above what the market is willing to pay, therefore not being able to sell the desired number of tokens and hence being unable to raise sufficient capital. This may result in an unsuccessful token offering.

The Initial Coin Offering will persist as long as the announced duration of the ICO. During this process, the tokens are offered to the public through an auction. Both investors and supporters exchange existing cryptocurrencies such as Ethereum and Bitcoin into the respective project's token given a fixed exchange rate. This fixed exchange rate is determined by the ventures. Throughout the auction, the price of the tokens is solely backed by the faith in the developers. The proceeds of the sold tokens are then used to vitalise the idea and launch the venture (Piotrowska, Schenk-Hoppé, & Nica, 2017).

Stage 3: Post-Token Sale

An Initial Coin Offering is considered as completed or successful, if it has reached the funding target set prior to the ICO. In cases where the project has not achieved the funding target, the particular ICO is considered as incomplete and thus a failure. If the outcome of an ICO is unsuccessful, the purchased tokens are typically refunded to the investors.

² The amount of Bitcoin available is limited to 21 million Bitcoins (Nakamoto, 2009), whilst Golem is fixed at 1 billion Golem coins (CoinMarketCap.com, 2018).

In the event where an ICO is successful, the tokens are then distributed to investors and the token is added to an exchange medium. These marketplaces provide liquidity and allow investors and supporters to buy and sell the specific token in case the beliefs of the project are changed post-ICO. At the exchange, investors can trade their token into other cryptocurrencies – offering an effective way to liquidate their crypto tokens. The price of each token is instantly determined by the price dynamics in form of the supply and demand mechanism (Kastelein, 2017). It is worth remarking that the market price of the tokens significantly deviates from the initial token price, whether it is a positive or negative deviation is conditional on the respective ICO.

The approach of raising capital through an Initial Coin Offering represents an innovative way of crowdfunding. Since tokens have different claims, it is possible to issue tokens with no ownership rights, keeping the company control in between the developers, whilst raising sufficient capital to fund the venture. By issuing tokens that have claims such as utility or access, the developers can offer other incentives to invest into the project. Consequently, Initial Coin Offerings illustrate an effective way to finance a venture with the use of the Blockchain technology.

2.3.3 Strengths and Weaknesses

Despite ICOs providing an innovative vehicle of raising capital, it is also essential to recognise and address the many strengths and weaknesses associated with the mechanism. Kastelein (2017) addresses several benefits and disadvantages in terms of financial innovation, but also how an ICO provides a means of raising capital compared to traditional forms of funding. This sub-section will discuss the many advantages and disadvantages underlying ICOs.

First, it is evident that ICOs provide an innovative way of raising capital using the Blockchain technology. As previously mentioned, the project tokens may not entail any ownership rights in the venture, but is rather a pre-determined claim the developers have set. Hence, ventures can raise funds without having investors interfering with the daily operations of the company, contrarily to an equity offering where investors obtain equity in the venture (Kastelein, 2017). Moreover, ICOs lower the barriers to raise capital by approaching the users of the Internet instead of a selected group of venture capitalists. This reduces the threshold to pitch the idea and attracts investors with diverse capital holdings.

Furthermore, ICOs offer a way to disrupt traditional business areas and thus function as an innovation mechanism. The case of Ripple represents an example of how the technology can disrupt a traditional sector. Ripple aims to replace the long-lasting SWIFT-system by connecting banks, payment providers, digital asset exchanges and corporations to provide a frictionless way of transferring money globally (Ripple, 2018). This case is one of many projects that has the potential to redefine traditional industries and sectors (Rosic, 2017). ICOs brings a strong incentive for financial innovation.

Initial Coin Offerings do also provide liquidity. First, an investment in ICOs will provide investors with a way to capitalise their gains in a less timely manner compared to venture capital, where the funds are tied to illiquid assets for years. Investors can thus monetise their investments in a timely manner by exchanging their tokens into a cryptocurrency like Bitcoin and then covert the gains into fiat currency. Hence, ICOs will bring liquidity to investors and the cryptocurrency market itself (Kastelein, 2017).

Second, an issuance of tokens will also cause additional capital to channel into the cryptocurrency market. This will increase the market capitalisation of the cryptocurrency market, as well as the overall liquidity of the market. Offering liquidity is of importance for the cryptocurrency market, but also for the ICO market, especially when financial institutions are awaiting to enter the markets.

The mechanism does also bear several disadvantages that are necessary to address because of their importance. Currently, ICOs are liberally regulated at best and unregulated at worst. This provides complications when assessing ICOs in case of fraud or malicious misconduct. The legal aspects surrounding ICOs can be divided into two.

Since many ICOs do not offer equity but alternative claims, the tokens do not fall under the traditional definition of a security and traditional legal frameworks are inadmissible. Attempting to fit a technological innovation like ICOs into a rigid and outdated legal framework is time-consuming and demanding. Hence, ICOs remain in a legal grey area as of this date with only a few legal frameworks that fit ICOs. This should encourage the legislators to disrupt the legal system by drafting regulations that are more suitable the digital era (Kastelein, 2017).

Another legal aspect is the fact that the tokens are exchanged via existing cryptocurrencies. These currencies are not national means of value, but global instruments that are decentralised

and heavily encrypted (Kastelein, 2017). Since the Blockchain technology eliminates the need of an intermediary, there are no parties present to audit and control the holdings of each investor or act upon the violation of laws. Finally, another disadvantage of ICOs is the number of controversies concerning this mechanism. Fraudulent individuals have exploited the mechanism to enrich themselves by exiting an ICO after raising sufficient capital. Many of the ICOs appear to be unsuccessful due to a variety of reasons, which imposes additional issues upon the authorities. These issues will be elaborated in sub-section 2.3.4.

2.3.4 Controversies

A driver for implementing additional regulatory measures regarding ICOs is due to the many controversies that have occurred. The common denominator for almost all controversies is to exploit uninformed investors to monetarily benefit. By exploiting a variety of tools at disposal, some token holders have benefitted extensively by executing blatant ICO scams, as well as staged ICO failures. This sub-section aims to outline some of the controversies that have occurred since the origin of ICOs.

ICO Scams

The increased popularity directed towards the Blockchain technology, cryptocurrencies and ICOs, has led to a bandwagon-effect in the society. By observing how some individuals have gained extensively on their investments, others have jumped on the bandwagon to attempt to obtain the same return. When new investors update their beliefs accordingly to the consensus of the community, new and fresh capital is finding its way to the ICO market.

Fraudulent ICOs have realised that there is an information asymmetry between token holders and new investors. This implies that it is possible to exploit new investors by using ICOs as a hoax to attract these fresh funds and thereby monetarily benefit themselves. Since there are few regulatory measures implemented, there are no incentives for fraudulent ICOs to abstain from benefiting from this lucrative idea. Even if there are legal constraints present, token holders can also decide to intentionally domicile in countries with no regulatory treatments of ICOs. This makes it possible to carefully select domiciles that benefit the scammers.

In April 2018, a Vietnamese cryptocurrency company, Modern Tech, raised approximately US \$660 million from 32,000 investors by conducting two separate ICOs. The company launched two unrelated projects named Ifan and Pincoin, which turned out to be ponzi-

schemes. The former guaranteed constant returns to investors, whilst the latter was a social network platform for celebrities (Biggs, 2018). By using the proceeds to reward new investors, the company managed to pull off the largest ICO scam known to this date. The token holders later exited the ICOs, leaving the investors with nothing, whilst enriching themselves. The case of Modern Tech is one of many instances where an evident absence of regulatory measures harm the investors.

Another example is the company Giza Device, which raised roughly US \$2 million before completely disappearing. The company's project was to design and create "super secure storage devices" for cryptocurrencies (Ngo, 2018). In contrast to Modern Tech, who ran ponzi-schemes, Giza Device conned investors by using fake LinkedIn-pictures and thereby created an illegitimate and non-existing team. By providing solid credentials such as education and professional experience, the team behind the scam managed to earn the trust of the public and could execute this scam. This unfortunate example illustrates the need for conducting a proper due diligence of the token holders prior to investing into the project.

The two mentioned incidents demonstrate how ICOs can be used as a mechanism to con and cheat other investors. In the absence of clear regulatory guidelines, the crypto-community has launched several websites that rate ICOs, such as icorating.com and icomarks.com, to combat blatant scams. These measures are adequate, but insufficient to avoid cases such as aforementioned. To reduce the amount of ICO fallacies, the examples demonstrate the need for additional regulatory measures from legislators.

ICO Failures

There are other reasons for why ICOs may fail in reaching their funding targets as well. By failing to raise the funding target, the ICO is deemed as a failure and the token exchange cannot be considered as completed. There are interestingly many reasons for why an ICO may be unsuccessful.

A failed ICO can occur if the underlying code of the project has a flaw in the security infrastructure, making it vulnerable for attacks from hackers. If this is the case, hackers can alter the code such that the funds are directed to another address instead of the intended one. This was the case with the ICO of CoinDash, where the company managed to raise approximately US \$7.53 million before the ICO was hacked. The funding address was altered to a fraudulent address, directing the funds to another account. After the attack, the project

never redeemed itself and the sale was terminated and consequently the ICO turned out to be a failure (Zhao, 2017).

An ICO can also be reckoned as a failure if the company decides to cancel the ICO either before or during the official token offering. An example of this is the ICO of Telegram. The encrypted messaging application Telegram aborted its planned ICO after raising extensively US \$1.7 billion, which surpassed the funding target of US \$1.2 billion in its ICO presale. This decision left public investors furious, as this opportunity was considered as the greatest ICO opportunity known to this date due to Telegram's previous success. Sources speculate that this decision is a result of the SEC's incoming strict regulations regarding ICOs, which changed the regulatory environment since the announcement of this ICO (Sakovich, 2018). Consequently, regulations may influence ICOs and thus lead to a failure. In this case, Telegram exceeded the target, but the ICO was never launched, hence the ICO was unsuccessful.

Other reasons for why ICOs may be unsuccessful are if the project is oversaturated; there is a low demand for the token. If there is a low demand for the token or coin, the number of interested investors is small. The company would then have trouble with raising sufficient capital and may not reach its funding target. Furthermore, an ICO can turn out to be unsuccessful if the community perceives the ICO as a blatant scam. Also, if influential individuals of the community provide conclusive evidence that a project is a fraud, the token holders would have difficulty with raising capital. Even if the evidence is not conclusive, the rumour itself can hurt the venture's ICO (Adhami, Giudici, & Martinazzi, 2018).

2.4 Determinants of ICO Success

There are several determinants that determine whether a token offering is successful or not. The common denominator for all these drivers is the fact that they provide additional information to the investors and thereby increases the transparency of an ICO. By reducing the information asymmetry, investors are more likely to invest and therefore affect the success of an Initial Coin Offering (Jong, Rosenboom, & Kolk, 2018).

This section aims to review and discuss some of the determinants associated with ICO success. The white paper, source code and developer team composition will be examined.

2.4.1 White Paper

When conducting an Initial Coin Offering, a white paper is generally published prior to the token offering. The purpose is to detail the business model and underlying idea of the project, as well as attract investors to channel their capital into the venture. Since it summarises an idea to the public, the document represents a crucial source of information to potential investors and stakeholders.

The importance of a white paper is vastly stressed in the literature, where the document is viewed as an essential component for a token offering (Zetzsche, Buckley, Arner, & Föhr, 2018). Moreover, the document has become a constant that every investor is looking for in promising projects (Dylan, 2018). By releasing a white paper prior to the Initial Coin Offering, the ventures invite potential investors to view the details of the business. If the white paper is insufficient, i.e. provides inadequate information to the public, investors may refrain from investing, which could create a bandwagon effect, where many investors would abstain. Consequently, the likelihood of achieving ICO success would be harmed.

Contrarily, if the white paper provides sufficient information to the public, additional investors would be inclined to invest. Investors would therefore be more informed and educated as the information asymmetry between the parties is reduced. As a result, the project's transparency will increase and investors are more likely to decide whether the ICO is a good investment or not. Hence, releasing a white paper that provides the adequate information regarding the project would positively affect the success of a token offering.

Another aspect of the white paper is its quality and the level of information it offers. Having published a white paper is one thing, but to evaluate each white paper on its own merit is another. How credible the information presented in the document is important to shield the investors from making an adverse investment (Feng, Lu, Wong, & Zhang, 2018). With the literature suggesting that the document should contain details, such as token distribution, problem formulation and solution proposal, the assessment of these items would be highly subjective.

To evaluate the white paper in an objective manner, a feature of the white paper should rather be used, such as the length of the document. The length would thus be a proxy for white paper quality. There are no set requirements for the length, but the document should be of an appropriate length to fully describe the topic (Cook, 2018).

Investopedia (2018) stresses that a white paper should contain at least 2,500 words, i.e. approximately 6 pages, whilst researchers found that the average length of the white papers was 6,386 words, i.e. 20 pages (Fisch, 2018). With that said, the length is by no means a fixed proxy for quality, but it should be reasonable to believe that a paper display more information if it is longer. A longer white paper will therefore reduce the information asymmetry between the parties. Thus, the length of a white paper should be assessed to decide whether the white paper affects the success of a token offering or not.

On the other hand, not every ICO has produced a white paper prior to a token offering. In fact, some ICOs launch their token offering without the document. In contrast to an IPO, where offering documents are required by law, token holders do not have same disclosure rules as of this date. This implicates that its solely up to the developer team whether a white paper is released or not. Token holders are therefore provided with an opportunity to reduce the transparency voluntarily, which may influence the outcome of ICOs.

In fact, a study found that only 84.2% of the sampled ICOs released a white paper prior to the token offering, whereas some of them also achieved success, illustrating that not every ICO publishes the document, but still managed to obtain a successful ICO (Adhami, Guidici, & Martinazzi, 2018). This raises questions whether the document is necessary at all and if it even affects the success of a token offering.

The importance of the white paper in achieving success is highly discussed in the literature, but recent studies indicate that some ICOs are successful regardless of the document. Having published the document itself is therefore not a reliable determinant, but a feature of the document should rather be assessed.

2.4.2 Source Code

The source code of an ICO details the underlying technical aspect of the project or business. Whether this code is released to the public or not is solely dependent on Initial Coin Offering. In cases where the code is made public it is normally uploaded to a public repository, such as GitHub. The purpose of releasing the code is to detail and demonstrate the underlying technical aspects of the solution to potential investors and other stakeholders.

By making the source code public, the community can review and audit the technical properties to determine if the technical solution is functional and sustainable. This allow

industry experts to review the code before the ICO is conducted, but also give stakeholders an opportunity to contribute to the project by suggesting beneficial changes in the code. A public source code will allow potential investors and stakeholders to become educated on the project, and thereby reduce the information asymmetry between the developers and investors. As an implication, investors are more likely to support the project if the technical properties are robust. This means that publishing the source code prior to an ICO will positively influence the success rate of token offering (Jong, Rosenboom, & Kolk, 2018).

Additionally, how the code itself is written does also demonstrate the quality of the developers. A review of the consistency of the code and how the technical functions are written is essential to assess if the developers are knowledgeable (Mulders, 2018). This enable potential investors the opportunity to assess the developers, which is crucial in determining whether to invest or not. Having a public source code can also be viewed as a signal of how confident the developers are in their project. Token holders who are not solid on their technical properties would not subject it to the community scrutiny before the ICO, as it would negatively affect success. Hence, only token holders with a solid technical side would undergo the expert scrutiny, which would signal to investors that the developers believe in their project (Jong, Rosenboom, & Kolk, 2018).

The release of the source code to the community will therefore contribute in reducing the information asymmetry. By providing the investors with more knowledge of the project, the developers reduce the information imbalance between the two parties.

2.4.3 Developer Team Composition

The team behind an ICO is titled as the developer team and consists of several individuals that collectively develop and realise the venture. As with other determinants, the developer team's main responsibility is to develop a credible project and convey this information in a compelling manner to outsiders in order to reduce the information asymmetry. To maximise the likelihood of achieving a successful token offering, there are two critical components that are essential: previous experience of the Blockchain technology or ICOs and the size of the developer team.

To lay a strong foundation for a successful project, a developer team must have several attributes that are considered key. There is an emphasis on necessary skills and knowledge of

IT, marketing and investor relations (Applicature, 2018), but more importantly on having previous experience in the industry, such as of the Blockchain technology and ICOs (Sergeenkov, 2018). Launching an ICO spans over several areas that are hard to master if the team does not possess the necessary competence.

Sergenkov (2018) also argues that the developer team should also contain industry experts that have a broad knowledge of the type of project the team is launching. For instance, if the team is launching a project that have applications to the private equity industry, the team should have a team member with previous knowledge of this industry. It is suggested that a team consisting of experienced developers with the attributes mentioned above are more likely to create a successful token offering compared to a team without (Consilium Crypto, 2018).

In addition to the experience, the amount of team members does also affect the success of a token offering. Sergenkov (2018) suggests that small developer teams may not be able to carry out their ideas regardless of talent or level of ambition. This is due to an understaffing problem, where they lack experience or expertise in other critical areas.

Moreover, both Amsden & Schweizer (2018) and Jong et al. (2018) find that the size of the developer team is associated with ICO success. An explanation for this is that more team members brings additional expertise and experience to the venture, which will increase the human capital of the team. The recent findings are also consistent with traditional literature; Cooper and Bruno (1977) found that the size of the management team of a high-technology company is correlated with the growth of the business, whilst Teach, Tarpley & Schwartz (1986) found that team size is correlated with firm success.

The composition of the developer team should therefore have an emphasis on the experience of each team member, where more team members will increase the likelihood of achieving a successful token offering. By leveraging the team's total skillset and experiences, the developer team may reduce the information asymmetry to outsiders and thus increase the possibility conveying a credible project to the market.

2.5 Domicile as a Key Determinant of ICO Success

Among many other determinants, the domicile is regarded as one of the key drivers for whether a token offering is successful or not. This section aims to provide evidence for why domicile is associated with ICO success.

Researchers have found that the jurisdiction of an ICO is a key determinant for whether the ICO is successful or not. In fact, compared to other drivers, such as the source code and the publication of a white paper prior to the token offering, the domicile seems to be a key determinant for achieving success (Adhami, Guidici, & Martinazzi, 2018). Looking at what the choice of domicile entails, it is reasonable to believe that the choice of domicile does affect whether a token offering is successful or not.

By selecting a specific domicile, token holders implicitly dictate the legal constraints that apply for themselves, but also for the investors. The fact that the developer team and investors are globally distributed means that a uniform set of rules cannot be enforced upon them, as some legal indentures would contradict each other. It is therefore up to each domicile to select and implement legislative measures upon the ICOs in the respective location. Since the issuance of tokens and coins resemble the issuance of shares during an IPO, authorities have called for regulating tokens and coins as securities and thereby enforcing securities laws upon Initial Coin Offerings (Kim, 2018).

This approach is problematic as tokens and coins can have various claims that do not fit the legal definition of a security. Some domiciles acknowledge this observation, such as the Israel Securities Authorities (ISA), where they conclude that tokens and coins with a purpose similar to a currency should not be considered as a security, meaning that securities laws cannot be enforced upon ICOs issuing currency tokens (Israel Securities Authority, 2018). The possibility of having different claims attached to the issued coins and tokens makes it difficult for the authorities to assess each ICO, adding complexity and volatility to ICOs. The decision of where to domicile will therefore also affect the success of an ICO, as token holders can avoid further complexity and uncertainty by selecting a domicile with well-defined rules.

If the tokens and coins are classified as securities, the token holders must comply with a comprehensive set of regulations that may influence the token offering explicitly. Being subject to securities laws means that the proceeds from the token offerings are taxed differently

(Golstein, 2018). Having to comply with securities laws will also impose additional regulations such as Anti Money Laundering (AML) and Know Your Customer (KYC) acts.

The purpose of these regulations is to detect and flag high-risk individuals and companies that participates in illegal acts. To comply with the mentioned regulations, token holders are required to conduct due diligences, which would add further complexity and incur additional costs (Shilov, 2018). To cover this, the token holders may be more reliant on launching a presale with a larger presale funding target. Failing to reach this target may result in not being able to launch the public token sale at all and thus influence ICO success.

On the other hand, there is an investor aspect regarding regulations as well. As with IPOs, token offerings are also subject to the typical principal-agent problem, where there is a misalignment in the interest between the developer team and the token holders (Shipolov, 2018). The developer team may decide to alter the supply of tokens available to fixed circulation amount, which would not be in the interest of the token holders as it would dilute existing tokens. This creates a demand for governance mechanisms with purpose of shielding investors and hold the ventures accountable. Compared to corporations that are required to have a board of directors by law, there not mandatory requirement for ICOs, hence providing minimal protection to investors.

With the recent rise in ICO controversies; scams and failures, the demand for proper governance mechanisms is increasing. If an ICO is domiciled in an environment that offer clear and strict rules and govern the investors, they may be inclined to purchase the tokens or coins. Contrarily, being domiciled in an environment with unclear legislation in case of misconduct or fraud, could make the investors less likely to invest. Consequently, the choice of domicile also entails what kind of legal measures that shield the investors, which would influence the outcome of ICOs.

Several domiciles have also announced their friendliness towards the Blockchain technology and ICOs themselves, being titled as crypto-friendly countries. Through a clear and positive governmental stance on the technology, some domiciles provide beneficial tax laws and a safe environment to innovate in and conduct token offerings (Town, 2018). By offering support, resources and minimised uncertainty regarding regulations, several domiciles are attractive to ICOs. Having the government simplify the process of launching an ICO will reduce the uncertainty associated with token offerings and influence the outcome of ICOs.

Furthermore, some domiciles advocate how their existing business landscape may be beneficial to ICOs as well. Switzerland has for instance launched the Crypto Valley, a counterpart to Silicon Valley, where the country promotes the access to a business-friendly environment. Domiciling in Switzerland would provide token holders with an access to a global and domestic business network, contact to world-class talents and a strong political climate among many features (CryptoValley, 2018). By offering great conditions for further growth prior, during and after conducting a token offering may also influence whether the ICO is successful or not.

Finally, the choice of domicile may also be related to the operations of ICOs in terms of legality. Some domiciles may permit some operations, whilst other have banned them. An example is the controversial gambling industry, where there are strict requirements to conduct such business. In other countries, such as the United Arab Emirates, all kinds of gambling are prohibited (Dubai.com, 2018). Launching an ICO that is directed towards gambling would then be unfavourable in an environment such the United Arab Emirates. Hence, Initial Coin Offerings with operations that are heavily regulated will try to domicile in a more lenient country, where the operations are more friendly regulated.

An example is the ICO of BX.BET that aims to create a decentralised betting exchange with self-determined odds (BX, 2018). This token offering is domiciled in Malta, which is known for its leniency towards gambling. Domiciling in a location that is strongly supporting the ICOs daily operations may therefore reduce the uncertainty and positively influence the outcome of ICOs. Consequently, the selection of a domicile for token holders that enhances its daily operations may also affect the success of the ICO.

The jurisdiction of an ICO may prove to be beneficial and enhance the likelihood of achieving a successful token offering, whilst an unbeneficial environment may increase the likelihood of failure. The decision of domicile is therefore a strategic choice that influences the outcome of an ICO, and token holders should be aware and take this into consideration when selecting the jurisdiction to maximise their chances of success.

The following sub-sections will present the current regulations of ICOs in selected countries and are organised as follows: positively and negatively regulated and unregulated countries. It is worth noting that the list of countries in this thesis is not exhaustive, but represents some of the most dominant domiciles in the current ICO landscape.

2.5.1 Positively Regulated Domiciles

Estonia

The digital friendly country aims to become the world's leading hub for ICOs due to its openness towards the Blockchain technology. The country has already developed an innovative e-Residency scheme for foreigners, as well as uses a digital ID-system to establish a paperless bureaucracy, strengthening the country's position as a digitalised domicile (Witismann, 2018). The Estonian government has also publicly embraced and welcomed the Blockchain technology and its applications.

In September 2017, the Estonian regulators, the Estonian Financial Supervision Authority (EFSA), launched a legal framework concerning ICOs. This framework states that every ICO is unique and must be evaluated based on its own merits. Some tokens might be considered as securities by the legal definition; typically tokens that have equity as a claim or where the value is linked to the performance of the company. In cases where the tokens are considered as securities, securities laws apply, providing a clear regulative guideline for Initial Coin Offerings (Finantsinspektsioon, 2017).

In December 2017, the country announced the launch of a national crypto token – the Estcoin. The announcement is viewed as a move towards cementing their position as an advanced digitalised nation, paving the way for becoming a global hub for ICOs. The idea is that this crypto-token is a complement to the established e-Residency scheme with the end goal of regulating ICOs through the coin. The proposed crypto-token has the three separate functions; community, identity and euro.

The community-based Estcoin will reward promoters and supporters that assist and return feedback to improve the country's e-Residency program. By conducting regulated token sales within the framework of the e-Residency scheme, the ventures are assisting in developing the scheme, and will therefore be rewarded accordingly. The identity-based Estcoin will have a function like a digital passport, and is used to verify identity and sign documents in an effective manner. The euro-based Estcoin will on the other hand be linked to the fiat currency Euro and be used to facilitate instant and feeless transactions with the underlying Blockchain technology (Witismann, 2018).

The idea of introducing the Estcoin is to digitalise and disrupt the governance of the country. By providing a national token, the country will use the e-Residency scheme to welcome and regulate ICOs domiciled in Estonia. Furthermore, cryptocurrencies are not subject to income taxes in Estonia, as only the proceeds from ICOs are taxed as they are considered as dividend pay-outs (Witismann, 2017). This adds another incentive to domicile in Estonia. Consequently, Estonia is an ICO-friendly country that aims to be the global hub for ICOs by providing a national crypto-token that can regulate ICOs in a way no other nation has proposed as of this date.

Gibraltar

In December 2017, the British overseas territory announced that it would enforce additional regulations concerning ICOs in the pending months. Till this announcement, Gibraltar took an approach like its peers, and addressed that tokens that have characteristics simulator to securities, are subject to the relevant securities laws (HM Government of Gibraltar, 2018).

In February 2018, the regulators, Gibraltar Financial Services Commission (GFSC), issued a proposal on how to regulate ICOs domiciled in Gibraltar. GFSC proposed a comprehensive framework with the goal of regulating token sales, secondary token market platforms and investment services relating to tokens laws (HM Government of Gibraltar, 2018). This framework represents the world's first bespoke and dedicated set of regulations concerning ICOs.

The main aspect of the draft is to regulate tokens as commercial products instead of securities, as well as introduce authorised sponsors. The idea of the former is that most of the tokens are not structured as securities, i.e. no equity claim or ownership rights, but instead entitle the holders to future services, such as utility or access to a service. Thus, the tokens are not subject to the current securities laws in Gibraltar.

Furthermore, the bill proposes to introduce a regime of authorised sponsors. These individuals will authorise and supervise token sales by applying relevant knowledge and experience to ensure that the ICOs are compliant with the proposed regulations. The GFSC seeks to implement the new framework by October 2018 (HM Government of Gibraltar, 2018).

Singapore

Singapore has emerged to be the epicentre for Asian ICOs mainly due to its lenient taxation rules. During the Singapore Fintech Festival in November 2017, the country's central bank financial regulator, Monetary Authority of Singapore (MAS), addressed the issue of the growing number of ICOs selecting Singapore as its domicile. The regulator issued guidelines for ICOs stating that MAS may regulate token offerings, if the ICOs issue tokens that are classified as capital market products. This entails tokens that are contingent claims as well as debt instruments. Even non-capital market tokens may fall under regulatory revision for purposes such as anti-money laundering and counter-terrorist financing (Monetary Authority of Singapore, 2017).

Besides the issue of tokens being classified as capital market products, the managing director of MAS, Ravi Menon, has welcomed ICOs to domicile in Singapore by stating the following:

“MAS does not regulate virtual currencies; in fact, we welcome them as an innovation that can potentially reduce the cost of financial transactions”

- Ravi Menon (Menon, 2017)

In the end of February 2018, the deputy of MAS, issued a press release, addressing whether additional regulations are required to further protect the investors (Carstens, Restoy, Coen, & Fonacier, 2018). Consequently, Singapore offers a clear regulatory framework, where tokens currently are unregulated if they are non-capital markets product.

Switzerland

The European alpine nation is often referred to as the Crypto Valley, due to its decentralised political system, as well as the low taxations and the business environment the country provides (CryptoValley, 2018). The Swiss Financial Market Supervisory Authority (FINMA) released its first regulatory treatment of ICOs in September 2017. It stated that the type of claim associated with the token dictates the set of legal constraints that apply. Thus, some tokens are subject to securities laws, i.e. tokens with characteristics like securities, whilst

others are subject to The Anti-Money Laundering and Know Your Customer Act (FINMA, 2017).

In the wake of an increasing numbers of ICOs domiciling in Switzerland, FINMA released more precise guidelines that complement the previous regulatory treatment in February 2018. The new guidelines aim to support the market and state that each ICO must be assessed on its own merits, due to ICOs issuing tokens and coins with different claims (Atkins, 2018). Each case is evaluated based on the type of ICO: asset, payment or utility ICOs.

Asset ICOs issue tokens with a claim equal to securities, meaning that securities and civil law requirements can be imposed upon the token holders. For payment ICOs, the claim of the tokens and coins is a means of payment and thereby subject to the Anti-Money Laundering act. Finally, utility ICOs are token holders that issue tokens with utility as a claim, which does not explicitly qualify as a security. Nevertheless, if the tokens functions as an investment, the tokens will fall under the current securities law in Switzerland.

Despite implementing regulations upon ICOs, FINMA has also realised the potential the Blockchain technology provides and welcomes ICOs to be domiciled in Switzerland. The chairman of FINMA, Mark Branson, stated that even if the technology has potential and brings innovative applications, token offerings cannot circumvent existing regulatory frameworks. Thus, FINMA is approaching the matter with a balanced approach to protect both developers and investors (FINMA, 2018).

With new regulations implemented, token holders now seem to prefer other domiciles due to limited access to Swiss banking system, which is crucial for ICOs. A limited access to the banks would make it harder to open bank accounts for token holders, which may affect the success of an ICO. The Swiss country is losing business to rivals such as Liechtenstein, Gibraltar and the Cayman Islands, where token holders have a more lenient way of accessing the banking system (Irrera & Neghaiwi, 2018). The remaining months of 2018 will be used re-establish Switzerland as the crypto-hub it once were by hopefully presenting new and updated FINMA-approved guidelines for token holders (Esteves, 2018).

United States

The increasing amount of capital channelling through the ICO market and with a lack of a conclusive regulatory framework on a federal level, the financial regulator in the US, the

Securities and Exchange Commission (SEC), realised the need for regulatory measures regarding ICOs. Till this point, the SEC has only published explicit guidelines for investors, warning them about the risks associated with investing in ICOs (U.S. Securities and Exchange Commission, 2017). There is still an uncertainty regarding ICOs, as the SEC has yet to lay out how token holders should comply with the existing legal frameworks.

Albeit there is an absence of precise rules governing the developer aspect of ICOs, there are some regulatory measures worth mentioning. The SEC ruled that ICOs must be treated as IPOs after a concluding that DAO tokens³ were securities (U.S. Securities and Exchange Commission, 2017). This is the basis for the current regulations of ICOs in the United States, where the SEC regulates ICOs by dividing them into two: whether the tokens are securities or not.

The Howey Test is used to decide if tokens and coins are securities or not. This test is a result of a Supreme Court Ruling in 1946, laying out four criteria to determine if an instrument is an “investment contract” and thereby a security. Shortly summarised, the test assesses whether the instrument represents an investment of money, if the investment entails an expected financial gain, if the money is placed into a common enterprise and if the profits stems from the efforts of an intermediary (Findlaw, 2018).

A problem with this approach is the fact that token holders can exploit the Howey Test and characterise their tokens as utility tokens or tokens that do not fit the current legal framework. By issuing tokens that are considered as utility tokens, e.g. tradeable gift cards, then the token holders may circumvent the current legal framework and therefore avoid being regulated as opposed to having the token classified as a security (Lin, 2017).

In April 2018, the director of the SEC’s division of Corporation Finance, William Hinman, was in a hearing at the US House of Representatives, explaining that the SEC has a balanced approach regarding ICOs, when asked about why they are not banned (United States House of Representatives Committee on Financial Services, 2018). Consequently, Hinman hints that the SEC has a positive view of the technology and of ICOs in general.

³ The Dao tokens are tokens originating from the ICO of the Decentralised Autonomous Organisation and were ruled to be subjected to federal securities laws (U.S. Securities and Exchange Commission, 2017).

2.5.2 Negatively Regulated Domiciles

China

The world's most populated country has imposed an aggressive stance in terms of regulating ICOs. In September 2017, the regulators along with the People's Bank of China, issued the Circular 99 act, stating that virtual tokens that are not issued by the authorities, do not have a legal status and cannot be used as a currency in the market (Hsu, 2017). The act mainly applied for raising capital through ICOs, but as well for exchanges facilitating tokens.

This approach conforms the communist qualities of the political leadership, as the society is heavily centralised and governmental interventions are a necessity. Further on, the ban is a measure to ensure that the economic ecosystem is in control of the authorities. Thus, the ban is not an explicit statement regarding whether the government is supporting the Blockchain technology or not. It is worth noting that the Blockchain technology and ICOs bear the opposite qualities of what the political leadership in China wishes to display to its population. Consequently, launching an ICO in an official manner in China is currently prohibited.

South Korea

In the early days of ICOs, South Korea was a crypto-friendly country, where ICOs gladly domiciled. During September 2017, South Korea followed in the likes of China, and announced that all ICOs were banned indefinitely with the purpose of shielding domestic investors from malicious misconduct and fraud (Wilmoth, 2017). This came as a surprise, as many experts viewed South Korea as the obvious choice of domicile after China banned ICOs.

In May 2018, the Korean newspaper, The Korea Times, reported that a group of legislators from the ruling political party is currently drafting a bill to legalise ICOs under the supervision of the authorities. The report also stated that the bill mostly concerns ICOs hosted by public organisations and research centres that are committed to develop the underlying Blockchain technology (Das, 2018). The bill is yet to be implemented, but is expected to be finalised before the end of 2018. It remains to see whether the ICO ban will be lifted or not.

2.5.3 Unregulated Domiciles

Russia

The Russian Federation has experienced a tremendous growth of ICOs domiciling in Russia. This is due to the fact that the regulatory authorities of the Russian Federation announced that ICOs are in the early stages and it is premature to impose regulations upon the technology and ICOs itself (Kaal, 2018). By expressing that the government would refrain from controlling and regulating ICOs for the time being, Russia has made its way as a haven for token holders seeking an unregulated environment.

The Russian ICO landscape appears to be shifting, as the Russian Ministry of Communication, drafted a bill regarding regulations of ICOs in April 2018. Mainly, the bill requires that organisers of ICOs are obligated to guarantee that investors can sell the issued tokens. In this way, the investors are provided some kind of governance in case of fraud or malicious conduct. Second, the Russian government demands that organisers possess at least 100 million roubles of capital in a verified Russian bank account (Tassev, 2018). The capital requirement may function as a means of protection in case of misconduct or fraud, where the amount functions as a collateral.

The bill accumulated a lot of criticism by local experts due to destructive limitations, such as only 50,000 roubles can be invested into a single ICO. This was later removed from the bill, but created a furore that scared token holders from domiciling in Russia (O'Neal, 2018). Although the bill is yet to be implemented, Qiwi Blockchain Technologies, a subsidiary of Russia's leading payment service, launched a crypto-platform named Hash. The scheme is allegedly built upon a classic investment banking model, and will serve as a platform for future ICOs (Partz, 2018). By initiating a platform for future token offerings, there are some signs of positive regulations, but it remains to see whether the bill will be implemented or not.

United Kingdom

The archipelago has also experienced an increasing number of ICOs domiciling in the United Kingdom over the years, forcing the regulatory body Financial Conduct Authority (FCA) to issue a statement in September 2017. The statement expressed that whether an ICO is regulated or not is solely decided on a case-by-case basis. The reasoning is that each token and coin embodies different claims and rights to the investors, implying that some tokens and coins can

be regulated under existing legal frameworks, whilst other may not. Moreover, the statement warns investors and consumers of the underlying risks associated with the high volatility of ICOs (Financial Conduct Authority, 2017).

Currently, most the ICOs fall outside the scope of the FCA, as the tokens have claims that are not directly regulated by existing legal frameworks. The issued warning of the FCA in 2017 serves as the only warning to both token holders and investors. However, the FCA acknowledges the potential the Blockchain technology brings and welcomes ICOs to domicile in the United Kingdom.

In July 2018, the FCA welcomed 29 companies in the fourth regulatory sandbox, where 11 of them are blockchain-based startups. The purpose of a regulatory sandbox is to allow the ventures to test their projects and solutions in the United Kingdom under a controlled and regulated environment (Stankovic, 2018). Consequently, it seems like that British authorities are currently testing some regulatory measures on some ICOs, but for now the FCA settles with an official warning to both token holders and investors (Barber, 2018).

3. The Research Process

The following chapter outlines the research process of this thesis and how it contributes to answer the research question. Initially, the objective, philosophy, approach, design and strategy will be elaborated upon. Next, the justification and formulation of the research hypotheses will be discussed.

3.1 Objective

The objective of this thesis is to gain a broader understanding of how the choice of domicile and its corresponding regulations is one of the key determinants for ICO success. The aim is to investigate whether the choice of domicile has a positive or negative effect on the success of ICOs. In other words, do Initial Coin Offerings prefer regulated or unregulated environments when conducting a token offering. Besides ICOs, the thesis will also generate a greater understanding of the Blockchain technology and its possible applications.

3.2 Philosophy

The selection of a research philosophy is instrumental in answering the question of interest. Saunders et al. (2009) state that the underlying philosophy provides a set of critical assumptions about the research process. These assumptions establish the foundation of how the researcher views the world and consequently how the research process is conducted.

This thesis will adopt a research philosophy of positivism, which is characterised by using observable data from the real-world to provide credible facts regarding a phenomenon. An important note is that only observations that are truly observed will lead to the establishments of facts (Saunders et al., 2009). Hence, the use of observable data of ICOs from the Internet will provide and establish credible facts regarding the relationship between a variety of determinants and ICO success.

3.3 Approach

Since this thesis employs a positivistic research philosophy, the thesis will be subject to a deductive approach. This approach entails testing theories in the light of statistical tools with the objective to explain a relationship between two variables (Saunders et al., 2009). In the case of this thesis, statistical tools will be used to explain the relationship between ICO success and key determinants.

Currently, the literature concerning ICOs is limited. Hence, this thesis will be a contribution to the literature by extending the research conducted. An inductive research approach is therefore suitable for this thesis, as the main goal of this approach is to develop new theory. This approach implies a collection of data and developing a theory based on the data concurrently (Saunders et al., 2007). By sampling data of ICOs, it is possible to develop a theory and use the findings as a contribution to the thin fold literature.

Consequently, a combination of a deductive and an inductive research approach is appropriate for this thesis, as the objective is to establish credible facts concerning how the choice of domicile affect the success of ICOs, as well as contribute to the literature.

3.4 Design

The research design is the general plan detailing how to investigate the research question. The nature of the research question will determine what design is appropriate to achieve the research objective. Furthermore, the choice of research design will also define how the analysis of data is conducted. Thus, the determination of research design is essential in investigating the research question.

Due to the nature of the research question, an empirical study using observed data of ICOs will be conducted. The design of this study will use a combination of descriptive and explanatory study, implying that this thesis will employ a descripto-explanatory design. This design uses descriptive data as a source to explain an event (Saunders et al., 2007).

The objective of a descriptive study is to portray the characteristics of a sample (Robson, 2002). In this case, it will imply a use of descriptive measures to retrieve characteristics of ICOs in the data sample to provide with meaningful characteristics concerning the relationship

between determinants and ICO success. In contrast, an explanatory study aims to establish a causal relationship between some variables, such as domicile and success of an ICO in this case (Saunders et al., 2007). Hence, the appropriate research design is a descripto-explanatory study, which will both yield meaningful characteristics of the ICO landscape, but also attempt to explain the relationship between ICO success and the determinants.

3.5 Strategy

The research strategy is the selected strategic approach used to investigate the research topic. Since this thesis is characterised by a positivistic philosophy, a combination of a deductive and an inductive approach, as well as being a descripto-explanatory study, a research strategy must be formed based on these attributes.

Given the nature of the research question, a research strategy that uses experiments will be employed. The objective of this strategy is to examine causal links between the explained variable and the explanatory variables. This strategy implies that a quantitative methodology must be used. In the case of this thesis, a logit model will be estimated by using a logistic regression approach, where the model will use the success of an ICO as the dependent variable and the other determinants as the independent variables, as well as controlling for year fixed effects.

3.6 Hypotheses

To investigate the research objective, it must be controlled for other factors that may also influence the success of an ICO. The limited literature suggests that there are several determinants that influence ICO success. Hence, investigating these other determinants are also crucial to progress and validate the literature. In the following, several hypotheses will therefore be formulated and tested to provide credible information regarding the key determinants of ICOs.

The white paper should be published prior to a token offering to attract investors by providing outsiders information of the ICO. Since there are no mandatory disclosure rules as of this date, releasing this document is entirely voluntarily and based on the sole preferences of the ICOs. By observing that ICOs can achieve success both with and without the document, questions

arise whether this document is a key component in obtaining ICO success at all. Hence, it is essential to investigate whether publishing a white paper prior to the token offering is a determinant of success or not. Thus, the following research hypothesis is formulated as:

H1A: *Releasing a white paper prior to an ICO will positively affect the ICO success.*

Moreover, a white paper may be of different quality in terms of information and therefore convey different degree of information to the market. To assess whether a release of the white paper is associated with ICO success itself is therefore insufficient. Since each paper needs to be evaluated on its own merit, a feature of the white paper should be used as a proxy for white paper quality. It is suggested that the length of the paper may be an appropriate characteristic of quality. Consequently, the following hypothesis is formulated:

H1B: *Longer white papers convey more information to the market, which positively influence the ICO success.*

The source code renders the underlying technical properties of the project to outsiders, and will thereby reduce the information asymmetry between the ventures and the market. Publishing the code on a public repository signals confidence in the venture and allows the project to come under the scrutiny of the community. This signaling effect may also influence the outcome of ICOs and must therefore be investigated. The following hypothesis is hence formulated:

H2: *Providing the source code on a public repository increases the probability of ICO success.*

The literature mentions other determinants besides the white paper and the source code. Team composition seems to be essential. Having previous experience of Blockchain or ICO will influence the success of an ICO. This can be assessed with the following hypothesis:

H3A: *Having a team with previous Blockchain or ICO experience will positively influence the success.*

Moreover, the literature suggests that the size of the team is also important in achieving success. Additional members will add more expertise and experience to the developer team, which will increase the human capital of the ICO. To evaluate this, the following hypothesis is formed:

H3B: *Larger teams increases the probability of achieving a successful ICO.*

Furthermore, the limited literature also advocates that the domicile of an ICO is a determinant of ICO success as well. This is because the location of an ICO announces the legal constraints that govern the token holders and investors. Whether an ICO is domiciled in a regulated environment such as Estonia, or in an unregulated environment such as the United Kingdom, matters according to the literature. It is therefore essential to investigate if regulations influence the success of an ICO at all. Thus, the following hypothesis is formulated:

H4: *Revealing the domicile prior to an ICO will positively influence the ICO success.*

The literature also expresses that several countries are positive to ICOs and welcome token holders to domicile in their respective country. Some of these countries have also implemented regulatory measures and legal frameworks that are favourable for token holders – creating positively regulated environments for ICOs. Since the environments are meant to be beneficial for the token holders, it is reasonable to assume that such environments increase the likelihood of achieving ICO Success. This motivates the next hypothesis:

H5: *ICOs domiciled in a positively regulated environment are more likely to succeed.*

Further on, the ICO landscape was globally unregulated until September 2017. In this period, the token holders selected domiciles regardless of regulations as there were no regulations put in place at that time. Subsequent this event, domiciles issued treatments regarding ICOs. In the positively regulated countries, the respective authorities addressed ICOs and handed out temporarily guidelines on how to deal with them, giving them a positive outlook. In contrast, the authorities in China and South Korea issued an indefinite ban on conducting ICOs – negatively regulating them. The ban makes it problematic to conduct an ICO in a legal manner. It is therefore interesting to investigate whether domiciling in a now banned country, such as China or South Korea, would yield a greater chance of achieving a successful token offering compared to other countries prior to the regulations. Thereby, the following hypothesis is formulated:

H6: *Prior to the ICO bans, domiciling in China or South Korea yielded a greater chance of achieving success compared to other domiciles.*

Finally, the literature review also states that regulations were implemented around September 2017. Countries such as Russia and the United Kingdom has yet to release any binding

regulatory treatment of ICOs. In absence of absolute legal constraints, token holders may intentionally domicile in such countries as they provide minimal legal protection in case of fraud or malicious malpractice. It is therefore critical to investigate if intentionally domiciling in an unregulated environment will increase the likelihood of achieving ICO success compared to domiciling in regulated environments. This is the motivation for the last research hypothesis:

H7: *Intentionally domiciling in an unregulated environment will positively influence the ICO success.*

Collectively, these research hypotheses aim to jointly contribute in answering the research question.

4. Methodology

This chapter outlines the methodological choice that will be used to investigate the research hypotheses and the research question. They are answered by employing a logit model using a multiple logistic regression approach. First, the general logistic regression model is presented with its underlying assumptions. Second, the construction of the variables that will be used in this thesis is justified. Finally, the model underlying this thesis and its validity will be discussed.

4.1 Multiple Logistic Regression Model

Due to the nature of the research question and its corresponding hypotheses, a multiple logistic regression model will be used to determine if the domicile and its corresponding regulations is a key determinant of ICO success. Contrary to a linear regression model, a logistic regression model permits the use of a qualitative explained variable, such as a binary indicator variable. Consequently, this methodological choice makes it possible model the probability, such that the explained variable Y belongs to a category (James et al., 2013).

4.1.1 Intuition

The intuition of the logistic model is to use a function that yields outputs between zero and one, i.e. modelling probability of an event in the interval of zero and one. For the case with one explanatory variable, the following function is used in logistic regression:

$$p(x) = \frac{e^{\beta_0 + \beta_1 x}}{1 + e^{\beta_0 + \beta_1 x}} \quad (1)$$

Equation (1) is fitted using the maximum likelihood principle, which has better statistical properties compared to the ordinary least squares methodology (OLS). This methodology aims to determine the predicted $\hat{\beta}_0$ and $\hat{\beta}_1$ such that a likelihood function is maximised. The obtained $\hat{\beta}_0$ and $\hat{\beta}_1$, will be such that the probability of an event, $p(x)$, converges to zero if the event in question does not occur or is approximating one if the event occurs (James et al., 2013).

Equation (1) can be mathematically manipulated to obtain the following:

$$\frac{p(x)}{1-p(x)} = e^{\beta_0 + \beta_1 x} \quad (2)$$

where the left-hand-side, $\frac{p(x)}{1-p(x)}$, is titled the odds and can take values in the interval zero to infinity. Odds approaching zero indicates a low probability of an event to occur and odds approaching to infinity indicates the opposite.

By taking the logarithms on both sides of equation (2), the log-odds or the logit model is acquired:

$$\log\left(\frac{p(x)}{1-p(x)}\right) = \beta_0 + \beta_1 x \quad (3)$$

Equation (3) illustrates that the right-hand-side is linear, which implies that the regression model under logistic regression has a logit that is linear in the explanatory variable x (James et al., 2013).

4.1.2 Intepretation

It is worth noting that the relationship between the left-hand-side and the right-hand-side in equation (3) is not linear, meaning that the standard interpretation of a linear regression cannot be applied. In the case of a logistic regression model, the interpretation is the following: an increase in the explanatory variable x by one unit is associated with an increase in the log-odds by β_1 , i.e. multiplying the odds with e^{β_1} .

4.1.3 The General Logistic Model

Since this thesis will use additional explanatory variables, the simple logistic model for one explanatory variable must be extended to k explanatory variables. In general, a multiple logistic model with k explanatory variables has the following logistic function:

$$\log\left(\frac{p(x)}{1-p(x)}\right) = \beta_0 + \beta_1 x_1 + \dots + \beta_k x_k \quad (4)$$

where $x = (x_1, \dots, x_k)$ are the k explanatory variables.

Equation (4) may be further manipulated to obtain the corresponding logistic function:

$$p(x) = \frac{e^{\beta_0 + \beta_1 x_1 + \dots + \beta_k x_k}}{1 + e^{\beta_0 + \beta_1 x_1 + \dots + \beta_k x_k}} \quad (5)$$

where the coefficients corresponding to the explanatory variables are fitted using the maximum likelihood principle as mentioned above for the case of a single explanatory variable (James et al., 2013).

4.2 Model Assumptions

To employ the multiple logistic regression model, several underlying assumptions must hold. In contrast to the OLS methodology, which relies on Gauss-Markov assumptions to hold, logistic regression does not need any of them (Dismuke & Lindrooth, 2006). This is particularly due to the non-linearity of the model, as it log-transforms a linear regression model (Park, 2013).

Despite disregarding the Gauss-Markov assumptions, the logistic regression approach relies on several assumptions to increase the accuracy of the estimated model. Consequently, the following assumptions must be satisfied for the logistic regression model to give unbiased results (Bewick, Cheek, & Ball, 2015):

Explained Variable is Dichotomous (A1)

In the logistic regression model, a requirement is that the explained variable, the left-hand-side of equation (4) is dichotomous. This means that this variable should be coded, such that it is a binary variable. This variable should take the value of zero if the event does not occur or a value of one if the event occurs. Formally, a dichotomous explained variable can be expressed as follows:

$$Y \equiv \log\left(\frac{p(x)}{1-p(x)}\right) = \begin{cases} 1 & \text{if yes} \\ 0 & \text{if no} \end{cases} \quad (6)$$

Equation (6) illustrates that the explained variable can take two possible values: one if yes and zero if no.

Correct Fit (A2)

The model should include explanatory variables that are meaningful to the model, such that it is fitted correctly. By adding meaningless variables, the model may be overfitted or in the opposite case; the exclusion of meaningful variables may cause the model to be underfitted (Park, 2013).

Independent Observations (A3)

The logistic regression model assumes that each observation in the dataset is independent of each other.

No Multicollinearity between the Explanatory Variables (A4)

The assumption regarding no multicollinearity states that none of the explanatory variables in the sample is constant, such that the explanatory variables are not functions of each other (Woolridge, 2013).

Linearity between Explained Variable and Explanatory Variables (A5)

The logistic model requires that there is a linear relationship between the explained variable, i.e. the log-odds and the explanatory variables.

Large sample size (A6)

The model assumes that the sample size is large, as the estimation of the maximum likelihood principle are less powerful compared to OLS. Consequently, the logistic regression model is less efficient and therefore needs a greater sample size compared to the OLS methodology.

4.3 Measurement

This section will address the motivation and justification for generating the explained variable and the explanatory variables, as well as how they were generated.

4.3.1 Explained Variable

The objective of this thesis is to investigate how the success of ICOs is affected by regulations when studying the domicile. To do so, the success of an ICO is used as a measure to investigate this. The motivation for this is that the token holders aim to achieve the funding target, as they wish to raise capital to vitalise their projects. If the ICO reaches this target, then the ICO is considered as a success.

The explained variable for the model is therefore a constructed binary variable named *ico_success*, which takes the value of one if the ICO is a success and zero if the ICO is deemed as unsuccessful. This explanatory variable will therefore represent the probability of achieving success for an ICO and is formally coded as:

$$Y \equiv ico_success = \begin{cases} 1 & \text{if ICO successful} \\ 0 & \text{otherwise} \end{cases}$$

For each of the conducted ICOs sampled, they are either coded as 1 if the ICO was successful or 0 if the ICO was unsuccessful.

4.3.2 Explanatory Variables

To complete the logistic regression model, several explanatory variables must be generated and included into the model along with the explained variable. The motivation for the construction of each explanatory variable originates from chapter 3.6. In the following each variable will be explained.

To investigate H1A regarding the importance of the white paper, the indicator variable *whitepaper* is constructed as:

$$X_1 \equiv whitepaper = \begin{cases} 1 & \text{if white paper is published} \\ 0 & \text{otherwise} \end{cases}$$

It will take the value of one if the ICO has published a white paper prior to launching the token offering and a value of zero otherwise. For all the conducted ICOs, the variable *whitepaper* will either be one if the ICO has published a white paper or zero if it has not.

To assess the quality of the white paper, i.e. research hypothesis H1B, the length of each published white paper is used. The explanatory variable *wp_length* is constructed and coded as:

$$X_2 \equiv wp_length$$

For all the ICOs in the sample that published a white paper, the variable *wp_length* will contain the length of the white paper in pages. The ICOs that did not have a white paper will return missing observations for this variable.

Hypothesis H2 can be tested by constructing the variable *source_code*. This variable will take the value of one if the source code is published on a public repository prior to an ICO or a value of zero if not. Hence, the variable is coded as:

$$X_3 \equiv source_code = \begin{cases} 1 & \text{if source code public} \\ 0 & \text{otherwise} \end{cases}$$

Each conducted ICO will be assigned a value of one or zero dependent on if they have published a source code or not.

To examine research hypothesis H3A regarding the importance of experience in developer team composition, the indicator variable *team_exp* is constructed as:

$$X_4 \equiv team_exp = \begin{cases} 1 & \text{if team has previous experience} \\ 0 & \text{otherwise} \end{cases}$$

The variable *team_exp* takes the value of one if the team has previous Blockchain or ICO experience and the value of zero if the team does not have this experience. This variable consists of all instances where information about the team is available. When the information is unavailable, missing observations occur.

To capture how the size of the team affects the performance of the ICO, i.e. research hypothesis H3B, the explanatory variable *team_size* is constructed:

$$X_5 \equiv team_size$$

The indicator variable will consist of the number of team members of each developer team, whenever this information is obtainable.

Furthermore, to test whether specifying the domicile prior to an ICO will have an effect on the success, the indicator variable *domicile* is constructed:

$$X_6 \equiv \textit{domicile} = \begin{cases} 1 & \textit{if domicile is specified} \\ 0 & \textit{otherwise} \end{cases}$$

The variable *domicile* involves the entire sample, where the country either has specified a domicile or have not specified it. The variable takes a value of one if the domicile is specified and a value of zero otherwise.

The research hypothesis H5 seeks to examine whether ICOs domiciled in a positively regulated environment are more likely to succeed compared to domiciling in other countries. To investigate this effect, an indicator variable titled *pos_dom* is generated:

$$X_7 \equiv \textit{pos_dom} = \begin{cases} 1 & \textit{if domiciled in a positively regulated environment} \\ 0 & \textit{otherwise} \end{cases}$$

This explanatory variable will take the value of one if the ICO is domiciled in a positively regulated environment and a value of zero if it is in another environment. The literature review illustrates that positive regulations were implemented September 2017. This means that ICOs domiciled in positively regulated environments after September 2017 will be coded as one, whereas ICOs in other environments after September 2017 will be coded as zero.

Research hypothesis H6 seeks to investigate whether domiciling in a negatively regulated country yielded a greater chance of success compared to other domiciles prior to the regulations. The idea is to examine whether regulations influenced the choice of domicile by looking at an ICOs success. If this is the case, then it is evidence towards regulations influencing choice of domicile for an ICO. Hence, the following is generated:

$$X_8 \equiv \textit{neg_dom} = \begin{cases} 1 & \textit{if domiciled in negatively regulated environment} \\ 0 & \textit{otherwise} \end{cases}$$

ICOs domiciled in South Korea or China prior to the ICO ban in September 2017 will be coded as one, whereas ICOs domiciled in other locations will take the value of zero. This implies that the variable is only relevant for all conducted ICOs before September 2017.

The last research hypothesis, H7 examines whether the effect on success when domiciling in an unregulated environment. The idea is to investigate how regulations affect the choice of

domicile, when token holders are provided with a clear choice of a regulated or an unregulated environment. The following explanatory variable is therefore constructed:

$$X_9 \equiv \text{unreg_dom} = \begin{cases} 1 & \text{if intentionally domiciled in an unregulated location} \\ 0 & \text{otherwise} \end{cases}$$

The explanatory variable *unreg_dom* takes the value of one if an ICO is domiciled in an environment that is unregulated and the value of zero if this is not the case. Since positive regulations were implemented mid-September 2017, the period post the implementations represents a period where the token holders were provided with a clear choice between unregulated and regulated domiciles. This means that ICOs domiciling in the United Kingdom or Russia will take the value of one, while other conducted ICOs will take the value of zero.

4.3.3 Year Fixed Effects

To reduce the omitted variable bias, some control variables must be added. One way of reducing the bias is to include year fixed effects, which will pick up the remaining variation in the dependent variable that is not attributed to the other independent variables. Since the existence of the ICO landscape is short and has increased in popularity over the years, some of the variation in ICO success may be caused by year fixed effects. Hence, the following indicator variables will be added:

$$X_{10} \equiv 2013 = \begin{cases} 1 & \text{if ICO conducted in 2013} \\ 0 & \text{otherwise} \end{cases}$$

$$X_{11} \equiv 2014 = \begin{cases} 1 & \text{if ICO conducted in 2014} \\ 0 & \text{otherwise} \end{cases}$$

$$X_{12} \equiv 2015 = \begin{cases} 1 & \text{if ICO conducted in 2015} \\ 0 & \text{otherwise} \end{cases}$$

$$X_{13} \equiv 2016 = \begin{cases} 1 & \text{if ICO conducted in 2016} \\ 0 & \text{otherwise} \end{cases}$$

$$X_{14} \equiv 2017 = \begin{cases} 1 & \text{if ICO conducted in 2017} \\ 0 & \text{otherwise} \end{cases}$$

$$X_{15} \equiv 2018 = \begin{cases} 1 & \text{if ICO conducted in 2018} \\ 0 & \text{otherwise} \end{cases}$$

The year indicator variable will take a value of one if the ICO was conducted in that specific year and a value of zero if otherwise.

4.4 Thesis Model

By adding all the constructed variables together, the following multiple logistic regression model is obtained:

$$ico_success = \beta_0 + \beta_1 whitepaper + \beta_2 wp_length + \beta_3 source_code + \beta_4 team_exp + \beta_5 team_size + \beta_6 domicile + \beta_7 pos_dom + \beta_8 neg_dom + \beta_9 unreg_dom + \sum_{i=10}^{15} \beta_i X_i + \varepsilon \quad (7)$$

Equation (7) illustrates that the success of ICOs is the dependent variable and is explained by several determinants as well as controlled for year fixed effects.

4.5 Model Validity

To ensure that the proposed model is feasible, the assumptions underlying the multiple logistic regression model must be discussed in conjunction with this thesis.

Assumption A1 states that the explained variable is a dichotomous variable. The generated dependent variable for this thesis is *ico_success*, which is a binary indicator variable. Hence, this assumption holds. Moreover, A2 is assumed to hold as well, as the proposed model includes explanatory variables that are meaningful to the model, such that is fitted correctly. There are no meaningless variables added to the proposed model, as it is likely to believe that all the proposed explanatory variables influence the success of ICOs.

Assumption A3 expresses that the sampled observations are independent of each other. It is unlikely to believe that the conducted ICOs in the dataset are dependent of each other. Consequently, this assumption holds. The remaining assumptions, A4, A5 and A6 are also assumed to hold, as none of the explanatory variables in the sample is constant, and there is linear relationship between the dependent and independent variables, as well as the sampled data represents a large sample size in terms of the current ICO market. In conclusive, the generated variables propose a valid regression model that can be used to investigate the research hypotheses.

5. Data

This chapter will elaborate on how the data was sampled and prepared to obtain a dataset of the ICO market during 2013 to October 2018. Initially, the chapter will explain how the data was collected by using a variety of sources, followed by how the obtained data was prepared and manipulated for the empirical analysis. Finally, limitations of the dataset are discussed.

5.1 Data Collection

The ICO market is currently uncontrolled and there is no exhaustive source of complete and comprehensive data of conducted ICOs. Furthermore, there are no universal reporting standards, implying that the degree of completeness in the information varies across the sources. In other words, some sources may have recorded several conducted ICOs other sources may have not documented.

To combat the addressed issues, this thesis will collect data from multiple sources with the objective of retrieving a representative sample of the ICO market during the specified period. The idea is that when the degree of completeness differs, gathering data from several sources will yield a sample that most likely will entail all the conducted ICOs in the period. Hence, the incompleteness can be reduced by including all conducted ICOs from the multiple sources and later adjust the sample for duplicates. This approach will yield a representative sample of the ICO market and will also ensure that this thesis fully reflects the current standing of the ICO market when investigating and answering the research question.

In the absence of an official and exhaustive registry of conducted ICOs, several websites have spawned to track and review token sales. These websites are titled ICO Trackers and provide several tools for assessing ICOs, such as reviews and metrics like the duration of ICOs and initial token price (Sedgwick, 2018). Consequently, ICO Trackers are vital for due diligence purposes and a crucial source of information in gaining an understanding of the most recent state of the ICO market. An issue with using an ICO Tracker is that the information associated with the specific tracker may be incomplete. Thus, multiple ICO trackers will be used to ensure a sample that is representative of the ICO market.

The data underlying this thesis is aggregated data of conducted ICOs in the period of 2013 to October 30th 2018. The data was retrieved November 1st 2018. The sampled data consists of conducted token offerings in the given period and contains both successful and unsuccessful ICOs. To clarify, an ICO is considered as complete or successful when the duration of the ICO has surpassed and the pre-determined funding target is achieved. If the funding target is not reached then the token offering is considered as a failure and will be labelled accordingly.

The following sub-sections will describe and justify the various of sources for gathering the aggregated data of conducted ICOs.

5.1.1 TokenData

TokenData is a transparent ICO tracker that aims to provide investors with an overview of the past, current and upcoming ICOs by offering free and simple data. The tracker also publishes blog posts and reports about the ICO market (TokenData, 2018).

The obtained raw data from Tokendata.io illustrates that 1,800 ICOs were conducted in the period 2014 to October 2018. However, several of the retrieved ICOs do not have their corresponding amount of capital raised, which makes some data points inadmissible. In such instances, it is impossible to determine whether the ICO reached its funding target or not, as the amount of capital raised is not disclosed.

There may be several reasons for why this occurs. Since there are no regulatory frameworks that explicitly state that ICOs must disclose the amount of capital raised, token holders can intentionally refrain from disclosing. Another reason may be that the data from TokenData.io is incomplete or corrupt. Regardless, these incomplete observations will be dropped from the dataset.

5.1.2 CryptoCompare

CryptoCompare is a crypto-tracker that streams the latest prices and news regarding cryptocurrencies and Initial Coin Offerings. Besides cryptocurrencies and ICOs, CryptoCompare provides investors with reviews of digital wallets, crypto-exchanges and tools for tracking the performance of a crypto-portfolio (CryptoCompare, 2018).

1,624 observations of conducted ICOs were retrieved from CryptoCompare within the given sample period. As with the former source, CryptoCompare also displays ICOs that are conducted but have not disclosed their funding target. As previously argued, these observations will be omitted from the dataset, ensuring that the sampled data in fact represents conducted token offerings with a clear funding target.

5.1.3 Smith + Crown

Smith + Crown is a research organisation specialising in researching Blockchain and Initial Coin Offerings. The company publishes research reports regarding cryptocurrencies, market trends and crypto-projects with the aim to construct a platform for research related to the Blockchain technology and its many applications. The company provides a limited and comprehensive list of ICOs, including upcoming, currently and historical token offerings.

In contrast to the aforementioned trackers, Smith + Crown has a detailed list of only 606 completed ICOs with their respective amount of capital raised. None of the observations in this sample are therefore omitted and it therefore seems that this source has only admitted verified tokens or selected token offerings (Smith+Crown, 2018).

5.1.4 CoinSchedule

CoinSchedule aims to be the best cryptocurrency token sales and ICO list by providing information about live, upcoming and past ICOs. The tracker also releases summary statistics regarding ICOs and publishes blogposts about cryptocurrencies and the Blockchain technology as well.

CoinSchedule provides a list of 1,451 completed ICOs in the sample period, where none of the ICOs lack their respective amount of capital raised. In this case, none of the observations will be dropped from this sample (CoinSchedule, 2018).

5.1.5 ICOBench & TrackICO

The aforementioned sources of information do in fact provide data about ICOs in the sample period, but they fail to inform on other attributes associated with ICOs. Information such as domicile, white paper and team composition are not disclosed explicitly. Due to the nature of

the research question, these factors must be accounted for. The omitted information can be located by utilising the sources ICObench and TrackICO.

ICObench is an ICO rating platform that provides analytical and technical insights of ICOs to investors and supporters (ICObench, 2018), whilst TrackICO aims to offer users with reliable information about the best ICOs and matching token offerings with investors (TrackICO, 2018).

For the sampled data from the sources above, both ICObench and TrackICO are utilised to determine if the ICO has published a white paper and its length, released a source code, if team members have previous experience with Blockchain or ICOs and the team size. In cases where the domicile of an ICO is not available on the tracker, the project website has been examined to determine the origin of the token sale. If the domicile is still not uncovered, then it is assumed that the domicile is concealed on purpose by the token holders and thus not specified.

5.2 Data Preperation

The obtained raw data must be prepared and manipulated before it can be used to investigate and answer the research hypotheses and the research question. In the following, the software used in this thesis, as well as the data cleaning process will be elaborated upon.

5.2.1 Software

The obtained raw data is merged and cleaned using Microsoft Excel 2016. To conduct the empirical analysis and thereby investigating the hypotheses, the programming language R was employed.

5.2.2 Data Cleaning

The dataset was obtained by merging all the sampled data from the listed sources above. This process entailed several complications that must be addressed. The problems are mainly situated around incomplete data and duplicates, which must be dealt with to acquire the desired dataset. Hence, the dataset must be corrected and cleaned before it can be used in the empirical analysis.

The main issue is that sampled data from the sources do not have their corresponding domicile or whether a white paper is published or not, stated. Since the purpose of this thesis is to investigate the implications of regulations on the choice of domicile for conducted ICOs, the absence of jurisdiction is a crucial problem to address along with the white paper. In cases where the respective domicile of an ICO is missing, the trackers ICObench and TrackICO are used to determine the associated domicile and the other determinants mentioned previously. The newly acquired information is then manually added to the dataset. In this way, the dataset becomes more complete and is representative of the ICO market.

Since the data are collected from different sources, there are likely to be duplicates present as the sources reflect the identical ICO market. This is the disadvantage of having several sources in retrieving data, but is necessary when trying to retrieve a sample representative the ICO market.

Another issue that must be addressed is the presence of inadequate observations. For instance, an error might occur during the sampling process, causing several observations to be missing. This seems to be unlikely, as several independent sources have been used and all the conducted ICOs should therefore be included.

5.3 Data Limitations

There are several limitations with the data that must be addressed before moving forward. First, an underlying assumption is that the selected sources of ICO data fully reflect the ICO market. In other words, all the conducted ICOs in the period 2013 – October 31th 2018 are therefore included in the dataset. This assumption seems reasonable, as the sources are not arbitrarily selected, but in fact represent some of the most prominent ICO trackers as of this date. Furthermore, it seems implausible that six independent sources of information have overlooked the identical ICO, which substantiates this assumption further. With that said, it still exists a possibility of this occurring, and if this is the case then this will limit this thesis to a minor extent.

Second, the given funding targets are specified in US dollar, which imposes an additional assumption. As argued in chapter 2, the majority of the ICOs offer investors and supporters the opportunity to receive the project token in exchange for existing cryptocurrencies. The

problem with this approach is the high volatility and fluctuations associated with the particular cryptocurrency. The price of Bitcoin today may differ from the price tomorrow. This implies that each source has converted the funding target from cryptocurrency to US dollar using some exchange rate. To ensure that this thesis is realistic, the exchange rate is assumed to be the average conversion rate during the duration of the token offering. This seems reasonable, as the price of cryptocurrencies is subject to high volatility. Moreover, this thesis assumes that this conversion is correctly finalised by the respective source itself. Consequently, deviations in the funding target across other platforms occurs because of using another conversion rate.

Finally, a lack of information regarding several determinants may also induce challenges to this thesis. Since several ICOs occurred years ago, websites and white papers have also disappeared from the surface of the Internet. If this is the case, then it makes it challenging to determine the domicile of an ICO. In such cases, this thesis will be limited to an extent.

6. Current State of the ICO Market

Albeit the focus of this thesis is to investigate how different determinants influence the success of ICOs, it is also important to recognise that the sampled data may provide valuable insights to a market that is limited researched. Since the literature is currently constrained, a descriptive view of the data may present latent insights that could extend the literature. The sampled data provides the most recent state of the ICO market. This chapter is structured as follows. Initially the development of the ICO market as of this date will be presented, followed by examining the trends in typology and distribution.

6.1 Development of the ICO Market

By viewing the development of the annual ICOs conducted during the period, it is possible to obtain information of the trends in the ICO market, but also the popularity of ICOs in general. The sampled data reveals that 1,474 ICOs were conducted from 2013 to October 2018. The annual development of ICOs is illustrated in figure 3 below.

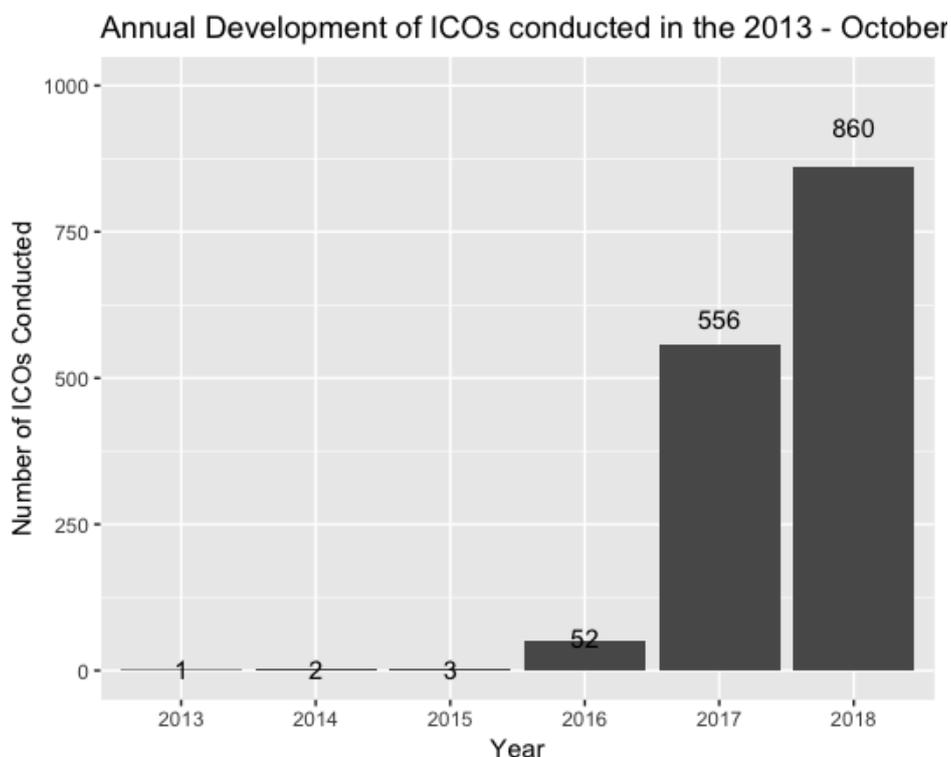


Figure 3: Illustrates the development of ICOs conducted during the period.

Figure 3 illustrates the tremendous growth in ICOs conducted since the very first ICO in 2013. The first three years experienced a modest growth, which is mainly due ICOs being unknown to the public. With the years, the popularity for this innovative device increased, which can be seen by the explosive growth in the amount of ICOs conducted during the latter three years. Increased attention towards the Blockchain technology and ICOs has added further participants to the ICO market. As a result, the activity in the market has surged.

Next, the number of ICOs conducted till this date has already surpassed the total amount in 2017, despite 2018 yet to conclude. As of this moment, 860 ICOs have been conducted worldwide in 2018, yielding an average annual growth of 208.4% during the sample period. This trend implies that additional ICOs are expected to be conducted in 2018, but also the fact that the market will most likely continue to grow in the upcoming years. This is further substantiated by the fact that the technology is trending, and more ventures are being aware of the possibility of launching a venture using ICO as a funding mechanism.

The increased activity in the ICO market is also associated with an incredible growth in the amount of capital raised. The development of capital raised through ICOs can be viewed from figure 4 below.

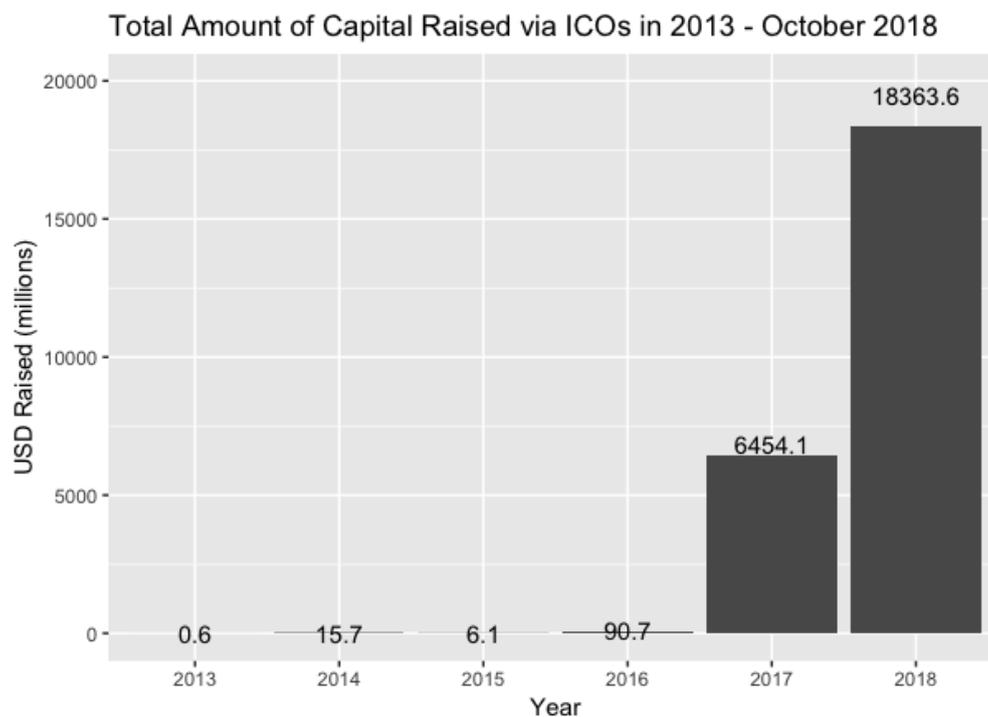


Figure 4: Total Amount of Capital raised through ICOs annually.

Figure 4 displays that the total amount of capital has annually increased since the first token offering of Mastercoin, which raised US \$600,000. In the initial years, only a few conducted ICOs, which is shown by the low amount of capital they raised. As the number of ICOs grows, the total amount of capital raised annually also increases. This can for instance be seen from 2017, where 556 ICOs conducted their offering and raised a total of US \$6.45 billion. Further activity in the ICO market with additional ventures conducting token offering and more investors investing capital into projects can justify this observation.

Notice that the current amount of capital accumulated in 2018 is already approximating three times as much as the previous year. This explosive growth in capital raised is due to additional ICOs being conducted, which can be explained by the increased popularity associated with ICOs. As the year is yet to be completed, this amount is expected to grow as the number of ICOs conducted is also expected to grow. The sampled data can be depicted further. Table 1 shows the average amount of capital raised per ICO during the sample period.

Table 1: Average Amount of Capital Raised per ICO on an Annual Basis.

in million \$	2013	2014	2015	2016	2017	2018
Amount	0.6	7.8	2.0	1.7	11.6	21.4

Table 1 reveals that the average amount of capital raised per ICO on an annual basis fluctuates. This indicates that there may be year fixed effects that occur and create the unambiguous trend. Moreover, observe that from 2016 to 2018, the average amount of capital raised per ICO increases. Each project raised on average US \$1.7 in 2016, which increased to US \$11.6 in 2017 and is currently at US \$21.4 in 2018.

An interesting remark is that albeit the data for 2018 only consists of completed ICOs until the end of October 2018, the amount of capital raised so far in 2018 has already exceeded the total amount of the previous year. Furthermore, the average amount of capital raised per ICO on an annual basis post 2013 is greater than the very first token offering. These observations demonstrate the fact that the ICO market has tremendous growth and is expected to grow further in the upcoming year.

The immediate reason for this insight is that the Blockchain technology is in its early stages, and most the society is yet to be aware of the possibilities associated with ICOs. Since both

the Blockchain technology and cryptocurrencies are currently trending, the popularity is steadily growing. Hence, additional market participants are anticipated to enter the ICO landscape in the following years, which entail several consequences.

First, an increase in ventures will yield more projects to choose among. Second, a surge in investors will lead to more capital being channelled into the ICO market and thereby being allocated to the projects. A combination of additional developers and investors will thereby increase the market capitalisation of both the ICO market, but also the cryptocurrency market as well. Therefore, the market will emerge and grow asymmetrically unless it is regulated in the foreseeable future.

On the other hand, it is also possible to argue that the current state of the ICO market will not experience a further growth due to its lack of regulations. Since the current ICO market is in the grey area in most countries and thereby not properly regulated, some ventures and investors may refrain from entering the market as they view the market as too uncontrolled. Leaving potential market participants in uncertainty may thus mitigate the growth of the ICO market. Also, if the sentiment in the market changes, then the growth of the ICO market may be delayed as well.

Another reason for the initial observation is that the projects launched in 2018 may be more attractive to the investors. As the market is in the early stages with little regulation, the market participants are currently emerging and learning by its previous mistakes. For instance, a venture in 2018 has the opportunity to review previous projects and avoid certain fallacies, whereas investors may be more diligent in their due diligences. In such cases, the investor may decide to invest more capital compared to what he or she would have done without the knowledge and experience of the ICO market.

6.2 ICO Typology

The emerging ICO landscape has grown in terms of ICOs conducted and amount of capital raised. It is thus of the essence to examine what types of projects or industries the capital has been allocated to. Using the same typology as from Coinschedule.com and thereby classifying ICOs accordingly, the following ICO typology is obtained, which is illustrated in table 2 below. Please note that each category is an assembly, meaning that the projects underlying a category may differ to some extent.

Table 2: Typology of Completed ICOs in 2013 – October 2018.

Industry	Number	Percentage
Finance	263	17.8%
Infrastructure	146	9.9%
Trading & Investing	129	8.8%
Marketplaces	84	5.7%
Payments	82	5.6%
Gaming & VR	68	4.6%
Commerce & Advertising	54	3.7%
Gambling & Betting	48	3.3%
Social Network	39	2.6%
Machine Learning & AI	34	2.3%
Communications	34	2.3%
Drugs & Healthcare	31	2.1%
Other	316	21.4%
Unspecified	146	9.9%
Total	1,474	100.0%

Table 2 displays that 17.8% of the projects are related to Financial Services, such as decentralised lending platforms. Moreover, 9.9% of the projects are directed towards creating new Infrastructure, i.e. developing new or existing blockchains, which may result in additional platforms to launch an ICO on. Both these industries resemble and embody the early idea of Nakamoto, which suggests that Nakamoto has followers who share the identical view of intermediaries.

Furthermore, observe that many of the projects are directed towards Trading & Investing and Marketplaces. The popularity associated with cryptocurrencies has created several demands by the community that is yet to be fulfilled. For instance, the increased popularity of cryptocurrencies also requests additional platforms, or the fact that traders of cryptocurrencies also want to trade more traditional securities such as stocks and bonds. These projects aim to innovate this and solve the problems market participants encounter.

Next, view that the sampled ICOs encircle the different aspects of the financial sector, i.e. Finance, Infrastructure, Trading & Investing, Marketplaces and Payment. The aim of the projects seems to be focused on disrupting the financial sector by providing innovative solutions with the basis in the Blockchain technology. Intriguingly, table 2 illustrates that most of the completed ICOs are also projects related to the fundamental idea of Nakamoto in 2008. Nakamoto argued that the Blockchain technology could replace intermediaries to prevent a future financial crisis – disrupting the financial sector. By launching the projects, ventures are still embodying the notion of Nakamoto today and are embarking on the mission Nakamoto once set.

Finally, notice that some projects are related to other sectors than the financial sector. 4.6% of all completed ICOs in the period were devoted to the Gaming & VR industry, which is reasonable considering that it is easier to disrupt this industry compared to more traditional industries that are heavier regulated. In such cases, the projects often offer tokens that can be used to purchase in-game items or merchandise connected to the game. Moreover, 3.3% of the projects are engaging in unethical activities such as Gambling and Betting. Finally, 21.4% of the ICOs are placed in the group “other”, which is a category consisting of projects related to tourism, transportation and mining to mention a few areas. Consequently, the capital is allocated towards projects with various purposes, but mainly seems to be to ventures that are embarking on the mission once set by Nakamoto.

6.3 ICO Distribution

It is also possible to retrieve some insights regarding the distribution of ICOs during the sample period. This information will provide indication of how token offerings tend to domicile and may give some evidences of the underlying reasons for why this is the case. By compiling the data, table 3 is obtained. This table illustrates the global distribution of ICOs in period of 2013 to October 2018.

Table 3: Distribution of ICOs in the period of 2013 – October 2018.

Domicile	Amount of ICOs	Percentage
United States	190	12.9%
Singapore	158	10.7%
United Kingdom	113	7.7%
Russia	101	6.9%
Switzerland	82	5.6%
Estonia	59	4.0%
Hong Kong	38	2.6%
Germany	34	2.3%
China	30	2.0%
Cayman Islands	25	1.7%
Gibraltar	25	1.7%
South Korea	7	0.5%
Other	430	29.2%
Unspecified	182	12.3%
Total	1,474	100.0%

Table 3 illustrates that 12.9% of all conducted ICOs preferred the United States as the domicile closely followed by Singapore with 10.7%. Since token holders are free to select any other domiciles of their choice, a selection of the United States or Singapore conveys that most token holders may prefer positively regulated environments. The evident intuition for this is the fact that positively regulated environment enhances the operations of ICOs and provides a climate that promotes Initial Coin Offerings.

Furthermore, observe that the unregulated environments, United Kingdom and Russia, account for 7.7% and 6.9% of all ICOs conducted, respectively. Having the choice between positively regulated environments and unregulated environments, many ICOs tend to choose the latter. This indicates that some ICOs prefer unregulated environments albeit it is possible to domicile in positively regulated environments. Finally, note that a fairly large amount of ICOs have not specified their domicile, i.e. 12.3% of the ICOs in the sample.

7. Empirical Analysis

This chapter consists of two separate analyses that will be assessed jointly in the light of the research question. The aim is to investigate the research hypotheses and thereby answer the research question. Since the design of this thesis is a descripto-explanatory study, a descriptive analysis will initially be presented. Finally, an inferential analysis is conducted by estimating a logit model to investigate whether the sampled data substantiates the descriptive analysis or not.

7.1 Descriptive Analysis

In the following, the research hypotheses will be analysed by employing descriptive tools. The aim of this section is to provide a foundation for the inferential analysis.

7.1.1 ICO Success

The development of ICOs in terms of success or failures is of importance when analysing how different determinants affect the outcome of an ICO. This development is illustrated in figure 3 below.

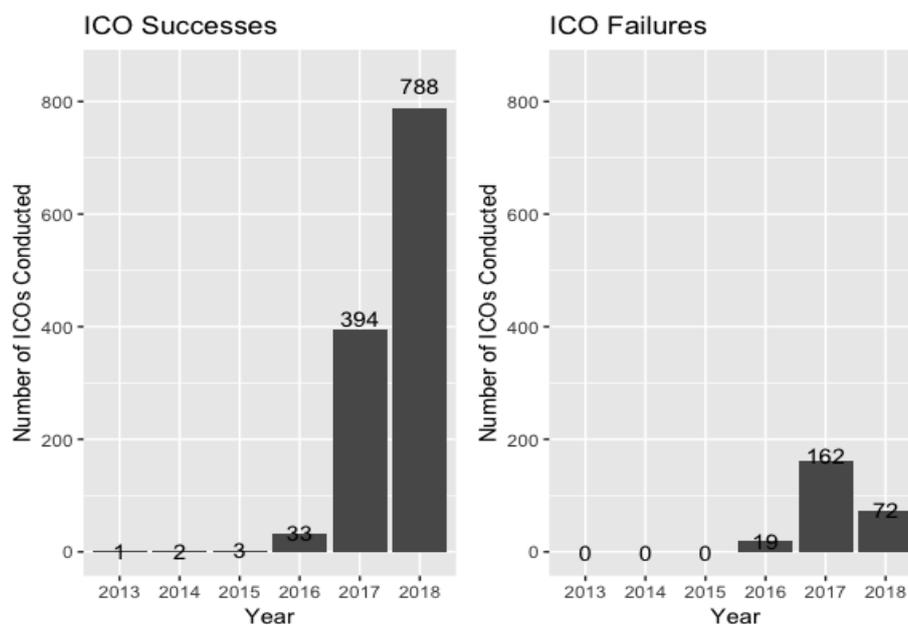


Figure 3: Annual ICO Successes and Failures from 2013 to October 2018.

Figure 3 illustrates the development of the outcome of all ICOs conducted in the period 2013 to October 2018. Initially, notice that few ICOs were conducted in the beginning and the ones that were conducted were all successful. An explanation for this observation may be the minimal information asymmetry between the ventures and the investors. Since ICOs experienced low popularity and were conducted inside a close-knit community, both the ventures and investors had sufficient knowledge to develop and assess ICOs, respectively. This implies that ICOs increased the transparency, whilst investors had the knowledge to make informed decisions.

As token offerings become more mainstream and gain additional popularity, both new developers and investors enter the ICO landscape. This is observed by the massive growth in both successes and failures, as well as the development of capital raised through ICOs during the latter three years. From 2016 and till this date, the number of successful ICOs have steadily increased, whilst the amount of failures is reducing.

A reason for this may be the fact that participants are inexperienced in the beginning, but learn how to navigate ICO and the market over time. As there was no fixed recipe for conducting an ICO properly, developers had to use a trial and error methodology to extend the knowledge and avoid fallacies. This also demonstrates why the amount of failures is decreasing the latter years, as token holders discover which determinants and components that are necessary for conducting a successful ICO.

The previous observations suggest that ICOs take several determinants into account when conducting an ICO and is also the basis for why the amount of successful ICOs is steadily increasing over time. This thesis thereby seeks to unveil whether these determinants influence the outcome of an ICO or not.

7.1.2 White Paper as a Determinant

The research hypothesis H1A states that the white paper is a determinant for ICOs achieving success. Using the sampled data of all conducted ICOs in the period 2013 to October 2018, descriptive measures can be used to examine whether publishing a white paper increases or decreases the probability of achieving success. The sampled data is presented in table 4 below.

The table illustrates that 1,474 ICOs were conducted in the sample period, whereas 1,221 of them achieved a successful token offering, whilst the remaining 253 failed. Further on, the

table shows that among the 1,221 successful ICOs, 746 of them published a white paper prior to the token offering, whilst the remaining 475 avoided the document but still achieved success. There are two evident observations that can be drawn from this table.

Table 4: The Outcome of ICOs when Publishing a White Paper prior to a Token Offering.

Published a White Paper?	Yes	Percentage	No	Percentage	Total
Success	746	97.0%	475	67.4%	1,221
Failure	23	3.0%	230	32.6%	253
Total	769	100.0%	705	100.0%	1,474

First, it suggests that it is possible to achieve a successful token offering without publishing a white paper in advance. This implicates that there seems to be other factors that affect the success of an ICO besides the white paper, which indicates evidence against hypothesis H1A. Second, it also shows that 746 successful ICOs published a white paper, implying that this factor may have influenced the success of an ICO as almost all successful ICOs used the paper in their token offering. This suggests some evidence in favour of hypothesis H1A.

Moreover, out of the 253 ICOs that did not successfully close their token offering, 23 of them published a white paper. This illustrates that albeit publishing a white paper prior to the ICO, the token offering is not automatically set for success. This observation proposes that there are also other variables that affect the success of an ICO, and that the white paper may be a partial determinant in achieving ICO success. Since 23 ICOs still failed even though they published a white paper, there are also some evidence against hypothesis H1A. It seems that the white paper is not a key determinant for ICO success.

It is rather suggested to assess the white paper on its own merit. By using a feature of the white paper, such as the paper length, the quality of the document can be evaluated and thereby determine whether the document is a determinant of ICO success or not. Research hypothesis H1B investigates this. Table 5 below illustrates the average length of white papers released.

Table 5 shows that amongst the 769 ICOs that published a white paper prior to the token offering, 746 of them achieved success, whilst the remaining 23 failed. The average length of the document for the successful ICOs was 35 pages and 24 pages for the unsuccessful ICOs. The extensive difference in average length of the white paper between the two suggests that

successful ICOs convey more information to the market compared to unsuccessful ICOs. This indicates that successful ICOs attempt to reduce the information asymmetry associated with ICOs.

Table 5: Average White Paper Length for Successful and Unsuccessful ICOs.

Outcome	Amount of ICOs that have Published a White Paper	Average White Paper Length
Success	746	35
Failure	23	24
Total	769	29

A larger document length implies that each project provided outsiders with more information in the white paper. By conveying more information to the market, the developers immediately seek to reduce the information asymmetry between the two parties. Furthermore, offering sufficient information to investors allow them to make informed decisions. This would also create reliance and increase the project's reputation which would also have a positive effect on investment decisions. This suggests that the length of the white paper may positively affect the success of an ICO and thereby support hypothesis H1B. This observation substantiates that publishing the white paper itself is not a determinant for ICO success, but rather that the quality of the document is a determinant.

On the other hand, notice that the average white paper length for unsuccessful ICOs was 24 pages. This indicates that unsuccessful ICOs provided outsiders with less information compared to successful ICOs. As a consequence, investors may have lacked information when attempting to make an informed decision. Thus, the lack of information might refrain investors from investing into the ICO and hence negatively affect the success of an ICO. This observation also supports that the white paper is crucial component in delivering information to the ICO market.

It therefore appears that the white paper itself may not directly be a determinant of ICO success, but rather the information the document conveys to the market. The quality of the information with regards to the length of the document seems to be a reliable proxy for the quality of the white paper. Consequently, there are support in favour of hypothesis H1B.

7.1.3 Importance of Source Code

Research hypothesis H2 expresses that the source code is a determinant for accomplishing ICO success. The source code reveals the digital competence of the developers and may unveil whether the developer team can carry out their concept into a working product. Allowing the source code to come under the scrutiny of the public may also signal the confidence in the project to the market; advocating that the project can be audited and criticised by the community. The amount of ICOs that released their source code publicly prior to the offering is presented in table 6 below.

Table 6: The Outcome of ICOs when Releasing the Source Code prior to a Token Offering.

Public Source Code?	Yes	Percentage	No	Percentage	Total
Success	628	96.8%	593	71.9%	1,221
Failure	21	3.2%	232	28.1%	253
Total	649	100.0%	825	100.0%	1,474

Table 6 illustrates that amongst the 1,474 conducted ICOs during the sample period, 649 ICOs made their source code public prior to the offering, whilst the remaining 825 refrained. Moreover, it shows that 96.8% of the ICOs that made their source code public successfully closed their token offering. This clearly indicates that publishing the source code on a public repository prior to an offering most likely positively influences the success. There is strong support for hypothesis H2.

On the other hand, observe that 71.9% of those that did not make the project code public also achieved a successful ICO. This suggests that there are also other variables that are decisive to the outcome and that the success is not solely dependent on the source code. This seems reasonable as similar entities such as firms, become profitable due to several determinants that jointly intersects. This observation neither support or rejects the hypothesis H2, but provides some information about the importance of other determinants.

Consequently, there are strong indications for the importance of a source code when launching an ICO. This is associated with increased reliance in the project as well as signaling of abilities and further prospects of the project. Hence, hypothesis H2 seems to hold.

7.1.4 Developer Team Composition as a Determinant

A key component in achieving ICO success is suggested to be the developer team and how the team is composed. The arguments mention the necessity of previous Blockchain and ICO experience as well as the team size as two crucial determinants in obtaining ICO success. Table 7 below illustrates the outcome when the developer team has previous experience of the technology.

Table 7: The Outcome when the ICO Team has Previous Experience of Blockchain or ICO.

Experienced Team?	Yes	Percentage	No	Percentage	Total
Success	249	97.6%	972	79.7%	1,221
Failure	6	2.4%	247	20.3%	253
Total	255	100.0%	1,219	100.0%	1,474

The table shows that 255 conducted ICOs had a developer team with previous experience of the Blockchain technology or ICO, whereas 97.6% of these ICOs achieved success. This indicates that most of the ICOs that had previous Blockchain or ICO experience were able to convert this experience to benefit the ICO and thereby positively affect the outcome. The intuition is that an experienced team will have the knowledge to avoid certain fallacies that may damage the project. This experience is instrumental as it establishes an advantage over competitors when reaching the funding stage. Hence, there seems to be evidence that supports hypothesis H3A.

Additionally, only 2.4% of the ICOs with an experienced team did not manage to achieve a successful token offering. As this amount is remarkably low, it is feasible to think that these six ICOs may have been influenced by other variables besides the experience. An adequate parallel is the equity capital markets; the previous track record is not a clear or reliable indication of future performance. Even if the previous token holders had positive experiences with the technology, the ICO is still subject to other variables that may influence the outcome of the offering. This argument does also support hypothesis H3A.

Contrarily, observe that 79.7% of the successful ICOs did not have a team with previous experience. This implies that despite the lack of experience, several token holders do still obtain a successful offering. Having previous Blockchain experience is therefore not necessary

in obtaining ICO success. This also support the proposition that other variables are more crucial in determining the ICO outcome, which provides evidence against hypothesis H3A.

There are also several arguments regarding the importance of the team size of tech-based ventures, such as ICOs, and how it correlates with success. Table 8 below shows the average team size for successful and unsuccessful ICOs.

Table 8: Average Team Size of Successful and Unsuccessful ICOs.

Outcome	Amount of ICOs that has Published Team Info	Average Team Size
Success	249	12
Failure	6	10
Total	255	11

Table 8 illustrates that the average size of the developer team for successful and unsuccessful ICOs is 12 and 10 respectively. The difference between the two is remarkably low, which suggests that the team size does not affect the outcome of the offering. Since the size of the developer team does not seems to matter, there must be other variables that also affect the outcome. Consequently, there are some evidence against hypothesis H3B.

7.1.5 Domicile as One of the Key Drivers

A determinant that is yet to be examined in terms of ICO success is the choice of domicile of the respective ICO. Each domicile has its corresponding regulations, which affects ICOs in various degrees. Some domiciles are positive towards ICOs, while other locations are not. Since the literature is limited on this matter, it is therefore interesting to investigate how regulations influence the success of a token offering. Initially, it is necessary to investigate if there are any immediate differences in the outcome when explicitly specifying the domicile prior to the ICO compared to not disclosing it.

Table 9 shows that 1,292 ICOs specified their domicile prior to an ICO, whereas the remaining 182 did not disclose their domicile due to unknown reasons. Among the 1,292 ICOs, 88.4% of these ICOs did achieve a successful token offering, whilst the remaining 11.6% failed. This observation suggests that disclosing the domicile prior to an ICO positively influences the likelihood of achieving success, which substantiates hypothesis H4.

Table 9: The Outcome when the Domicile is Specified and Unspecified prior to an Offering.

Domicile Specified?	Yes	Percentage	No	Percentage	Total
Success	1,142	88.4%	79	43.4%	1,221
Failure	150	11.6%	103	56.6%	253
Total	1,292	100.0%	182	100.0%	1,474

On the other hand, view that 182 ICOs did not disclose their domicile, where 43.4% of them achieved success and the remaining 56.6% failed. If the case were that disclosing the domicile would positively affect the success of an ICO, then conversely a lack of disclosing domicile would damage the ICO process. Table 9 illustrates that this is not necessary the case, as only 56.6% obtained an unsuccessful token offering. This percentage would be expected to be vastly greater if the previous reasoning was adequate. This provides evidence against the hypothesis H4.

Moreover, the literature states that regulations were mostly implemented in September 2017, which means that the period prior to this date represents an unregulated environment, whilst the period after is a regulated period. By examining the distribution of ICOs in the period where the environment was unregulated compared to the regulated period, it is possible to investigate whether there is a change in the distribution or not. This comparison is illustrated in table 10 below.

The evident observation from table 10 is that all the countries experienced a growth in ICOs after regulations were implemented, which indicates that regulations may affect the choice of domicile and therefore also the success. For instance, Estonia experienced a growth from 4 to 53 successful ICOs after implementing positive regulations, i.e. a percentage increase of 1,225%, whilst Switzerland went from 14 to 65 successful ICOs – a 364.3% increase. The trend is the same for the other countries as well as, showing that regulations are likely to affect the choice of domicile. In this case, positive regulations concerning ICOs have led to an explosion in ICOs domiciling in the positively regulated countries. This indicates that the domicile positively influences the success of an ICO, which also imply strong evidence for hypothesis H4.

Table 10: The Effect of Regulations on the choice of Domicile for Successful ICOs.

Domicile	Pre-Regulations	Post-Regulations	Total	Percentage Change
Estonia	4	53	57	+1,225.0%
Gibraltar	5	20	25	+300.0%
Singapore	11	125	136	+1,036.4%
Switzerland	14	65	79	+364.3%
United States	43	119	162	+176.7%
Unspecified	46	33	79	-28.3%
Total	137	433	570	

Table 10 also shows that the number of successful ICOs that did not disclose their domicile has decreased. In fact, there is a decrease of 28.3%, indicating that regulations reduce the incentive to not specify the domicile. Ventures are now more concerned about developing their project in an environment that promotes the Blockchain technology instead of not disclosing their domicile and shielding themselves from responsibility. This also indicates that token holders take the domicile and its corresponding legal constraints into account when attempting to achieve ICO success.

There may also be several other explanations for this decrease. During the sample period, the ICO market experienced a rapid growth with new market participants entering the ICO market. Prior to the implementation of regulations, the number of unspecified domiciles may be a result of ventures not knowing where to domicile impending further regulations. If an ICO were to disclose its domicile and later find out that the authorities of the selected country were to implement negative regulations towards ICOs, then it could potentially damage the operations of the ICO and perhaps the existence as well. Thus, not disclosing the domicile could be an insurance if negative regulations were pending.

On the other hand, table 10 also displays that after implementing regulations, the number of undisclosed domicile of ICOs decreased. The likely reason to this is that the regulatory stance in each respective domicile is settled for now. Hence, it is clear what it entails to be domiciled in a specific country. ICOs will no longer be subject to uncertainty due to regulations and thus additional ICOs are motivated to disclose their domicile compared to before. Consequently, an ICO will possess knowledge of the benefits and the disadvantages of domiciling in a

specific location. This descriptive analysis indicates that regulations affect the success of an ICO positively, which provides evidences for hypothesis H4.

7.1.6 Domiciling in a Positively Regulated Environment

Research hypothesis H5 suggests that ICOs domiciled in a positively regulated environment are more likely to succeed than ICOs domiciled in another environment. Since some countries enforced regulations that are considered as positive, it is possible to examine the impact of positive regulations by comparing ICOs in the positively regulated environment against the rest of the sample. This comparison is presented in table 11 below.

Table 11: ICO Success in a Positively Regulated Domicile compared to other Domiciles.

Domicile	Success	Failure	Total	Success Rate
Positively Regulated	382	38	420	91.0%
Other Countries	734	182	916	80.1%
Total	1,116	220	1,336	

Table 11 illustrates that 1,336 ICOs were conducted during the period, whereas 420 domiciled in a positively regulated country, and the remaining 916 domiciled in another environment. Amongst the 420 in the positively regulated country, 91.0% of them achieved a successful token offering, whilst among the 916 ICOs domiciled in another environment, only 80.1% of the ICOs achieved a successful ICO. This implies that the likelihood of achieving a successful token offering is greater in a positively regulated environment compared to other environments. Domiciling in a positively regulated environment tends to positively affect ICOs, which provides evidence for hypothesis H5.

It can also be argued that there might be other reasons for the difference in success rates illustrated above. Amongst the positively regulated domiciles, most of the countries are nations that have a strong business environment and political leadership. These are factors that ICOs can benefit from and thereby increase their chance of achieving a successful token offering. Having advisors that are experts in for instance marketing may positively affect the success of an ICO and thereby affect the success rate as well. Contrarily, the countries in other environments may have a weaker business landscape or political leadership, which may reduce the chances of achieving a successful token offering.

Finally, table 10 has previously established that token holders are actively seeking a positively regulated domicile. This can be seen of the percentage change in ICOs domiciling in the positively regulated countries post-regulations. Subsequent implementing positive regulations of ICOs in Singapore, the country experienced an increase of 1,036.4% of ICOs domiciling in Singapore, which also support hypothesis H5. Consequently, it seems that positive regulations will positively influence the outcome of ICOs. Hence, there are evidence for hypothesis H5.

7.1.7 China and South Korea as Key Domiciles prior to ICO Ban

Prior to September 2017, none of the countries in the sample had regulations enforced, which means that token holders could select domicile regardless of legal constraints. It is therefore interesting to investigate whether domiciling in a negatively regulated country prior to the ICO bans would yield a greater chance of success compared to other countries. In other words, would domiciling in China or South Korea prior to the ICO bans positively affect the outcome compared to domiciling in other environments. The distribution of ICOs with its corresponding success rate prior to implementing regulations is presented in table 12 below.

Table 12: Success Rates of Domiciles prior to Implementing Regulations in September 2017.

Domicile/Outcome	Success	Failure	Total	Success Rate
Estonia	4	0	4	100.0%
Gibraltar	5	0	5	100.0%
Singapore	11	9	20	55.0%
Switzerland	14	0	14	100.0%
United States	43	8	51	84.3%
Russia	51	18	69	73.9%
United Kingdom	30	11	41	73.2%
South Korea	3	0	3	100.0%
China	11	4	15	73.3%
Other	265	146	411	64.5%
Total	619	238	857	72.2%

Table 12 illustrates that South Korea and China has a success rate of 100.0% and 73.3% respectively, indicating that domiciling in South Korea prior to the ban would positively influence the ICO. However, there are two implications of this observation that needs to be addressed. First, the amount of ICOs domiciled in South Korea is particularly low. All the three token offerings succeeded. The lack of additional observations for South Korea casts doubt over the validity of the argument and does not provide any clear evidence towards hypothesis H6.

Moreover, observe that the success rate of China is considerably lower compared to other domiciles such as Switzerland and the United States. Examining table 12, 100% of all conducted ICOs in Switzerland were successful, whilst 84.3% of all ICOs in the United States had the same outcome. Since more ICOs succeed in other domiciles, the two observations suggest that domiciling in China or South Korea prior to regulations would not positively affect the outcome. The number of conducted ICOs for the other domiciles are also vastly greater than China and South Korea. Hence, there seems to be evidence against the hypothesis H6.

Since other domiciles than South Korea and China had a greater success rate, it can be argued that there are other factors that are more decisive when determining ICO success for these domiciles. Especially China is infamous for its strict political leadership and control of the population, which may negatively influence the outcome of an ICO. To complete an ICO requires effort on several areas, where the business climate is an essential component. The presence of censorship may therefore harm token offerings. Contrarily, domiciles like Switzerland provide token holders with a clear business climate, which can be leveraged to promote the ICO. Connections to financial institutions and a vast investor pool are both attractive attributes to token holders and would affect the outcome of an ICO.

There are indications that token holders were provided with better options when selecting domicile. Domiciles such as South Korea and China seem to have no effect on the outcome of an ICO as they provide an inadequate business climate, whereas other domiciles are more suitable. Consequently, there are evidence against hypothesis H6 as there are other domiciles that are far more superior.

7.1.8 Effects of Domiciling in an Unregulated Environment

Since regulations were implemented around September 2017 for the most countries, the token holders were provided with a clear choice. ICOs could either domicile in positively regulated environments, such as Switzerland and Singapore, or intentionally domicile in an unregulated environment such as United Kingdom and Russia. By comparing the success and failures of ICOs in a regulated and unregulated environment from the implementation of regulatory measures, it is possible to investigate hypothesis H7. This comparison is compiled in table 13 below.

Table 13: ICO Success in an Unregulated Domicile compared to a Regulated Domiciles.

Domicile	Success	Failure	Total	Success Rate
Unregulated Domiciles				
Russia	15	0	15	100.0%
United Kingdom	67	5	72	93.1%
Total	82	5	87	94.3%
Positively Regulated Domiciles				
Estonia	53	2	55	96.4%
Gibraltar	20	0	20	100.0%
Singapore	125	13	138	90.6%
Switzerland	65	3	68	95.6%
United States	119	20	139	85.6%
Total	382	38	420	91.0%
Miscellaneous				
Unspecified	33	26	59	55.9%
Other	241	4	245	98.4%

Table 13 illustrates that 420 conducted ICOs domiciled in a regulated environment, whereas 382 of them succeeded while the remaining failed. This means that approximately 91.0% of all ICOs in a positively regulated environment succeeded. In an unregulated environment, 87 ICOs were conducted, whereas 82 succeeded and 5 failed; 94.3% of all these were successes.

This illustrates that far more ICOs succeeded in an unregulated environment opposed to a regulated domicile, which suggests that domiciling in an unregulated environment would increase the probability of success. In this case, domiciling in a location that is currently unregulated increases the likelihood of achieving success compared to a positively regulated one. This provides evidence for the fact that the hypothesis H7 holds.

Furthermore, observe that both Gibraltar and Estonia have approximately 100% success rate. Almost all token offerings have been successful. Whether this is due to regulations alone is hard to determine. All the countries in the table above represents countries with a solid business environment and political systems. This factor may also be instrumental in the success of an ICO. Amongst the positively regulated countries, domiciling in the United States yields the worst chance of succeeding. In the United States, 119 ICOs were launched, where only 20 of them succeeded, hence returning a success rate of 85.6%. Although this amount is great, it is lower compared to its peers. This provides evidence against hypothesis H7.

Also, note that not specifying the domicile will yield a success rate of 55.9%. When the choice is to select an unregulated environment, a positively regulated domicile or remain unspecified, it seems to be that the first two are a better choice in terms of success. An explanation for this is that not revealing the domicile weakens the trust and reputation of the project and hence investors will refrain from investing.

It is likely to believe that other factors besides jurisdiction are also affecting whether an ICO is achieving success or not. With that said, table 13 indicates that there is no clear preference regarding positively regulated environments and unregulated domiciles. It is expected that the hypothesis does not hold as unregulated environments provide token holders with ambiguity, refraining investors from investing.

7.2 Inferential Analysis

This section aims to support the previous descriptive analysis. The research hypotheses can be investigated by employing statistical tools. Initially, the descriptive statistics of the regression variables are presented followed by a correlation matrix of the variables. Finally, several regressions are estimated to test the significance of the determinants on ICO success both individually and jointly.

7.2.1 Summary Statistics

Table 14 and 15 report the key characteristics of the data sample and the corresponding correlation coefficients, respectively. The sample consists of 1,474 observations, where the construction and explanation of each variable is previously given in chapter 4.3.

Table 14 illustrates that 1,474 ICOs were conducted during the sample period, where 83% of the ICOs successfully closed their token offering on average with a standard deviation of 38%. Moreover, the mean of disclosing a white paper is 69% with a standard deviation of 46%. Amongst the 842 ICOs that published a white paper, the average length of the document was roughly 34 pages. Interestingly, the largest white paper consisted of 219 pages, which is extensive considering that the average length is 34 pages.

The average team size is about 12 team members, whereas the largest developer team involved 64 members. The corresponding standard deviation is 6.79%, which suggest that the team of 64 members is an anomaly. Observe that 88% of the ICOs disclosed their domicile prior to the token offering. This indicates that token holders take the domicile into account when launching an ICO.

Table 14: Descriptive Statistics of the Regression Variables.

Variable	Observations	Mean	Median	Std. Dev	Min	Max
ico_success	1,474	0.83	1.00	0.38	0.00	1.00
whitepaper	1,474	0.69	1.00	0.46	0.00	1.00
wp_length	842	33.52	20.00	18.86	1.00	219.00
source_code	1,474	0.44	0.00	0.50	0.00	1.00
team_exp	1,474	0.17	0.00	0.38	0.00	1.00
team_size	1,474	11.39	11.00	6.79	1.00	64.00
domicile	1,474	0.88	1.00	0.33	0.00	1.00
pos_dom	1,336	0.31	0.00	0.46	0.00	1.00
neg_dom	515	0.03	0.00	0.31	0.00	1.00
unreg_dom	811	0.11	0.00	0.31	0.00	1.00

Table 14 further shows that the mean of domiciling in a positively regulated country is 31% with a standard deviation of 46%. When domiciling in negatively regulated or intentionally in unregulated environments, the mean is 3% and 11% with corresponding standard deviations of 31% and 31%, respectively. This provides further support for the fact that ICOs takes the domicile and its corresponding legal constraints into account when launching an ICO.

Table 15: Correlation Matrix of the Regression Variables.

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) ico_success	1	0.30	0.53	0.33	0.18	0.26	0.39	0.17	0.01	0.04
(2) whitepaper	0.30	1	-0.04	-0.04	-0.04	-0.04	-0.08	-0.01	-0.06	0.01
(3) wp_length	0.53	-0.04	1	0.23	0.17	0.27	0.33	0.11	-0.02	0.02
(4) source_code	0.33	-0.04	0.23	1	0.18	0.14	0.18	0.04	-0.09	-0.03
(5) team_exp	0.18	-0.04	0.17	0.18	1	0.17	0.15	-0.06	0.11	-0.06
(6) team_size	0.26	-0.04	0.27	0.14	0.17	1	0.10	0.06	0.03	-0.02
(7) domicile	0.39	-0.08	0.33	0.18	0.15	0.10	1	0.20	-0.07	0.11
(8) pos_dom	0.17	-0.01	0.11	0.04	-0.06	0.06	0.20	1	0.19	-0.07
(9) neg_dom	0.01	-0.06	-0.02	-0.09	0.11	0.03	-0.07	0.19	1	
(10) unreg_dom	0.04	0.01	0.02	-0.03	-0.06	-0.02	0.11	-0.07		1

Table 15 illustrates the correlation coefficients between the regression variables. Observe that ICO success is positively correlated with publishing a white paper (0.30), the length of a white paper (0.53), having a public source code (0.33), team size (0.26) and domicile (0.39). These large coefficients suggest that ICO success is associated with the presence of determinants that reduce the information asymmetry. Moreover, the correlation coefficient between ICO success and domiciling in a positively regulated environment is to some extent strong (0.17), which also adds evidence that domicile is one of the key determinants.

On the other hand, the correlation coefficients for negatively regulated domiciles (0.01) and unregulated domiciles (0.04) are close to zero. The correlation coefficients indicate that the variables are nearly uncorrelated. This implies that there is almost no relationship between the mentioned variables and ICO success. Additionally, the correlation matrix also shows that none of the explanatory variables are perfectly correlated. This means that multicollinearity will not be an issue in this case, hence the inferential analysis can be conducted.

7.2.2 Regression Results

The following sub-section presents the regression results. Initially, table 16 and 17 will report the individual determinants regressed against ICO success as the dependent variable.

Table 16: Results when Regressing each Determinant individually against ICO Success.

Dependent Variable: ico_success	(1) White Paper	(2) White Paper Length	(3) Source Code	(4) Team Experience	(5) Team Size
whitepaper	11.6970*** (26.6693)				
wp_length		0.1694*** (0.0122)			
source_code			2.5738*** (0.2404)		
team_exp				2.5006*** (0.4237)	
team_size					0.1756*** (0.0183)
2013	11.7350 (625.4038)	7.6718 (73.1264)	3.4786 (31.1445)	6.5073 (51.3404)	6.8048 (31.1441)
2014	12.4890 (442.2274)	-12.6474 (96.8335)	0.0000 (62.8788)	0.0000 (62.8788)	0.0000 (62.8788)
2015	12.4890 (361.0772)	-0.7006 (82.3612)	1.3449 (57.4987)	0.0000 (59.2827)	-1.8074 (58.2357)
2016	-1.5965 (0.3249)	-7.4356 (73.1272)	-5.3323 (51.3417)	-7.3241 (51.3411)	-8.7506 (51.3415)
2017	-0.0682 (0.3146)	-7.9478 (73.1265)	-3.5038 (51.3410)	-5.6666 (51.3405)	-5.9666 (51.3406)
2018	1.5601*** (0.3228)	-7.4273 (73.1265)	-3.5038 (51.3410)	-5.6666 (51.3410)	-6.9666 (51.3406)
Constant	12.0848 (26.7009)	5.7047 (73.1266)	5.3024 (51.3409)	7.8762 (51.3403)	7.7006 (51.3403)
Observations	1,474	769	1,474	1,474	1,474
Pseudo R2	33.40%	60.26%	31.35%	20.08%	26.17%
Wald Chi2	329.8507***	536.7360***	307.3312***	189.3068***	251.9035***

Standard deviations in parentheses and p-values; *p < 0.1, **p < 0.05, ***p < 0.01.

Column (1) in table 16 regresses only white paper as the explanatory variable against ICO success as the explained variable. Publishing a white paper alone is statistically significant at a 1% significance level with a corresponding positive coefficient. This indicates that it will increase the probability of success if the ICO publishes the document. Moreover, also observe that the year fixed effect in 2018 is significant and positive, which indicates that there is some variation to the ICO success, which is not attributed to the white paper, but rather to 2018.

Furthermore, column (2), (3), (4) and (5) illustrate that the white paper length, making the source code public, having a team member with previous Blockchain or ICO experience and the team size are all positive and statistically significant at a 1% significance level, respectively. This indicates that the determinants do individually increase the probability of ICO success. It is also important to note that no year fixed effects are significant, which implies that no variation in the ICO success is attributed to yearly effects for these determinants. This indicates that the mentioned variables most likely provide a better foundation for success compared to the white paper, as there is no variation in the ICO success that is due to the year effects, but rather attributed to the explanatory variables themselves.

Table 17 reports how the domicile affect ICO success in various ways. Column (1) illustrates that revealing the domicile prior to a token offering will increase the probability of ICO success. The coefficient is positive and statistically significant at a 1% significance level. Moreover, from column (2); domiciling in a positively regulated environment will also positively affect the probability of success as the coefficient is also positive and statistically significant. However, the control variables for 2017 and 2018 are now also statistically significant at a 1% significant level. This implies that the variation in ICO success is also attributed to 2017 and 2018 when solely studying the domicile.

Column (3) displays that domiciling in China or South Korea prior to the ICO ban does not yield a greater probability of ICO success. The coefficient is positive, but not statistically significant. No control variables are positive as well. Column (4) also demonstrates that intentionally domiciling in unregulated environments does not increase the probability of success. The coefficient is now negative and statistically insignificant. The year fixed effects are however statistically significant, which indicates that even though the ICO success is not due to domiciling in unregulated environments, the variation in ICO success is attributed to year fixed effects.

Table 17: Results when Regressing Domicile Determinants against ICO Success.

Dependent Variable: ico_success	(1)	(2)	(3)	(4)
	Domicile	Positively Regulated Domiciles	Negatively Regulated Domiciles	Unregulated Domiciles
domicile	2.0709*** (0.1815)			
pos_dom		0.9591*** (0.2126)		
neg_dom			0.5415 (0.5774)	
unreg_dom				-0.0672 (0.4529)
2013	0.000 (65.9822)		0.0000 (83.7828)	
2014	0.000 (62.8788)		0.0000 (81.6564)	
2015	0.000 (59.2827)		0.0000 (76.9854)	
2016	-6.4656 (51.3414)		-7.8874 (66.6728)	
2017	-6.5156 (51.3404)	-1.4782*** (0.1603)	-7.6274 (66.6723)	-1.0473*** (0.3254)
2018	-5.1933 (51.3405)	1.4782*** (0.1603)		1.0473*** (0.3254)
Constant	5.8053 (51.3406)	0.6322*** (0.1036)	8.3991 (66.6722)	1.6227*** (0.2825)
Observations	1,474	1,336	515	811
Pseudo R2	25.77%	16.28%	1.65%	2.68%
Wald Chi2	247.7210***	135.4182***	6.1017	9.1147**

Standard deviations in parentheses and p-values; *p < 0.1, **p < 0.05, ***p < 0.01.

Table 18 and 19 report the logit regression results when regressing all the determinants simultaneously against ICO success as the explained variable. The difference between the two tables is that table 18 uses the white paper, whilst table 19 uses the length of the white paper.

Table 18: Summary of Logit Regression Results when using the White Paper.

Dependent Variable: ico_success	(1)	(2)	(3)	(4)
	ICO Determinants	Positively Regulated Domiciles	Negatively Regulated Domiciles	Unregulated Domiciles
whitepaper	11.7675 (22.8373)	11.8041 (24.0032)	11.2212 (20.4462)	10.3343 (25.1462)
source_code	2.3649*** (0.2687)	2.0780*** (0.2839)	2.8006*** (0.3897)	2.2718*** (0.4947)
team_exp	1.3569*** (0.4551)	1.3364*** (0.4569)	1.5313** (0.6854)	9.4054 (33.4299)
team_size	0.1738*** (0.0242)	0.1617*** (0.0266)	0.1868*** (0.0365)	0.1485*** (0.0386)
domicile	1.8195*** (0.2629)	1.8964*** (0.2873)	1.1103*** (0.3453)	2.4496*** (0.6180)
pos_dom		0.4917* (0.2538)		
neg_dom			0.8303 (0.7395)	
unreg_dom				0.0323 (0.5742)
2013	11.5737 (625.4040)		10.6190 (298.7910)	
2014	10.5666 (442.2274)		11.6190 (211.2774)	
2015	10.3615 (352.7206)		9.4200 (166.5136)	
2016	-1.1611 (0.4059)		0.3776 (0.4156)	
2017	-0.5940 (0.3965)	-1.6313 (0.2171)	-0.5030 (0.4009)	-1.5095 (0.4054)
2018	1.0987*** (0.3390)	1.6315*** (0.2171)		1.5095*** (0.4054)
Constant	8.7124 (22.8407)	8.1281 (24.0038)	7.9039 (20.4475)	6.6639 (25.1544)
Observations	1,474	1,336	515	811
Pseudo R2	62.40%	63.07%	69.38%	44.79%
Wald Chi2	691.8145***	624.8222***	360.9018***	167.8084***

Standard deviations in parentheses and p-values; *p < 0.1, **p < 0.05, ***p < 0.01.

Column (1) in table 18 is testing how the determinants jointly affect the success of an ICO. This model relies on 1,474 observations and achieves a pseudo R-squared of 62.40%. The large R-squared illustrates that the chosen determinants do explain the variation in ICO success. Observe that the variable *whitepaper* is not statistically different from zero, which indicates that it does not influence the probability of ICO success. Furthermore, the coefficients of *source_code*, *team_exp*, *team_size* and *domicile* in column (1) are all positive and statistically significant at a 1% significance level, as well as when controlling for year fixed effects. This implies that all these determinants positively affect the success of ICOs but in different extents. The log-odds increases more when publishing the source code (2.3649) compared to the size of the team (0.1738).

The next column, column (2), investigates whether domiciling in a positively regulated environment will positively influence the outcome of the ICO. This model uses 1,336 observations and achieves a slightly larger pseudo R-squared of 63.07%. The large R-squared implies that the variation in ICO success is well explained by the variables. Moreover, column (2) has the same outcome for all the variables as in column (1). However, the variable *pos_dom*, i.e. domiciling in a positively regulated environment is now included. The explanatory variable is positive and statistically significant at a 5% significance level. This implies that domiciling in such environment will increase the probability of ICO success, which also substantiate that domicile is one of the key determinants for ICO success.

Model (3) tests whether domiciling in China or South Korea prior to the ICO ban yielded a greater chance of success compared to other domiciles. The model expresses a similar result as model (1), but uses 515 observations instead and achieves a pseudo R-squared of 69.38%. The important result here is the rejection of hypothesis H6. The variable *neg_dom* is negative and statistically insignificant, meaning that the hypothesis H6 must be rectified. Hence, domiciling in South Korea or China prior to the ICO ban did not enhance the likelihood of success. Having team experience is now only significant at a 5% significance level in contrast to 1% in model (1).

Finally, column (4) examines the relationship between domiciling in an unregulated environment intentionally and ICO success. The model uses 811 observations and achieves a pseudo R-squared of 44.79%. The variable *unreg_dom* is insignificant, which implies that domiciling in a such environment will not increase the likelihood of ICO success. Having previous experience of Blockchain or ICO and publishing a white paper is also insignificant.

Table 19: Summary of Logit Regression Results when using the White Paper Length.

Dependent Variable: ico_success	(1)	(2)	(3)	(4)
	ICO Determinants	Positively Regulated Domiciles	Negatively Regulated Domiciles	Unregulated Domiciles
wp_length	0.1308*** (0.0127)	0.1416*** (0.0142)	0.1847*** (0.0260)	0.2075*** (0.0295)
source_code	2.1479*** (0.2984)	1.7007*** (0.3235)	3.1270*** (0.4747)	2.0159*** (0.5718)
team_exp	0.7710 (0.4985)	0.7862 (0.5109)	0.6123 (0.8988)	8.6578 (31.3544)
team_size	0.1396*** (0.0284)	0.1135*** (0.0320)	0.1511*** (0.0457)	0.0516 (0.0442)
domicile	0.9990*** (0.3191)	1.1377*** (0.3551)	-0.1134 (0.4674)	0.7582 (1.0665)
pos_dom		0.7435** (0.3120)		
neg_dom			0.1479 (1.0431)	
unreg_dom				0.1689 (0.8114)
2013	7.2690 (73.1271)		6.6132 (61.1155)	
2014	-11.0515 (80.8530)		-14.5698 (70.6809)	
2015	-1.2822 (82.2191)		-0.6953 (68.1359)	
2016	-6.9561 (73.1281)		-6.1168 (61.1171)	
2017	-7.6557 (73.1271)	-0.6143 (0.2746)	-6.6634 (61.1156)	-0.3378 (0.5210)
2018	-6.7881 (73.1273)	0.6143** (0.2746)		0.3378 (0.5210)
Constant	3.0743 (73.1278)	-4.5907*** (0.4710)	0.8653 (36.0735)	-4.0840*** (1.1843)
Observations	742	923	369	573
Pseudo R2	71.10%	73.22%	77.28%	70.07%
Wald Chi2	671.6780***	619.0870***	317.2327***	244.7707***

Standard deviations in parentheses and p-values; *p < 0.1, **p < 0.05, ***p < 0.01.

Table 19 uses a feature of the white paper, the white paper length, when regressing the determinants against ICO success as the explained variable.

Column (1) in table 19 uses 742 observations and obtains a pseudo R-squared of 71.10%. The variable *wp_length* is positive and statistically significant at a 1% significance level, which implies that a longer white paper is positively associated with ICO success. Furthermore, it also illustrates that *source_code* is positive and highly significant at a 1% significance level. This implies that the source code is critical component in achieving success as it increases the probability of ICO success.

Further on, the variable *team_exp* is positive but not significant, which means that previous Blockchain or ICO experience does not influence the success of ICOs. However, the variable *team_size* is positive and statistically significant at a 1% significance level. Larger developer teams will thus increase the probability of ICO success. This indicates that the size of the developer team matters in team composition rather than having team members with previous experience. Finally, the variable *domicile* is positive and statistically significant at a 1% significance level. Disclosing the domicile prior to a token offering will positively influence the ICO success.

Column (2) tests whether domiciling in a positively regulated environment will positively influence the outcome of the ICO. This model uses 923 observations and achieves a slightly larger pseudo R-squared of 73.22%. Post-regulations, the variable *wp_length* is positive and statistically significant at a 1% significance level. This also supports that the white paper length will positively affect the success of an ICO.

Moreover, *source_code* is still positive and statistically significant at a significance level of 1%. Publishing the source code prior to the token offering for ICOs in positively regulated domiciles will increase the probability of success. The variable *team_exp* continues to be insignificant and positive, whereas *team_size* is still positive and significant. Moreover, observe that the coefficient of *domicile* is now larger and still statistically significant at a 1% significance level, The conclusions regarding these variables are similar to column (1).

For the variable *pos_dom*, observe that it is statistically significant at a 5% significance level as well as being positive. If an ICO is domiciled in a positively regulated environment, then the token offering is more likely to succeed in reaching the funding target compared to other ICOs. The effect of domiciling in a positively regulated environment is essential, such as other

determinants are less important in contributing to achieve success. This can be viewed by comparing the coefficients in the models for almost all determinants. Consequently, ICOs domiciled in positively regulated environments can obtain success based on the domicile rather than other determinants. This suggests evidence for domicile as one of the key determinants of success due to the domiciles' regulations.

Column (3) tests whether domiciling in China or South Korea prior to the ICO ban yielded a greater chance of success compared to other domiciles. The model expresses a similar result to model (1), but uses now 369 observations instead and achieves a pseudo R-squared of 77.28%. The variable *neg_dom* is negative and statistically insignificant. Hence, domiciling in South Korea or China prior to the ICO ban did not enhance the likelihood of success.

Observe now that the variable *domicile* is negative and insignificant, which implies that specifying the domicile prior to an ICO will not influence the success. This finding is reasonable, as prior to the regulations in September 2017, no domicile had regulations enforced and token holders were subject to no legal constraints. The following result substantiates the implication of domicile and its regulations on the success of ICOs.

The final model (4) uses 573 observations and achieves a pseudo R-squared of 70.07%. It shows that intentionally selecting an unregulated environment does not increase the likelihood of success. This can be seen from the variable *unreg_dom* which is positive and statistically insignificant. When selecting between regulated and unregulated environments, choosing the unregulated environment will not increase the likelihood of ICO success.

8. Discussion

The following chapter discusses the findings from the empirical analysis and how the main findings contribute to verify and extend the literature regarding determinants for ICO success.

Hypothesis H1A states that publishing a white paper prior to an ICO will positively influence the success of an ICO, which is arguably due to reducing the information asymmetry. The descriptive analysis shows that there is little evidence that support this claim, as a large amount of ICOs still achieve success despite not releasing the document. By estimating the logit model, the inferential analysis confirms the descriptive analysis. The coefficient of the white paper is insignificant when taking all other determinants into account. This suggests that hypothesis H1A must be rejected; publishing the white paper itself does not positively influence the success of an ICO.

This result is also consistent with the findings of Adhami, Guiduci and Martinazzi (2018). They found that the probability of success of an ICO is unaffected by the presence of the document, whilst Amsten and Schweizer (2018) show the same conclusion for a larger sample. The findings of this thesis are therefore consistent with the literature.

When using a feature of the white paper, such as the length, hypothesis H1B is then tested. The descriptive analysis shows that there is an information disparity between the average length of the white paper for successful ICOs and unsuccessful ICOs. This implies that successful token offerings convey more information of the project to the market and thereby reduces the information asymmetry. The inferential analysis shows that the coefficient of white paper length is positive and statistically significant at a 1% significance level when controlling for other determinants. The findings provide strong evidences for hypothesis H1B, such that it cannot be rejected.

The only paper that has considered this determinant in some extent is the paper of Amsten and Schweizer (2018). They show that shorter white papers are negatively correlated with ICO success, which substantiate the arguments earlier presented. By investigating this determinant, the thesis extends the literature by showing that the white paper is a determinant when using a feature which can be associated with the quality of the document. Hence, publishing the white paper itself will not affect the success of ICOs, but rather the information the document conveys will influence the success of ICOs. Longer white papers convey more information to the market, and hence influences ICOs to a greater extent.

Releasing the source code on a public repository, such as GitHub, prior to a token offering will positively influence the success of an ICO. Both the descriptive and the inferential analysis indicate that hypothesis H2 holds. The coefficient of this explanatory variable is positive and statistically significant at a 1% significance level, indicating that the hypothesis cannot be rejected. The findings are also consistent with the findings of Adhami et al. (2018), Amsten and Schweizer (2018) and Jong et al. (2018) as well.

When it comes to hypothesis H3A regarding the importance of having previous Blockchain or ICO experience, the descriptive analysis shows some evidences for that hypothesis H3A cannot be rejected. However, the inferential analysis illustrates that the coefficient is insignificant, which means that hypothesis H3A must be rejected. The findings contradict the literature, as the analysis shows that the success of ICOs are attributed to other determinants. This finding will extend the literature, as the conducted analysis substantiate that there are other determinants which influence the ICO success more extensively.

There are also arguments regarding the size of the team and that larger teams are positively associated with ICO success. The descriptive analysis shows that there are approximately no differences in team size for successful and unsuccessful ICOs, whilst the statistical test illustrates that the coefficient is both positive and statistically significant at a 1% significance level. Hence, hypothesis H3B cannot be rejected. Larger teams will positively influence the success of ICOs. These findings are also consistent with earlier findings. Both Amsden and Schweizer (2018) and Jong et al. (2018) find that larger project teams are positively associated with ICO success.

Revealing the domicile prior to the token offering is argued to be positively influencing the success of ICOs. Both the descriptive and the inferential analysis indicate that hypothesis H4 cannot be rejected. The statistical analysis shows that the coefficient is positive and statistically significant at a 1% significance level, implying strong evidence for hypothesis H4. This result is consistent with the findings of Adhami et al. (2018), as they explore how the jurisdiction of ICOs influence the success of ICOs. This paper is however the first to explore the domicile in the scope as it has done, which will extend the literature.

ICOs domiciling in a positively regulated environment will experience a greater probability of ICO success. The descriptive analysis shows that more ICOs succeed after domiciling in a positively regulated environment post-regulations. The statistical analysis substantiates this,

which can be seen by a positive and statistically significant coefficient at a 5% significance level. This finding extends the literature regarding determinants of ICO success, as there is no paper as of this date that have done more research of this determinant. It seems that token holders take regulations into account, as positive regulations will increase the probability of success for ICOs in such environments. Hence, hypothesis H5 cannot be rejected.

The intuition for the findings related to the domicile is that domiciling in a positively regulated environment is a signal to the market about the commitment to develop the venture such that every party reap gain from it. By devoting resources and conforming regulative measures that govern the investors, ventures signal the confidence in the project and is rewarded by the market through achieving funding success. These environments will also offer ICOs foresight regarding regulations, such that the ventures minimise future uncertainty. Moreover, having access to business environments that promote ICOs would also influence the success rate, as they provide token holders with resources such as human capital or entrance to financial institutions.

Domiciling in China or South Korea do not affect the probability of success and hence hypothesis H6 must be rejected. Intentionally domiciling in an unregulated does neither influence the probability of success. This finding indicate that there may be more to lose rather to gain by intentionally selecting an unregulated environment compared to a regulated one. Hence, hypothesis H7 must be rejected as well. These results indicate that token holders take regulations into account when selecting a domicile for the ICO.

The findings are consistent with previous research of ICO success determinants, but also extend the literature by contributing on adding two determinants that are yet to be fully examined. The white paper length indicates that the quality of the document is important contrarily to releasing a white paper itself. Furthermore, the domicile of an ICO will also influence the outcome of the ICO. Domiciling in a positively regulated location will therefore increase the likelihood of achieving success, whilst domiciling in South Korea or China prior to the ICO ban and intentionally domiciling in an unregulated environment has no effect on the success.

9. Conclusion

This thesis has examined the effects of regulations by studying the choice of domicile and its corresponding regulations for conducted ICOs from 2013 to October 2018. By employing a descriptive and inferential approach to investigate the research question, the importance of domicile as one of the key determinants for ICO success has been illuminated.

First, this thesis has established that the publication of a white paper prior to a token offering does not influence the success rate of the ICO, but rather the quality of the white paper through its length. Second, publishing the source code on a public repository, having larger teams and revealing the domicile prior to an offering will positively influence the success. Third, the domicile and its corresponding regulations is one of the key determinants of ICO success.

ICOs domiciled in a positively regulated environment are more likely to succeed. Domiciling in a location that is positive to ICOs should be rewarded rather than being punished. This is the case for the conducted ICOs as they are rewarded through achieving success and therefore raise the adequate funds for the projects. Despite that both China and South Korea seemed to be the most popular locations for an ICO to be domiciled in, these domiciles did not yield a greater likelihood of achieving success compared to other. Moreover, token holders that intentionally domicile in unregulated environments reaps no gain from this.

In conclusion, the domicile and its corresponding regulations is one of the key determinants for ICO success. These findings should be used as a motivation for countries to implement positively regulatory measures, as this would attract additional ICOs to the domicile and thus enhance the digital footprint of the country.

10. References

- Adhami, S., Giudici, G., & Martinazzi, S. (2018, January 6). Why do businesses go crypto? An empirical analysis of Initial Coin Offerings. *JOURNAL OF ECONOMICS & BUSINESS*, 13.
- Akerlof, G. A. (1970, Aug). The Market for "Lemons": Quality Uncertainty and the Market Mechanism . *The Quarterly Journal of Economics*, 84(3), 488-500.
- Amsden, R., & Schweizer, D. (2018, April 16). <https://ssrn.com/>. Retrieved December 10, 2018, from Are Blockchain Crowdsales the New “Gold Rush”? Success Determinants of Initial Coin Offerings **: <https://ssrn.com/abstract=3163849>
- Antonopoulos, A. M. (2010). *Mastering Bitcoin: Unlocking Digital Crypto-Currencies*. Sebastopol: O’Reilly Media, Inc.
- Applicature. (2018, July 04). <https://medium.com/>. Retrieved October 18, 2018, from FAQs when Hiring an ICO Development Team: <https://medium.com/applicature/faqs-when-hiring-an-ico-development-team-879f4f4d7c73>
- Atkins, R. (2018, February 16). *Crypto nation’ Switzerland issues guidelines to support market*. Retrieved June 01, 2018, from <https://www.ft.com/>: <https://www.ft.com/content/737b9634-1303-11e8-8cb6-b9ccc4c4dbbb>
- Barber, A. (2018, March 2). *UK Regulators Recognize Cryptocurrency And ICO Risks*. Retrieved June 3, 2018, from <https://www.law360.co.uk/>: https://www.law360.co.uk/financial-services-uk/articles/1017746/uk-regulators-recognize-cryptocurrency-and-ico-risks?nl_pk=7cd1dbdb-0bf2-4fcf-a0bf-4ac06ed14ece&utm_source=newsletter&utm_medium=email&utm_campaign=financial-services-uk
- Bester, N. (2017, November 9). *J.R. Willett: ICO’s Cornerstone Personality*. Retrieved May 20, 2018, from <https://www.investinblockchain.com/>: <https://www.investinblockchain.com/jr-willett-ico/>
- Bewick, V., Cheek, L., & Ball, J. (2015, January 13). Statistics review 14: Logistic regression. *Critical Care*, 9(1).

- Biggs, J. (2018, April 13). <https://techcrunch.com/2018/04/13/exit-scammers-run-off-with-660-million-in-ico-earnings/>. Retrieved June 03, 2018, from <https://techcrunch.com/2018/04/13/exit-scammers-run-off-with-660-million-in-ico-earnings/>
- Brummer, C. (2018, March 14). *What Should Be in an ICO White Paper? Expert Take*. Retrieved May 24, 2018, from <https://cointelegraph.com/news/what-should-be-in-an-ico-white-paper-expert-take>
- Buckley, R. P., Zetzsche, D. A., Arner, D. W., & Föhr, L. (2017). *The ICO Gold Rush: It's a scam, it's a bubble, it's a super challenge for regulators*. University of New South Wales Law Research . Sydney: University of New South Wales Law Research Series. Retrieved from *The ICO Gold Rush: It's a scam, it's a bubble, it's a super challenge for regulators*
- Buterin, V. (2013, November 4). *Mastercoin: A Second-Generation Protocol on the Bitcoin Blockchain*. Retrieved May 20, 2018, from <https://bitcoinmagazine.com/articles/mastercoin-a-second-generation-protocol-on-the-bitcoin-blockchain-1383603310/>
- BX. (2018, September 26). <https://bx.bet>. Retrieved September 26, 2018, from BX.BET THE DECENTRALIZED BETTING EXCHANGE: <https://bx.bet/en/>
- Carstens, A., Restoy, F., Coen, W., & Fonacier, C. (2018, February 28). *Banking Supervision – The Path Ahead" - Opening Address by Mr Ong Chong Tee, Deputy Managing Director (Financial Supervision), Monetary Authority of Singapore, at 13th Asia-Pacific High Level Meeting on Banking Supervision on 28th February 2018*. Retrieved June 01, 2018, from <http://www.mas.gov.sg/News-and-Publications/Speeches-and-Monetary-Policy-Statements/Speeches/2018/Banking-Supervision.aspx>
- CoinMarketCap.com. (2018, December 19). <https://coinmarketcap.com/>. Retrieved December 19, 2018, from Golem (GNT): <https://coinmarketcap.com/currencies/golem-network-tokens/>
- CoinSchedule. (2018). *The Best Cryptocurrency Token Sales and ICO List*. Retrieved June 5, 2018, from <https://www.coinschedule.com/>: <https://www.coinschedule.com/>

-
- Conley, J. P. (2017, June). Blockchain and the Economics of Crypto-tokens and Initial Coin Offerings. *Vanderbilt University Department of Economics Working Papers 17-00008*, 1-2. Retrieved from <http://www.accessecon.com/pubs/VUECON/VUECON-17-00008.pdf>
- Consilium Crypto. (2018, July 23). <https://medium.com/>. Retrieved October 18, 2018, from Is the Development Team Key to an ICO's Success? : <https://medium.com/@ConsiliumCrypto/is-the-development-team-key-to-an-icos-success-bb9d07d8428f>
- Cook, J. (2018, May 30). <https://bitcoinchaser.com>. Retrieved September 27, 2018, from Everything You Need to Know About an ICO White Paper: <https://bitcoinchaser.com/ico-hub/ico-white-paper-explained>
- Cooper, A. C., & Bruno, A. V. (1977, April). Success Among High-Technology Firms. *Business Horizons*, 20(2), 16-22.
- CryptoCompare. (2018). *About Us*. Retrieved June 05, 2018, from <https://www.cryptocompare.com>: <https://www.cryptocompare.com/about-us/>
- CryptoValley. (2018, June 01). *Why Switzerland?* Retrieved June 01, 2018, from <https://cryptovalley.swiss>: <https://cryptovalley.swiss/why-switzerland/>
- Dai, W. (1998, January 1). *bmoney*. Retrieved May 18, 2018, from <http://www.weidai.com>: <http://www.weidai.com/bmoney.txt>
- Das, S. (2018, May 3). *South Korea Bill Pushes Legalization of New ICOs after 2017 Ban*. Retrieved June 03, 2018, from <https://www.ccn.com>: <https://www.ccn.com/south-korea-bill-pushes-legalization-of-new-icos-after-ban/>
- Decastro, A. (2016). *Blockchain And IoT: A Perfect Match?* Retrieved May 20, 2018, from <https://blockgeeks.com/>: <https://blockgeeks.com/blockchain-and-iot-a-perfect-match/>
- Dismuke, C. E., & Lindrooth, R. (2006). Ordinary Least Squares. *Methods and Designs for Outcomes Research*. 93.

- Dubai.com. (2018, September 26). <https://www.dubai.com/>. Retrieved September 26, 2018, from Thinking of Gambling During Dubai Visit? Things You Should Know: <https://www.dubai.com/blog/thinking-gambling-during-dubai-visit/>
- Dylan, M. (2018, January 16). <https://medium.com>. Retrieved September 27, 2018, from 5 mistakes you're making in your Token White Paper: <https://medium.com/new-alchemy/5-mistakes-youre-making-in-your-ico-white-paper-8d7fba3fc83f>
- Esteves, R. (2018, July 19). <https://www.newsbtc.com/>. Retrieved September 26, 2018, from witzerland to Ease Regulation for Cryptocurrency Ecosystem: <https://www.newsbtc.com/2018/07/19/switzerland-to-ease-regulation-for-cryptocurrency-ecosystem/>
- FabricVentures X TokenData. (2018, January 31). *The State of the Token Market*. Retrieved May 19, 2018, from <https://static1.squarespace.com/https://static1.squarespace.com/static/5a19eca6c027d8615635f801/t/5a73697bc8302551711523ca/1517513088503/The+State+of+the+Token+Market+Final2.pdf>
- Feng, C., Lu, B., Wong, M. F., & Zhang, M. (2018, September 25). *Initial Coin Offerings, Blockchain Technology, and White Paper Disclosures*. Kelowna, BC, Canada.
- Financial Conduct Authority. (2017, September 12). *Consumer warning about the risks of Initial Coin Offerings ('ICOs')*. Retrieved June 03, 2018, from <https://www.fca.org.uk:https://www.fca.org.uk/news/statements/initial-coin-offerings>
- Finantsinspeksioon. (2017, September 29). *The legal framework of initial coin offering in Estonia*. Retrieved May 29, 2018, from <https://www.fi.ee/:https://www.fi.ee/index.php?id=21662&year=2017>
- Findlaw. (2018). *What Is the Howey Test?* Retrieved June 1, 2018, from <https://consumer.findlaw.com:https://consumer.findlaw.com/securities-law/what-is-the-howey-test.html>
- FINMA. (2017). *Regulatory treatment of initial coin offerings*.

-
- FINMA. (2018, February 16). *FINMA publishes ICO guidelines*. Retrieved June 1, 2018, from <https://www.finma.ch>: <https://www.finma.ch/en/news/2018/02/20180216-mm-ico-wegleitung/>
- Fisch, C. (2018, March 1). Initial coin offerings (ICOs) to finance new ventures: An exploratory study. Trier, Germany.
- GameCredits. (2018, May 26). *The currency of GNation: GameCredits is a universal currency and virtual wallet for 2.6 billion gamers worldwide*. Retrieved May 26, 2018, from <https://gamecredits.com/>: <https://gamecredits.com/>
- Golstein, S. (2018, March 19). <https://www.financemagnates.com/>. Retrieved September 26, 2018, from Israel Securities Authority: Coins Are Not Securities, but Tokens Are : <https://www.financemagnates.com/cryptocurrency/news/cryptocurrencynewsisrael-securities-authority-coins-not-securities-tokens/>
- Gupta, M. (2017). *Blockchain for dummies*. New Jersey, Hoboken: John Wiley & Sons, Inc.
- HM Government of Gibraltar. (2018, March 9). *Token Regulation*. Retrieved 30 May, 2018, from <http://gibraltarfinance.gi>: <http://gibraltarfinance.gi/20180309-token-regulation---policy-document-v2.1-final.pdf>
- Hryniuk, O. (2018, March 14). *HOW TO LAUNCH AN INITIAL COIN OFFERING?* Retrieved May 21, 2018, from <https://applicature.com>: <https://applicature.com/blog/how-to-launch-initial-coin-offering>
- Hsu, S. (2017, September 4). *Were Chinese ICOs Really So Dangerous They Deserved To Be Banned?* Retrieved June 02, 2018, from <https://www.forbes.com>: <https://www.forbes.com/sites/sarahsu/2017/09/04/were-chinese-icos-really-so-dangerous-they-deserved-to-be-banned/#3eb8264661ee>
- ICObench. (2018). *ICObench Knowledge Base*. Retrieved June 06, 2018, from <https://icobench.com/>: <https://icobench.com/faq>
- ICObench.com. (2018). <https://icobench.com>. Retrieved September 26, 2018, from BX.BET The Decentralized Betting Exchange: <https://icobench.com/ico/bx-bet>

- ICOWatchlist. (2018, May 20). *What Is an ICO Pre Sale?* Retrieved May 20, 2018, from <https://icowatchlist.com/>: <https://icowatchlist.com/presale>
- Investopedia. (2018, August 4). <https://www.investopedia.com>. Retrieved December 19, 2018, from Fiat Money: <https://www.investopedia.com/terms/f/fiatmoney.asp>
- Investopedia.com. (2018). <https://www.investopedia.com>. Retrieved September 27, 2018, from White Paper: <https://www.investopedia.com/terms/w/whitepaper.asp>
- Irrera, A., & Neghaiwi, B. H. (2018, July 19). <https://uk.reuters.com/>. Retrieved September 26, 2018, from Switzerland seeks to regain cryptocurrency crown: <https://uk.reuters.com/article/us-cryptocurrencies-banking-switzerland/switzerland-seeks-to-regain-cryptocurrency-crown-idUKKBN1K91AY>
- Israel Securities Authority. (2018, March 19). <http://www.isa.gov.il>. Retrieved September 26, 2018, from ISA Committee for the Examination and Regulation of ICOs (Initial Cryptocurrency Offerings) Submitted Interim Report Today: <http://www.isa.gov.il/sites/ISAEng/1489/1511/Pages/eitinot220318.aspx>
- James, G., Witten, D., Hastie, T., & Tibshirani, R. (2013). *An Introduction to Statistical Learning with Applications in R*. New York: Springer.
- Jong, A. d., Roosenbroom, P., & Kolk, T. v. (2018, September 15). <https://papers.ssrn.com/>. Retrieved December 11, 2018, from What determines success in Initial Coin Offerings?: <https://ssrn.com/abstract=3250035>
- Kaal, W. (2018, February 3). *Initial Coin Offerings: the top 25 jurisdictions and their comparative regulatory responses*. Retrieved June 3, 2018, from <https://medium.com/>: <https://medium.com/@wulfkaal/initial-coin-offerings-the-top-25-jurisdictions-and-their-comparative-regulatory-responses-4b8c9ae7e8e8>
- Kastelein, R. (2017, March 24). *What Initial Coin Offerings Are, and Why VC Firms Care*. Retrieved May 26, 2018, from <https://hbr.org>: <https://hbr.org/2017/03/what-initial-coin-offerings-are-and-why-vc-firms-care>
- Kharpal, A. (2018, March 12). *Cryptocurrency scammers run off with more than \$2 million after ditching their investors*. Retrieved May 26, 2018, from <https://www.cnbc.com>:

<https://www.cnn.com/2018/03/09/cryptocurrency-scammers-of-giza-make-off-with-2-million-after-ico.html>

Kim, J. (2018, June 6). *https://cryptoslate.com*. Retrieved September 26, 2018, from SEC Chairman Says ICOs Should Be Regulated As Securities: <https://cryptoslate.com/sec-chairman-says-icos-should-be-regulated-as-securities/>

Leland, E. H., & Pyle, D. H. (1977, May). Informational Asymmetries, Financial Structure, and Financial Intermediation. *Journal of Finance*, 32(2), 371-387.

Lin, L. (2017, October 2). *Why ICOs Should Want to Be Securities*. Retrieved June 02, 2018, from <https://www.coindesk.com>: <https://www.coindesk.com/icos-want-securities/>

Loizos, C. (2017, May 24). *How to stage an ICO (and answers to other lingering questions you might have)*. Retrieved May 23 2018, from <https://techcrunch.com>: <https://techcrunch.com/2017/05/24/how-to-stage-an-ico-and-other-related-questions-you-might-like-answered/>

Madhuravani, B., & Murthy, D. (2013, March). Cryptographic Hash Functions: SHA Family. *International Journal of Innovative Technology and Exploring Engineering*, 2(4), 1-4. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.687.6598&rep=rep1&type=pdf>

Menon, R. (2017, November 14). *Ravi Menon: Singapore FinTech journey 2.0*. Retrieved June 1, 2018, from <https://www.bis.org>: <https://www.bis.org/review/r171115a.pdf>

Monetary Authority of Singapore. (2017, November 17). *A GUIDE TO DIGITAL TOKEN OFFERINGS*. Retrieved June 01, 2018, from <http://www.mas.gov.sg/~media/MAS/Regulations%20and%20Financial%20Stability/Regulations%20Guidance%20and%20Licensing/Securities%20Futures%20and%20Fund%20Management/Regulations%20Guidance%20and%20Licensing/Guidelines/A%20Guide%20to%20Digital%20Token%20Offerings%20%202014%20Nov%202017.pdf>

Mougayar, W. (2017, June 10). *Tokenomics—A Business Guide to Token Usage, Utility and Value*. Retrieved May 25, 2018, from <https://medium.com>:

<https://medium.com/@wmougayar/tokenomics-a-business-guide-to-token-usage-utility-and-value-b19242053416>

Mulders, M. (2018, April 26). <https://cryptopotato.com/>. Retrieved October 03, 2018, from 10 keys for evaluating Initial Coin Offering (ICO) investments: <https://cryptopotato.com/10-keys-evaluating-initial-coin-offering-ico-investments/>

Myers, S. C., & Majluf, N. S. (1984, February). CORPORATE FINANCING AND INVESTMENT DECISIONS WHEN FIRMS HAVE INFORMATION THAT INVESTORS DO NOT HAVE. *Journal of Financial Economics*, 13, 187-221.

Nakamoto, S. (2008, October 31). *Bitcoin: A Peer-to-Peer Electronic Cash System*. (B. A.-t.-P. System, Producer) Retrieved May 18, 2018, from <https://nakamotoinstitute.org>: <https://nakamotoinstitute.org/bitcoin/#selection-7.4-9.39>

Ngo, D. (2018, March 14). *Crypto Startup Giza Pulls Exit Scam After Raising More Than US\$2M In ICO*. Retrieved June 03, 2018, from <https://coinjournal.net>: <https://coinjournal.net/crypto-startup-giza-pulls-exit-scam-after-raising-more-than-us2m-in-ico/>

Omni Layer. (2018, May 20). *Omni Layer: An open-source, fully-decentralized asset platform on the Bitcoin Blockchain*. Retrieved May 20, 2018, from <https://www.omnilayer.org/>: <https://www.omnilayer.org/>

O'Neal, S. (2018, July 2). <https://cointelegraph.com/>. Retrieved September 2018, 2018, from From Russia to Macedonia: How Cryptocurrencies Are Regulated in Eastern Europe: <https://cointelegraph.com/news/from-russia-to-macedonia-how-cryptocurrencies-are-regulated-in-eastern-europe>

Park, H.-A. (2013). An Introduction to Logistic Regression: From Basic Concepts to Interpretation with Particular Attention to Nursing Domain. *J Korean Acad Nurs*, 43(2), 156. Retrieved from <https://pdfs.semanticscholar.org/>: <https://pdfs.semanticscholar.org/3305/2b1d2363aee3ad290612109dcea0aed2a89e.pdf>

Partz, H. (2018, June 30). <https://cointelegraph.com/>. Retrieved September 26, 2018, from Media: Payments Provider Qiwi Launches Russia's 'First' Crypto Investment Bank:

<https://cointelegraph.com/news/media-payments-provider-qiwi-launches-russia-s-first-crypto-investment-bank>

Petkanics, D. (2017, December 21). *Inflation and Participation in Stake Based Token Protocols*. Retrieved May 27, 2018, from <https://medium.com:https://medium.com/@petkanics/inflation-and-participation-in-stake-based-token-protocols-1593688612bf>

Piotrowska, K., Schenk-Hoppé, K. R., & Nica, O. (2017). *Cryptocurrencies: Economic Benefits and Risks*. University of Manchester. Manchester: University of Manchester.

Ripple. (2018, May 28). *Join RippleNet: The world's only enterprise blockchain solution for global payments*. Retrieved May 28, 2018, from <https://ripple.com/>: <https://ripple.com/>

Robinson, R. (2017, September 1). The New Digital Wild West: Regulating the Explosion of Initial Coin Offerings. *Tennessee Law Review, Forthcoming*, 58.

Robson, C. (2002). *Real World Research*. Blackwell Publishing.

Rosic, A. (2017, April 7). *ICO Pros & Cons: Cutting Through The Noise*. Retrieved May 28, 2018, from https://www.huffingtonpost.com:https://www.huffingtonpost.com/entry/ico-pros-cons-cutting-through-the-noise_us_595b7f22e4b0c85b96c6646e

Sakovich, J. (2018, May 4). *Telegram Cancels Its Public ICO after Raising \$1.7B in Presale, Says New Report*. Retrieved June 04, 2018, from <https://www.coinspeaker.com:https://www.coinspeaker.com/2018/05/04/telegram-cancels-public-ico-raising-1-7b-presale-says-new-report/>

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (5th Edition ed.). Essex: Pearson Education Limited.

Sedgwick, K. (2018, March 22). *ICO Trackers Are the New Gatekeepers of Crowdsales*. Retrieved June 05, 2018, from <https://news.bitcoin.com:https://news.bitcoin.com/ico-trackers-are-the-new-gatekeepers-of-crowdsales/>

- Sergeenkov, A. (2018, March 10). <https://hackernoon.com/>. Retrieved November 21, 2018, from 9 Keys for ICO Team Evaluation: <https://hackernoon.com/9-keys-for-ico-team-evaluation-fcfd537b64fc>
- Shilov, K. (2018, August 17). *ICO in 2018: The Challenges of Complying with Securities Laws*. Retrieved September 25, 2018, from <https://hackernoon.com/>: <https://hackernoon.com/ico-in-2018-the-challenges-of-complying-with-securities-laws-ea5ff5be2c59>
- Shin, L. (2017, September 21). *Here's The Man Who Created ICOs And This Is The New Token He's Backing*. Retrieved May 20, 2018, from <https://www.forbes.com>: <https://www.forbes.com/sites/laurashin/2017/09/21/heres-the-man-who-created-icos-and-this-is-the-new-token-hes-backing/#62d5e9c31183>
- Shipolov, A. (2018, March 9). <https://knowledge.insead.edu>. Retrieved September 26, 2018, from Governance Needed for Initial Coin Offerings: <https://knowledge.insead.edu/blog/insead-blog/governance-needed-for-initial-coin-offerings-8556>
- Smith+Crowne. (2018). *ABOUT SMITH + CROWN*. Retrieved June 5, 2018, from <https://www.smithandcrown.com/>: <https://www.smithandcrown.com/about/>
- Stankovic, S. (2018, August 25). <https://cryptobriefing.com/>. Retrieved September 26, 2018, from Cryptocurrency Regulation In The UK: <https://cryptobriefing.com/cryptocurrency-regulation-uk/>
- Tassev, L. (2018, April 2). *Strict Rules for ICOs Prepared in Russia*. Retrieved June 3, 2018, from <https://news.bitcoin.com/>: <https://news.bitcoin.com/strict-rules-for-icos-prepared-in-russia/>
- Teach, R. D., Tarpley, F. A., & Schwartz, R. G. (1986). Software Venture Teams. *Frontiers of Entrepreneurship Research*, 546562.
- TokenData. (2018). *TOKEN SALES*. Retrieved June 5, 2018, from <https://www.tokendata.io/>: <https://www.tokendata.io/>

-
- Town, S. (2018, August 25). *https://cryptobriefing.com*. Retrieved September 26, 2018, from The Top 5 Crypto-Friendly Nations: <https://cryptobriefing.com/top-5-crypto-friendly-nations/>
- TrackICO. (2018, November 2). *https://www.trackico*. Retrieved November 2, 2018, from TrackICO - provider of information about the best ICOs: <https://www.trackico.io/>
- U.S. Securities and Exchange Commission. (2017, January 13). *https://www.sec.gov/*. Retrieved December 19, 2018, from SEC Issues Investigative Report Concluding DAO Tokens, a Digital Asset, Were Securities: <https://www.sec.gov/news/press-release/2017-131>
- U.S. Securities and Exchange Commission. (2017, June 25). *Investor Bulletin: Initial Coin Offerings*. Retrieved June 01, 2018, from https://www.sec.gov:https://www.sec.gov/oiea/investor-alerts-and-bulletins/ib_coinofferings
- U.S. Securities and Exchange Commission. (2017, June 25). *SEC Issues Investigative Report Concluding DAO Tokens, a Digital Asset, Were Securities*. Retrieved June 01, 2018, from <https://www.sec.gov:https://www.sec.gov/news/press-release/2017-131>
- United States House of Representatives Committee on Financial Services. (2018, April 23). *M E M O R A N D U M*. Retrieved June 02, 2018, from https://financialservices.house.gov:https://financialservices.house.gov/uploadedfiles/042618_cm_memo.pdf
- Willet, J., Hidskes, M., Johnston, D., Gross, R., Schneider, M., & Todd, P. (2013, November 5). *Omni Protocol Specification (formerly Mastercoin)*. Retrieved May 18, 2018, from <https://github.com:https://github.com/OmniLayer/spec>
- Wilmoth, J. (2017, September 29). *Breaking – South Korea Bans Initial Coin Offerings: Report*. Retrieved June 02, 2018, from <https://www.ccn.com:https://www.ccn.com/breaking-south-korea-bans-initial-coin-offerings-report/>
- Witismann, R. J. (2017, November 3). *Top 5 Reasons To Incorporate Your Cryptocurrency Business In Estonia*. Retrieved May 30, 2018, from https://medium.com:https://medium.com/@Incorporate_ee/top-5-reasons-to-incorporate-your-cryptocurrency-business-in-estonia-4b96e6d8bc6b

Witismann, R. J. (2018, January 19). *Estonia to become a global ICO hub*. Retrieved May 29, 2018, from https://medium.com/@Incorporate_ee/estonia-to-become-a-global-ico-hub-6a4a53863719

Woolridge, J. M. (2013). *Introductory Econometrics: A Modern Approach* (5th Edition ed.). Cengage Learning.

Zetsche, D., Buckley, R. P., Arner, D. W., & Föhr, L. (2018, 02 July). The ICO Gold Rush: It's a scam, it's a bubble, it's a super challenge for regulators. *University of New South Wales Law Research Series*(2017-011).

Zhao, W. (2017, June 17). *\$7 Million Lost in CoinDash ICO Hack*. Retrieved June 04, 2018, from <https://www.coindesk.com/7-million-ico-hack-results-coindash-refund-offer/>