

The Initial Coin Offering: Is It a Profitable Tool for Investment?

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Abstract

Initial Coin Offerings (ICOs) have established themselves since 2017 as an attractive alternative for financing innovative companies. However, these new modes of financing from the world of blockchain technology have a very volatile return on investment (ROI) in the short term, and very ambivalent in the medium and long term: 90% of ICOs issued since 2017 have failed. This article attempts to shed some light on the question of the ROI of ICOs. The analysis of some databases of the most significant platforms for ICOs reveals that the highest ROIs reached on average 3100% at their peak and 30% on average over the period 2017-2022. The results of the analysis suggest that given the level of risk of ICOs, they do not represent a good financial asset over a long period; on the other hand, they would be a good lever for speculation and possibly a good financial strategy to boost the financial performance of a diversified portfolio.

Keywords: Initial coin offering; Return on investment; Blockchain; Financial regulation; financial risk

Introduction

Since the creation of blockchain technology, new means of payment have appeared such as cryptocurrencies (e.g. Bitcoin), accompanied by fundraising methods with underlying cryptocurrencies (e.g. Initial Coin Offerings or ICO). An ICO can be defined as an open call by a company or an ongoing project for funding to raise funds through a blockchain, where crypto-assets are issued. The ICO fundraising mechanism resembles in some aspects more traditional funding channels (public offering, venture capital, crowdfunding), but nevertheless has its own characteristics [1]. The important step when issuing ICOs is the white paper, which is similar to a prospectus. The latter is a document providing details of a company's project proposal to obtain funding. The white paper summarizes the team involved, the project envisaged, the investors sought and the funds required, all including an evaluation of the project for potential investors. Regarding the price of ICOs when issuing tokens, a "pre-ICO price" is determined beforehand by the management team, while the post-ICO price is set afterwards by transactions on the market and by network participants. However, this liquidity is not guaranteed: only some of the tokens are traded on an exchange platform, and even if the token is listed, any bearer will not be able to find counterparty. By analyzing 1,009 tokens created since 2015, Amsden and Schweizer [2] observe that only 42% of tokens are listed on a secondary market after their ICO. In addition, this liquidity injection, while the project is still in the development stage,

generates high volatility in token prices, which are determined by supply and demand based on limited information, which represents a risk factor for both token holders and project developers [3].

In this regard, the research developed around ICOs as a financing and investment method has grown in recent years [4-7]. It therefore seems interesting to make a contribution to this literature by answering the following research question: Have the ICOs issued in recent years proved profitable for investors?

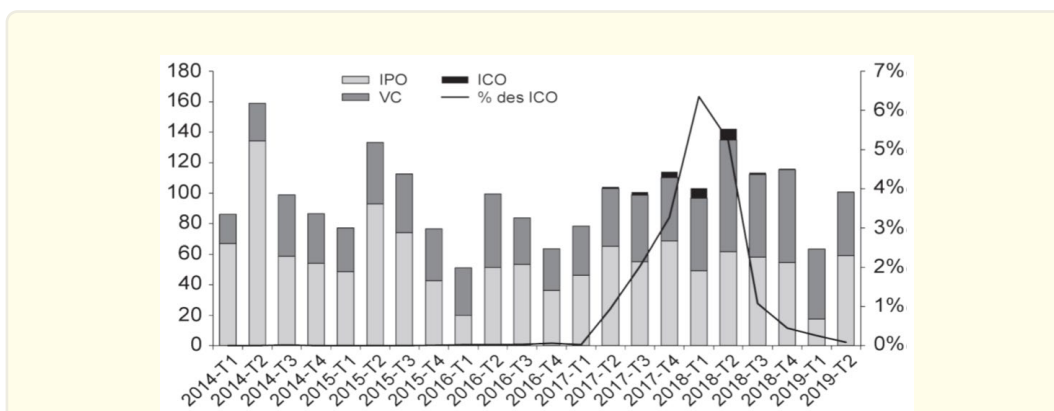
This problem raises two intrinsically linked questions in the field of technological finance [8]. The first relates to the search for a return on investment adequate to the risk backed by each type of project; the second concerns the control of the risks associated with this technological financing, a question that is all the more relevant with regard to the blockchain, the innovative technology on which the ICOs are based.

To provide some answers to this question, our article is structured as follows. The first part introduces an inventory and a brief review of the literature dealing with ICOs. The second point presents the risks associated with ICOs and the supervision of market regulators. The third part will deal with the method and the results obtained from certain platforms on the ROI of ICOs, to end with a conclusion and discussion.

ICOs: Specificities, inventories and literature review

As a new funding vehicle, ICOs have been studied by the field of technology finance or by entrepreneurial finance [9-12]. These studies cover the areas of token valuation, the nature of the projects, the amount raised by ICOs and their liquidity, as well as the risks incurred by investors and which mainly relate to the high volatility of crypto-assets and the possibility of fraud [13]. Overall, current research asks questions about operation, risk and regulation rather than providing answers about their relevance.

Thus, it also emerges from this literature review that the phenomenon of fundraising by ICO is recent and the amounts are relatively small compared to other means of financing: in total, the amounts raised by ICO would represent \$22.9 billion, mainly in 2017 and 2018 (\$6.8 billion and \$15.7 billion respectively). The number of projects increased significantly in 2017 (more than 800 projects, including 521 for the fourth quarter alone), then in 2018 (1,114) before falling sharply from the third quarter as shown in the graph below. This graph reveals that ICOs may have accounted for up to 6.3% of total global equity financing (IPO and venture capital) in the first quarter of 2018, all sectors combined, compared to an average of 1.6% in 2017 over four quarters.



Source: AMF. The data comes from ICOdata and Coindesk.

Graph 1: Amounts raised by ICO compared to equity financings in the world (in billions of dollars).

However, and from the database on ICOs “Icobench”, it turns out that between 2019 and 2020 the number of IPOs increased by 36% (1,415 IPOs are registered in 2020 compared to 1,040 in 2019) with a total amount raised, which increased by 66% and amounted to \$331 billion. Additionally, alternative methods of financing in cryptocurrencies follow the same evolution. From 2017 until the end of 2020, around 4,000 ICOs have been counted for a total amount raised of 11.5 billion dollars with a concentration in 2018/2019.

Regarding the geographical distribution of fundraising, according to data from ICObench at the end of 2019, corroborated by data from ICOwatchlist, ten countries represent 59% of global fundraising. The prevalence of the United States is clear (12% of successful projects, \$7.5 billion raised) and Singapore (12% of successful projects, \$2.3 billion). In Europe, Switzerland and the United Kingdom are preferred countries for ICOs (respectively 6% and 9% of projects, \$1.9 billion and \$1.5 billion raised), as well as Estonia (6% projects, \$910 million raised). The British Virgin Islands (\$2.4 billion raised) and the Cayman Islands (\$1.1 billion raised) are in the top ten countries in terms of amounts raised by ICO. The location of the ICO is also partly due to the legal environment of the country, since there is an over representation of small countries whose regulation or absence of regulation is favourable to ICOs.

In terms of application sectors, ICO projects have evolved as the industry has matured: if the first period was dominated by data management, trading or new blockchain protocols, we have since observed the end of 2017 the appearance of projects aiming for a broader application of blockchain technology in the fields of health, energy, retail, as well as in the use of smart contracts to replace certain business processes (e.g. transactions and means of payment or legal agreements)[14].

To better understand the motivations and characteristics of the issuance of ICOs, the Financial Markets Authority in France (AMF) has launched questionnaire in 2018 with 83 French ICO project leaders to collect data on the terms of the ICO, on a voluntary and declarative basis, with a response rate by 43%. Project leaders cite as a criterion for choosing this method of financing the possibility of appealing to a committed community of investors on their platform (58%). The second reason cited is nevertheless that of the absence of capital dilution (28%); they are also 11% to cite the benefit of their independence vis-à-vis other stakeholders or intermediaries. Some project leaders choose the ICO route because of the access to international investors (22%), media exposure (17%), the simplicity and speed of fundraising allowed by ICOs (8%), or the possibility of having access to large amounts (8%). In addition, the vast majority of these token issues (89%) would have utility characteristics, i.e. conferring rights of use or payment that do not comply with the services rendered by the issuing companies (utility tokens). Regarding the use of the funds raised, which are relatively modest (between 200,000 Euros and 20 million Euros), the majority is used to ensure the development of the project: 25% on average for software development, 25% for salaries, 16% for project marketing, 7% for overheads and 5 %for legal and administrative aspects. Part of the amounts is generally set aside by the issuers (19% on average, up to 70% for certain projects). The other funds could be used for expenses related to the ICO or the development of their platform. The issuance of ICOs which aim to raise larger funds, ranging from 1 Million Euros to 180 (21.8 million on average, 11.5 million median), are dedicated to financing projects related to software development, connected objects, data management and the energy sector. Unlike ICOs which target small fundraisers, most future project leaders have already had access to funding for amounts ranging from 30,000 Euros to 22 million Euros: 24% have benefited from love money or funds from business angels, 52% to have already completed a private equity round and 23% to have benefited from public subsidies. This indicates that the ICO mechanism would not only be a means of raising funds for companies that do not have access to traditional financing methods, but on the contrary would insert a new stage in a more traditional financing process.

Regarding the distribution of tokens, a significant part of them belongs to external investors, via sale or presale (37% and 5% respectively), but also to managers and employees of the structure (10% on average). Between 6% and 80% of tokens are kept by issuers (25% on average). The other tokens (20% on average) can be, depending on the ICO, used for future sales rounds or used to remunerate investors in the future.

While ICOs generally only accepted investments in crypto-assets, some ICO projects target a wider audience, accepting investments in crypto-assets, but also in euros and dollars or other international currencies. Nevertheless, for all the ICOs observed, the management of the exchange risk between traditional currencies and crypto-assets seems difficult, given the volatility of the latter. Some projects display fixed exchange rates between their token and traditional currencies, requiring the subscriber to bear the exchange

risk. Conversely, some projects outsource this exchange risk management to a specialist. Other projects instead plan to manage it themselves by using their cash strategically.

ICO: risks and regulations

Investing in corporate finance through ICO instruments presents several risks. For Dimitropoulos [15-16], there are significant risks and challenges when investing in ICOs. He described these fundraisers as a “Wild West” which sparkles “attractive projects” to attract “uninformed investors»: the financed projects being mainly at the idea stage, the probability that they will not succeed is high. Information asymmetry is also a major risk. By analyzing disclosure documents from over 1,000 ICOs, Zetzsche et al. [17] observe that in 31% of cases, they provide no information on the project leaders and that they do not provide any information on the budget forecast in 25% of cases.

The possibilities of turning around for the consumer seem low when the authors observe that only 33% of the documents contain elements on the applicable legislation and 45% basic information such as the address of the issuer [18]. In addition, some ICOs have turned out to be frauds, for various reasons (poor budget management, disappearance of managers and/or employees, Ponzi scheme, etc.). DeadCoins draws up a list of more than 1,700 fraudulent ICOs, the amounts of which have been lost, however, remain difficult to estimate. The most documented cases concern the American company PlexCorps, which raised \$15 million; the Vietnamese company Modern Tech, which supposedly raised \$660 million via two ICOs, and the English company BitConnect, which supposedly raised \$700,000.

Landau & Genais [19] highlights the risk of concealing the origin of funds and money laundering. Indeed, by design, crypto-asset transactions involve a high degree of anonymity. Therefore, preventative measures such as know-your-customer requirements are an indispensable part of fundraising. The European Union recently amended the Directive on the prevention of the use of the financial system for the purpose of money laundering or terrorist financing (EU Directive 2018/843), to include the trading of crypto assets as entities subject to money laundering requirements.

The investor may also be subject to a risk of dilution or lack of price transparency, the project holder being able to carry out pre-sales or carry out new issues of tokens after the public sale, reducing the individual value of the tokens. Finally, due to the newness of the technology, the technological, operational or cyber-attack risk remains significant. At this point, the majority of international regulators do not consider ICOs to pose a threat to financial stability, given the relatively small volumes and limited linkages between digital and traditional financial markets [20].

However, the diversity of approaches is significant depending on the regulators: some have chosen to ban ICOs on their territory permanently (China, Vietnam, Algeria, Morocco) or temporarily (South Korea); others have adopted a regulatory framework to attract virtuous projects (Malta, Gibraltar). Most offer a case-by-case approach, due to the remaining division on the qualification of tokens, such as Switzerland, Canada, Brazil or Germany. Despite this relatively common approach, differences remain. US regulations, for example, apply case law from the US Supreme Court to determine whether a crypto-asset constitutes a financial instrument within the meaning of US law. The latter establishes that a token will qualify as a financial instrument if it meets three cumulative conditions, namely: (1) be an investment, (2) carried out as part of a common project, which is reasonably likely to generate profits and (3) the latter must be generated by the efforts of third-party entrepreneurs or managers, and not by the investors [21]. This approach adopted by the United States in terms of applicable law leads to considering most crypto-assets as financial instruments [22].

Nevertheless, since ICO projects are by definition cross-border, investors may be exposed to risks related to the heterogeneity of regulatory regimes and investors may resort to regulatory arbitrage. This is why consistency and international cooperation in the regulation of ICOs seem essential: this can involve sharing requirements in terms of transparency and risk management of ICOs [23], by setting up international standards [24], as well as through international cooperation in the fight against fraud.

However, and in the absence of a regulatory framework at the international level and in most countries, the protection of Investors is therefore not sufficiently guaranteed. So how can investors' growing interest in ICOs be explained?

The ROI of ICOs

According to some authors [25], the main advantages claimed when funding ICOs, including speed of launch, few compliance requirements and low costs, are very attractive advantages for start-ups and small and medium-sized businesses that cannot afford the costs and time required by the demands of other traditional funding sources. Knowing that technology companies and those operating in the blockchain sphere must act quickly, these advantages during financing are of paramount importance. Other claimed benefits of ICO funding are the efficiency and reliability of blockchain transactions, where funds can be collected from around the world and quickly transferred after verification. Thus, companies using blockchains for ICOs can raise significant funds in a very short time and without geographical restrictions.

However, the main explanation for the enthusiasm of investors for ICOs lies in the possible return on investment. From an investor's perspective, some ICOs offer investors "anonymity" and potentially large returns. Indeed, according to Momtaz [26], projects have a strong incentive to reward short-term investors by underestimating the sale price of their token in order to generate liquidity in the secondary market and signal the growth potential of their project. Moreover, from a very large sample of ICOs during the period following the launch of the projects, Benedetti and Kostovetsky [27] observe that the average return on investment of an investor is 179%. This return has been estimated for successful ICOs whose tokens are traded on a secondary market. Even taking into account the negative returns of delisted or failed ICO tokens, the return for an average investor is 82%.

Finally, ICO can be an asset when it comes to diversifying the assets of a portfolio. Indeed, the most important crypto-assets (Bitcoin, Ethereum, Ripple, etc.) have very little correlated returns with each other [23], and are also not correlated with other asset classes such as equities, customary macroeconomic factors, other currencies or commodities [28].

Thus, and to verify the return on investment, measured by the investment gain minus the investment cost, all divided by the investment cost, we randomly selected from the CoinMarketCap database 10 ICOs issued since the end June 2019 to assess their rate of return on investment (ROI) as of December 31, 2022. It follows that from the 10 randomly chosen initial coin offerings we calculated their return on investment and ranked in order in the table below.

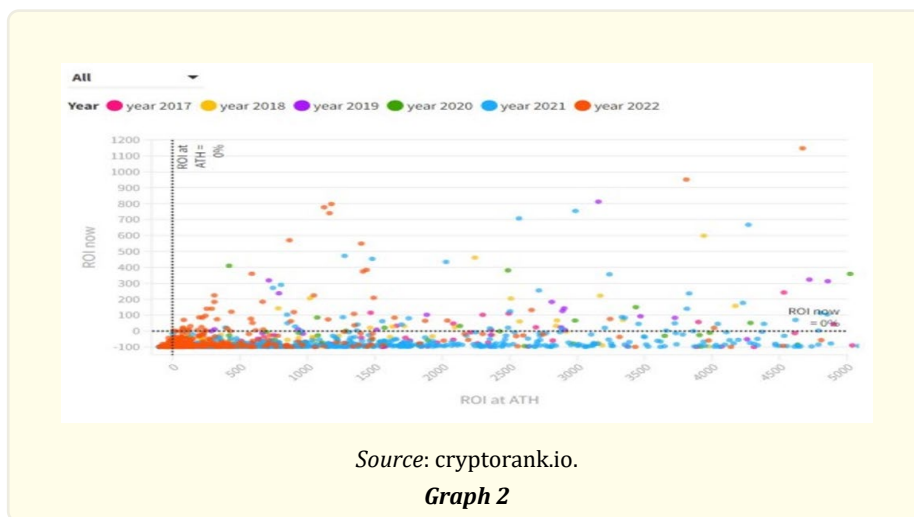
Ranking	ICO	% ROI
1	NXT	11547,519
2	Spectercoin	676,227
3	IOTA	522,900
4	Ethereum	442,869
5	Neo (Formerly Antshares)	378,453
6	Stratis	302,900
7	Lisk	50,952
8	QTUM	34,383
9	DigixDAO	17,011
10	Ark	9,190

Source: The data comes from CoinMarketCap database.

Table 1: Top 10 randomly chosen ICO with their ROI.

A first reading of this table makes it easy to deduce that at least the first 6 ICOs have a significantly higher ROI than any other type of investment, taking into account the period studied and without taking into account the level of risk incurred. Nevertheless, such an analysis deserves to be extended according to a more rigorous methodology on the 4000 ICOs listed, and continued over time in order to observe the returns generated beyond the period.

Thus, and to conduct a more in-depth study on this issue, we used another “cryptorank” database which includes 1648 ICOs in order to gauge their rate of return on investment (ROI). This database aggregates data on the sale price of the ICO, the start date of the ICO, and what interests us in this study are the current return on investment (ROI), as well as the ROI at all-time high (ATH).



In the chart above, ICOs launched in different years are represented by distinct colors. The chart shows the investment returns of each cryptocurrency during its all-time high (ATH) as well as when the chart was created (01/09/2023). The horizontal axis shows how much back the token/coin has made in the logarithmic scale. The black line indicates a ROI of 0% when launching the ICO. The farther the points are to the right of the black line, the better the ROI.

The analysis of this database allows in the first place deducing 2 observations:

First, at their ATH, the ROI of these ICOs was very high on average. Almost all of these ICOs have delivered an ROI of several hundred to one thousand percent for the period observed;

Then, if we focus on the outliers of this graph. Returns on investment from the highest ICOs were in the tens of thousands percent at their peak. This can give an overview of the level of volatility of the investment in these financial assets. Specifically, when we note that on average, the returns on investment were 3,100% for their respective ATH. However, their current average ROI is only 30%.

Going through the individual years, it turns out that the returns on investment from ICOs vary significantly from year to year. The average ROI at ATH compared to the average ROI of each ICO is highly volatile and largely depends on the year of issuance. Thus, it can be observed that in general, investing in ICOs from 2017 to 2021 and reselling them to their respective ATHs generates returns of several thousand percent. On the other hand, ICOs Issued in 2022 generated a lower return on investment. It also appears that the ICOs issued in 2020 have surpassed the ICOs launched in other years.

Thus, the analysis of the graph shows that on average, the long-term holders of ICOs have achieved negative ROIs. The ICOs issued in 2021 and 2022, on the other hand, display the worst ROIs recorded in this database.

However, some elements during the analysis of this database attract attention and deserve more attention during more in-depth studies concerning the performance of these financial assets: First, there is a negative correlation between the total amount collected and performance of ICOs;

Returns on investment from ICOs that have used the Binance Launchpad far exceed other ICOs using other platforms;

With the exception of Binance Launchpad, only ICOs using the Huobi platform and, to a lesser extent, DAO Maker as a launch pad has performed well over the long term.

Conclusion and discussion

The emergence of new types of innovative issuers, the democratization of a new form of engagement in a business project for investors as well as the possibilities of disintermediation allowed by blockchain technology led us to believe that there is space for this new fundraising process alongside the usual funding channels. Beyond its financial innovation, this new mode of financing is also proving to be a lever for the inclusion of those excluded from the traditional financing system [29]. Nevertheless, the sharp drop in projects and amounts raised since the end of 2019 suggests that this method of financing must continue to be structured and benefit from the supervision of international regulators in order to continue to be acclaimed by investors.

Regarding the return on investment of ICOs issued from 2017 until the end of 2022, it turned out that the results are mixed. The analysis made on the cryptorank database reveals some interesting elements that deserve other much more in-depth studies. The results obtained first confirm that 90% of ICO issues fail during their first years for various reasons related mainly to the risk of the project. This point confirms what has already been raised previously in the literature review. The second interesting point concerns the very high volatility of investing in ICOs. We found that on average the ROI was 3,100% for their ATH and current average ROI is 30%. This observation may explain the interest of investors for ICOs who rely on the speculative aspect of an ICO for the diversification of their portfolio. However, two major risks arise. On the one hand, the risk of the secondary market which is not yet organized and which remains confidential for the moment [30]. On the other hand, since ICOs are only carried out in cryptocurrency, there is a very significant exchange risk.

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