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New Forms of Funding Investment Projects and Companies: Crowdfunding and ICO

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Jakub Górka*, **Aleksandra Pietruk****

The article aims to study crowdfunding and Initial Coin Offering (ICO) – the new sources of raising capital for investment projects and business operations. Crowdfunding and ICO are compared to the Initial Public Offering (IPO), i.e. a traditional form of funding for corporations. The paper discusses new trends in finance. It explores the principles, features, legal regulations, advantages and disadvantages of innovative methods of funding. The analysis reveals that in the digital era of network economy there is a need to quickly raise considerable amounts of capital from many investors in funding rounds not burdened with complicated regulations. ICO and crowdfunding give such an opportunity, but at the expense of higher legal, financial and operational risks. Therefore, for mature companies, a less risky option is to get funded in a more traditional way, for example through an initial public offering which, although costlier and lengthy, has higher credibility and is under prudential supervision.

Keywords: crowdfunding, ICO (Initial Coin Offering), new forms of funding, IPO.

Nowe formy finansowania projektów inwestycyjnych i przedsiębiorstw: crowdfunding i ICO

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Celem artykułu jest analiza crowdfundingu i ICO (Initial Coin Offering) – nowych źródeł pozyskiwania kapitału na projekty inwestycyjne i działalność firm. Crowdfunding i ICO są porównywane z ofertą publiczną papierów wartościowych, tradycyjną formą finansowania spółek. Artykuł dotyczy nowych trendów finansowych. Przedstawia badanie polegające na opisie zasad, cech, uregulowań prawnych, wad i zalet innowacyjnych metod pozyskiwania środków finansowych. Z analizy wynika, że w erze cyfrowej i w gospodarce sieci istnieje potrzeba szybkiego i nieobciążonego ciężarem regulacyjnym pozyskiwania, niekiedy znacznego, kapitału od wielu inwestorów. ICO i crowdfunding dają taką możliwość, ale za cenę wyższego ryzyka prawnego, finansowego i operacyjnego. Dla dojrzałych firm bezpieczniejszym rozwiązaniem jest finansowanie tradycyjne, np. przez publiczną emisję papierów wartościowych, które choć kosztowniejsze i długotrwałe, ma wyższą wiarygodność i podlega nadzorowi ostrożnościowemu.

Słowa kluczowe: crowdfunding, ICO (Initial Coin Offering), nowe formy finansowania, IPO.

JEL: G23, G24, O16, O33

* **Jakub Górka** – PhD, University of Warsaw, Faculty of Management, Chair of Financial Systems, Banking and Money Markets Department, ORCID ID: 0000-0003-3467-9624.

** **Aleksandra Pietruk** – MA, PhD student, University of Warsaw, Faculty of Management, Chair of Financial Systems, Banking and Money Markets Department, ORCID ID: 0000-0002-1193-7750.

Correspondence address: University of Warsaw, Faculty of Management, Chair of Financial Systems, Banking and Money Markets Department, Poland; e-mail: jgorka@wz.uw.edu.pl; aleksandra.pietruk@gmail.com

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1. Introduction

A popular Russian startup raises 1.7 billion dollars through ICO for the development of the Telegram application with its flagship product – an encrypted messenger? (Khrennikov, 2018). 82% of company stock sold through ICO in 29 minutes, with 8.6 million dollars in proceeds? (Domaradzki, 2018). News about such successful financial operations more and more frequently spread around the world. Despite the availability of numerous instruments for business financing on the financial market, new methods of raising capital are taking global markets by storm (Russo, 2017).

In view of challenges of modern technologies and digitisation, it is necessary to consider a comparison of the financing process parameters that determine the functioning of business. Changes in the way capital is raised concern investment projects (and other projects – for example for social and charity purposes) and all companies, regardless of their size.

The paper aims to analyse new sources of raising capital: crowdfunding and ICO (Initial Coin Offering) as compared to IPO (Initial Public Offering). The analysis covers the principles, features, legal regulations applicable to new methods of financing and allows defining their advantages and disadvantages. The research methods used are: elemental analysis, qualitative & quantitative analysis, comparative analysis and induction.

The problem of choosing a funding method depends not only on its availability and the ease of raising capital using this method, but involves also an assessment of the accompanying risk, including legal risk. Legislators and supervisors in respective countries have to overcome the challenge stemming from the promotion of new methods of financing and take a stand whether they should be regulated or allowed to develop in an unhampered manner. This thread will be discussed in the article by, among others, illustrating the approach to crowdfunding and ICOs taken by the Polish supervisor (Polish Financial Supervision Authority[1], KNF) as well as positions on ICOs of regulators in other countries (China, Hong Kong, Switzerland, Singapore, United States). Due to the practical importance of the discussed problem and its market implications, the authors decided to use and discuss in the second part of the paper the classification of crowdfunding applied by the KNF, and to present the Authority's stance on ICOs in the third part.

The paper is structured into six parts. Following this introduction, the second part discusses crowdfunding, the third – ICO, and the fourth – IPO. The fifth part contains a multicriteria comparison of these three forms of funding. The last, sixth part, presents synthetic conclusions.

2. Analysis of Crowdfunding

Crowdfunding, otherwise termed social funding, is one of the new methods of sourcing funds. It was defined in the communication from the Commission of 14 March 2014 as financing related to open calls to the wider public to raise funds for a specific project (European Commission, 2014). Calls of this type are most often published and disseminated via the Internet. The specific feature of the calls is that they are open over a specified period in the course of which funds are raised from a significant number of participants in the form of relatively small cash contributions. The type of capital collection and allocation occurring in crowdfunding stands out from other sources of financing also due to a lower entry barrier and better transaction terms and conditions (Ordanini, 2009).

A successful subscription dating back to the 17th and early 18th centuries is presently considered to be the prototype of crowdfunding. This subscription enabled the publication of the earliest works by Beethoven. The composer offered the purchase of his works to wealthy music lovers. Once he had sourced an amount sufficient to cover printing costs, he undertook to bring out his works (Gwizdalanka, 2016).

2.1 Types of Crowdfunding

Currently, the most common types of crowdfunding include (Komisja Nadzoru Finansowego, 2017a):

a. Donation (charity) crowdfunding

This is the most widespread type of funding, philanthropic in nature. This model does not provide for any forms of gratification. The project initiator has no obligation to provide any mutual consideration to the funder. Projects implemented in this way are usually developed without any additional profit in mind, and they are mainly used by foundations and associations.

Funds are mainly allocated to:

– Charity campaigns (as exemplified by numerous collections on the pomagam.pl platform);

- Help (e.g. in one of the projects, the originators intended to allocate funds pooled via the polakpomaga.pl platform to the construction of a nursing home, which would become a peaceful abode for the elderly) (Gągalska on PolakPomaga.pl, 2018);
- Research (for example a collection on the polakpomaga.pl portal; the sourced funds were to be used to test dietetic bars for presence of pesticides and heavy metals) (Galicki on PolakPomaga.pl, 2018).

Two types of collections can be distinguished. In the first one, it is assumed that there is a minimum amount set for the project. This is the so-called 100% threshold. It should be noted that this value can be exceeded many times. Also, this type of collection has a specific duration. The second type of collection is based on the assumption that projects do not have to reach a predetermined minimum amount to be successful. The “keep what you raise” rule may apply. The amount crowdfunded during the campaign is transferred to the project initiator regardless of how high it is.

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b. Rewards crowdfunding

Another type of capital pooling model is crowdfunding based on rewards. This is the model most commonly used by Polish platforms. In this model, in exchange for a payment to the project's authors, the funder receives a certain kind of gratification (often economically unequivalently low in relation to the amount committed). The funds raised are usually used by young entities, so-called startups.

Funds are mainly transferred to widely understood creative projects, such as the production of a short film (an invitation to the premiere or a visit on the set may be a form of gratification).

c. Pre-sale crowdfunding

The underlying assumption of the pre-sale crowdfunding model is that funds are obtained for financing a project to be delivered to the funders by the beneficiary (project author) after a certain period of time. As in the case of previous types of crowdfunding, transactions take place via a specially prepared platform.

Funds are mainly transferred for a business idea; in exchange for supporting the idea, its funders receive specific products or services with the value determined by the amount paid in to implement the concept (Komisja Nadzoru Finansowego, 2017a). This model can be exemplified by a project during which over 20 million dollars was collected with the support of a mere 78 thousand persons to create multifunctional watches (Kickstarter.com, 2015).

In this particular model, capital raising is based on a sales contract or an unnamed contract that is similar to a sales contract. The projects have a minimum amount, which can be exceeded many times. The duration of the campaign is set in advance. In this model, the "all or nothing" principle applies.

d. Investment (equity) crowdfunding

An interesting, albeit the most complex, example of this type of financing is investment crowdfunding. It consists in raising capital for the development of a specific venture by issuing securities (e.g. shares or bonds). Crowdfunding platform users can acquire these securities via the platform, thereby supporting the project. In order to raise capital, the project initiator must meet a formal requirement: it must operate as a joint-stock company or a limited joint-stock partnership. By purchasing equity securities, investors take over – in proportion to the invested capital – control over the company.

Three types of investment crowdfunding can be distinguished. The first of these is the collective investment model. The participants are, among others, the so-called business angels who invest money in the development of the company, or in a specific project. Another variant is the investment fund model, the idea of which is collective depositing of funds and joint investment. In this model, an electronic platform is usually organised as an investment fund (for example, venture capital funds). In return for investing in a given project, funders expect a share in profits. There is also the securities model operating in the market. It involves the sale of shares and the transfer of ownership to online investors. The funds invested are usually much higher than in the case of other types of crowdfunding. In practice, there is also a mixed solutions model, which is a hybrid of the three above models (Ahlers, Cumming, Gunther, & Schweizer, 2015).

The funds sourced through equity crowdfunding are mainly designated for typically commercial projects that are expected to generate profits and bring tangible benefits in the future (for example, the completed issue of shares in a company aspiring to develop an urban network of electric scooters; the project initiator raised 900 thousand Polish zloty pledged by 87 investors) (Banach, 2018).

Shares are subscribed for via a crowdfunding platform. In order to subscribe, an investor needs to complete a subscription form and make a payment for shares. A failure to pay the appropriate amount, calculated as the product of the subscribed shares and the issue price per share, renders the subscription invalid (Mollick, 2014).

Besides the numerous advantages of this form of capital raising, it should also be noted that the conclusion of transactions in investment crowdfunding has some drawbacks. The model focuses on investors who often do not fully understand the business of which shareholders they are becoming. Therefore, this type of financing can also be treated as another variant of traditional marketplace investing (Dziuba, 2016).

e. Debt crowdfunding

Debt crowdfunding should be rather considered as a form of social lending (P2P lending). A socially funded beneficiary is obligated to refund sums contributed by funders together with a declared amount of interest. Transactions of this type generally involve small amounts. They take place via websites (e.g. English ZOPA or American Lending Club), without the participation of banks or other traditional financial intermediaries (Komisja Nadzoru Finansowego, 2017). In practice, there are many social lending models, but the main difference between them is whether the intermediary platform itself is a party to the transaction or it only helps to match borrowers and lenders. In the former case, the platform assumes the credit risk (Agrawaj, Catalini, & Goldfarb, 2015).

2.2. Crowdfunding Regulations

No appropriate crowdfunding legislation has been enacted in Poland yet. Social funding is treated quite liberally. It might seem that this type of subsidising could, or actually should, be regulated by the provisions of

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the Act on the principles of conducting public collections of 1993, amended on 14 March 2014. However, Article 1 of this document clarifies that it only applies to collecting donations in cash or in kind in a public place for a specific legitimate purpose remaining in the sphere of public tasks referred to in Article 4.1 of the Act on public benefit activity and volunteerism of 24 April 2003, and for religious purposes (Ustawa z dnia 14 marca 2014 r.). Hence, commercial crowdfunding via online payments does not fall within the scope defined by the above-mentioned Act.

The Conference of Financial Companies in Poland (KPF), the Coalition for Polish Innovation (KPI) together with the FinTech Poland Foundation under the patronage of the Polish Financial Supervision Authority underlined, simultaneously agreeing with the position of the Polish government (Remisiewicz, 2015), that in view of the current development of crowdfunding and the resulting negligible risk of frauds in Poland, there are no reasons for establishing separate regulations in this area. Nevertheless, it was emphasised that steps should be taken to increase legal certainty among market participants within the framework of the currently applicable provisions (Komisja Nadzoru Finansowego, 2017a). Therefore, it is the Act on providing services by electronic means of 18 July 2002 that should be complied with in the first place. The Act defines the standards of conduct in the case of exclusion of the service provider's liability for the provision of these services and the protection of personal data, which may have a direct bearing on the functioning of crowdfunding portals. Thus, such intermediaries should operate on the basis of by-laws with the guidelines consistent with the Act on providing services by electronic means of 18 July 2002. We should focus mainly on Article 5 that stipulates that the service provider should be clearly identified. Another important provision is Article 6, which stipulates the requirement to provide the service recipient with access to information on the risks related to the use of the service as well as on its function and purpose (Ustawa z dnia 18 lipca 2002 r.).

Investment (equity) crowdfunding is an exception. In this case, the applicable law is the Act on public offering, conditions governing the introduction of financial instruments to organised trading, and public companies of 29 July 2005. The current regulations allow for a public issue of securities of up to 100,000 euro per year without the need to draw up a prospectus or memorandum (Ustawa z dnia 29 lipca 2005 r.) The KNF's report presents a legislative proposal intended to simplify the procedure for submitting offerings of up to one million euro. This would increase the value and number of investments made through investment crowdfunding without imposing excessive regulatory burdens on these entities. The proposal has been addressed to the Ministry of Finance (Komisja Nadzoru Finansowego, 2017a). These guidelines are consistent with EU regulations regarding prospectuses which will come into force in 2018 and 2019 (Wierzbowski & Róg, 2018).

3. Analysis of ICO (Initial Coin Offering)

The Initial Coin Offering, colloquially referred to as ICO or IPCO (Initial Public Coin Offering), is one of the newest ways to publicly raise financial resources. In ICO, an investor who decides to support a given venture in exchange for payments made most frequently in an already existing cryptocurrency (e.g. in bitcoins) receives a newly created cryptocurrency or a token issued based on the blockchain technology. Several most popular types of tokens can be distinguished:

- currency tokens,
- utility tokens,
- security tokens,
- equity tokens,
- reward tokens,
- asset tokens.

Currency tokens are deemed to mean tokens used as a form of payment as well as serving as a means of hoarding. Utility tokens provide holders with access to services or products developed by the company. Security tokens, in addition to the features of utility tokens, offer a cash investment along with a promise of profit. Equity tokens give their holders a share in the issuer's equity, just like stock. Reward tokens are usually an equivalent of loyalty points in programmes based on the blockchain technology. The last type of tokens, asset tokens, serve as a digital record indicating the possession of an asset in an organisation or on a platform (Miley, 2018). Depending on the creators' concept, tokens may entitle their holders to various facilitations and benefits.

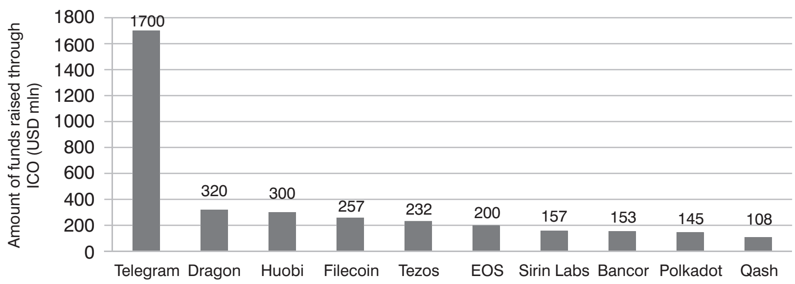

Fig. 1. Top 10 biggest ICOs. Source: Own study based on Coindesk.com (2018) ICO Tracker.

ICOs are based on the blockchain technology. The issued tokens may use an already existing blockchain – e.g. the Bitcoin blockchain or the Ethereum blockchain. As a construct functioning on the financial market, ICO combines the features of a classic IPO (Initial Public Offering) and crowdfunding discussed in the previous part of the paper. Despite the

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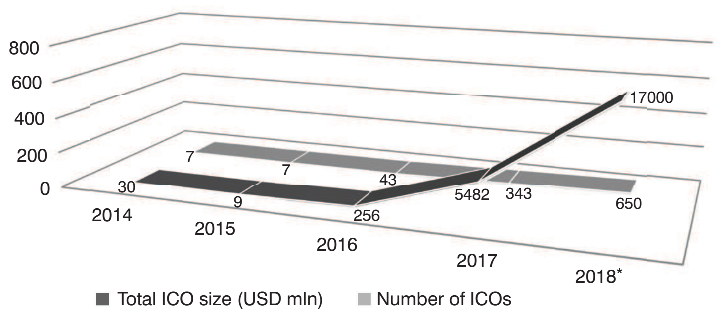
warnings of many financial supervisors around the world, ICO is gradually gaining momentum as a method of acquiring capital. According to the consulting company PwC, various investors committed over five billion dollars in such initiatives in 2017. This translates into a substantial increase against 2016, when this amount was estimated at 236 million dollars (PwC & CB Insights, 2018).

To date, the largest (single) capital raising transactions have included, among others, the pooling of capital for Telegram, Filecoin and Tezos projects. The scale of investment is clearly seen to be rising significantly. The difference between the first and the second investment in terms of the amount raised is 531%. Investments in tokens carry a high risk.

3.1. History of ICO

It is widely believed that the first ICO project was Mastercoin introduced in 2013. An amount of five million dollars in bitcoins was raised thanks to the sale of own tokens (Monitor FX, 2017). Encouraged by Mastercoin's success, many companies that want to raise capital to finance projects decided to follow in its footsteps. In 2014, 18 million dollars was solicited in the Ethereum project The Aragon business management platform, based on the Ethereum currency, pooled 25 million dollars in May 2017 in less than 15 minutes. This success would seem unsurpassable. However, the world was rubbing its eyes when merely one month later, the Bancor platform for creating smart tokens collected 150 million dollars. Golem Network, the Polish startup which took 30 minutes to raise 34 million Polish zloty, should also be mentioned here. Through ICO, the company sold shares in the services it wanted to provide in the future. This so-called "Uber for computers" intends to provide access to the computing power in its network so that users implementing projects that require this type of potential do not have to invest in the purchase of expensive equipment (Janik, 2017).



* 2018: provisional figures.

Fig. 2. ICO development in 2014–2018. Source: own study based on Coindesk.com (2018) ICO Tracker.

Currently, each ICO, i.e. an investment round based on the issuance of cryptocurrency/tokens, brings capital to the initiators much faster than it used to before, when traditional forms of financing – for example the issue of classic securities – were applied (Hazen, 2012).

3.2. ICO Principles and Process

A startup, a FinTech company or a consortium that wants to raise funds for development through ICO should first draw up a comprehensive report containing a description of the entire project, the so-called White Paper. It is posted on a dedicated website and notified to sites with information about ICOs.

The White Paper should provide information on the purpose of the project, present its creators and outline the operation strategy.

The components of the ICO White Paper (resembling a prospectus or a financial memorandum) are:
- project description,
- presentation of creators,
- operation strategy,
- soft/hard cap,
- number of tokens issued,
- allocation of tokens,
- allocation of funds raised through the issuance of tokens,
- roadmap.

The hard cap means the maximum amount a given team intends to collect. This directly affects the behaviour of the currency after it enters the market. The lower the cap and more realistically adapted to the project idea, the greater the chance for an increase in capitalisation. Usually, project authors also set the so-called soft cap, which is the minimum amount they want to collect. In the event the soft cap is not reached or the hard cap is exceeded, funds are returned to investors. In the former case, the project is not implemented. The issuer informs investors about the total number and allocation of issued tokens. The White Paper drawn up in accordance with all recommendations must also inform about the allocation of the amount collected during pre-sales to specific project components. The document ends with a roadmap, i.e. as a several-year development plan aimed at authenticating and locating the project within the time frame (Brummer, 2018).

Most often, ICO is divided into two basic stages: PreICO and an actual ICO. Usually, during the first stage, tokens or coins are offered at a lower price. Another fundamental difference is that the capital raised in this phase is smaller than during the actual ICO. KickCoin (KC), a platform aimed at offering commercial ICO and crowdfunding solutions, may serve as an example. The originators focus on the promotion of their product

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in China, Russia and the USA. The key fact, proving the ICO's strength and investors' faith in project success, is that the project initiators managed to pool 5000 Ethereum during PreICO, while their initial offering was for 2000 Ethereum "only" (KickCoin, 2018).

Three stages of ICO can be distinguished:

1. White Paper publication,
2. PreICO,
3. ICO.

The purchased cryptocurrency, e.g. Ethereum (ETH), is transferred to the wallet address, and the appropriate number of tokens is given as a refund. The process of raising capital through ICO has low entry barriers; it is relatively simple and effective.

3.3. ICO Regulations

The rapid expansion of ICOs brings many benefits, but related threats and concerns are also numerous. Some of them, such as the security of transactions or overestimation of the potential of some projects, worry regulators who warn that – unlike in the case of classic investment methods – no supervision is exercised over ICOs. The unprecedented rate of development of new methods of financing, including ICOs, may also raise certain reservations of entities forming the sectors of traditional economy. The biggest concern is that all arrangements between the beneficiary and the funder are based only on an agreement between investors and token issuers. No institution guarantees transaction security, let alone will take any steps in case of fraud.

In general, tokens are not considered to be financial assets. Still, some countries are beginning to see their similarity to securities. Opponents of this theory emphasise that ICOs do not offer participation in a venture, but only a token or cryptocurrency, which is not a security in itself. The country that has decided to take the most rigorous step in this matter is China, where this form of capital raising has been outlawed. Switzerland, Singapore and Hong Kong should be mentioned as a counterweight; they are the largest hubs that support the acquisition of capital through ICOs. In these countries, ICOs owe their development to, among others, favourable attitude of financial market regulators (Harper, 2018).

Singapore

On 1 August 2017, the Monetary Authority of Singapore (MAS) published its position on digital tokens offered in this country. The MAS stated that the tokens offered or issued in Singapore would be regulated by the MAS if they met the definition of a security as set out in the Act on securities (Monetary Authority of Singapore). In practice, the presented stance indicates that the tokens available on the market are highly differentiated, and consequently some of them are subject to the Act on securities, while others are not. In order to determine the nature of tokens, an in-depth analysis of legal provisions is necessary. Therefore, the MAS recommends that issuers, intermediaries and owners of platforms allowing the sale of tokens should seek independent legal advice, and if in doubt, ask the Authority for opinion and interpretation.

Switzerland

The Swiss government and supervision exhibit a liberal approach to ICOs. In one of the cantons, the Crypto Valley was established. It is an ecosystem with an extensive infrastructure that cooperates with the most prestigious hubs around the world, including the Silicon Valley, New York and Singapore. The dynamic entities like the Ethereum Foundation and Bancor run their businesses there. The decision of the Swiss government to relax barriers and introduce FinTech-friendly actions (financial technology, financial services provided using new technologies) has resulted in a wider exposure to projects and the adoption of many FinTech innovations. A well-known example is the acceptance of bitcoins by Ernst & Young (EY) of Switzerland as a form of payment for services provided to clients. Directly in relation to ICOs, the head of the Swiss Financial Market Supervisory Authority (FINMA) stated that the role of the ministry under his command should be to identify practices that deserve support while eliminating suspicious ones. As a consequence of Switzerland's approach to new sources of capital raising, in 2017 the highest-priced ICOs were placed in this country. They included: Tezos, Dao, Bancor and Status (Gesley, 2018).

USA

In July 2017, the American Securities and Exchange Commission issued a release (Securities and Exchange Commission, 2017) incorporating its position on fundraising through ICOs in the DAO project (Decentralised Autonomous Organisation). According to this document, in the light of American law, tokens obtained in such transactions, or their sale, should be treated as an issue of securities and be subject to appropriate regulations. This approach signifies more difficulties in transacting with the use of ICOs in the USA. In the case of sale of tokens classified as securities within ICO, it is necessary to obtain an appropriate permit and record this fact in the Commission register. In general, conducting ICO in the USA may involve higher costs, additional time and work. The US Securities and Exchange Commission tends to treat almost all issuances of tokens through ICOs as securities issues (Kirk et al., 2018). The long-term consequence may be a slowdown in the development of innovative projects or their implementation in other countries. Proponents of this solution emphasise that token transactions – thanks to being subject to stricter state control – will reduce the risk of investors losing their money.

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Poland

The growing popularity of ICOs has not escaped the attention of the Polish financial market supervision authorities. The Polish Financial Supervision Authority (KNF) together with the ESMA (European Securities and Markets Authority) point to the risk associated with both investing through ICOs and raising capital in this way. In the announcement of 22 November 2017 regarding the sale of the so-called coins or tokens, the national supervisor warns about a number of threats. Apart from the above-mentioned document, the Polish government has not classified cryptocurrencies as a financial instrument to date. Nor has it forbidden, as is the case in China, making transactions using cryptocurrencies.

The KNF points to the following risks of investing in tokens issued through ICOs:

- unregulated space, prone to fraud and irregularities;
- high risk of losing part or all of the funds invested;
- lack of information, incomplete issuance documentation;
- no possibility to "exit" from the investment and high volatility of the market value of tokens;
- defects of technology used.

According to the report published by the KNF, unregulated space should be understood in such a manner that currently ICOs may be offered without any authorisation; they may operate outside the scope of regulations relating to the financial market. Consequently, buyers may be deprived of the special legal protection related to that market. The legal uncertainty resulting from innovations may attract individuals or entities which may have unfair intentions in specific situations. Possibly, certain ICOs are carried out to launder money from illegal sources.

The Polish Financial Supervision Authority draws attention to the fact that most ICOs concern projects that are at an early stage of development. It must be borne in mind that ultimately the right to a specific product or service does not have to be received. There is no certainty that a product or service will be created.

Another risk factor pointed out by the Polish supervision authority is inadequate documentation. The KNF emphasises that White Papers may be unverified during an audit and may therefore be incomplete, unreliable or misleading. It is also significant that the terminology used can, without an advanced technological knowledge, very often be a circumstance preventing proper assessment of the scale of risk associated with the investment.

The Polish supervision authority also draws attention to a limitation, i.e. the lack of possibility to sell tokens on platforms (cryptocurrency and token exchanges) in order to recover invested funds. Not all tokens are traded on all platforms. Token exchange rates are highly volatile. Many platforms are prone to price manipulation and other dishonest practices.

The Polish Financial Supervision Authority also emphasises that the technology used to create and distribute tokens (DLT/blockchain) has not been satisfactorily tested. Token buyers may run the risk of being unable to control tokens owned due to existing defects in codes and programmes to create them. Tokens can be stolen in a hacking attack (Komisja Nadzoru Finansowego, 2017b).

3.4. Pros and Cons of ICO

ICO, a young and continuously developing construct, is very promising as a new form of both financing and investing. As of today, it should be treated as an alternative form of raising capital, mainly by startups, among others from the technology and FinTech sectors. That being said, it is worth highlighting the advantages of investing through ICOs. These include first and foremost:

- high rate of return; in the early phase of growth Ethereum cost 0.4 dollar, which today means that its ROI is over 70 000% in approx. four years;
- low transaction cost;
- the speed and efficiency of carrying out ICO;
- building a network of people supporting the project at an early stage of its organisation;
- an interesting alternative for people who want to diversify their investment portfolio.

As for the defects, it is difficult not to agree with the list of risks presented by the KNF in the abovementioned report. However, it is worth paying attention to other negative aspects, such as:

- unclear offer;
- uncertainty of transactions and acquired rights arising from tokens (financial risk);
- relatively low public confidence in the blockchain technology and projects based on it;
- the risk that fundraising through ICO may not be tax-efficient; the sale of tokens can be treated as income and thus taxable (legal risk);
- exposure to hacker attacks (operational risk);
- the investment should be treated as a pure speculation (financial risk).

There are advantages and disadvantages of ICOs. Projects based on the blockchain technology are proliferating, and there is no shortage of investors. Therefore, regulators' interest in this form of financing can be expected to grow, which can significantly affect the future of the blockchain technology, and thereby the development of this method of financing.

4. Analysis of IPO (Initial Public Offering)

IPO (Initial Public Offering) is the oldest of all the forms of raising capital listed in the paper. IPO is the first public offering of certain securities (mainly shares and bonds). Under the applicable law (Article 3.1 of

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the Act on public offering), a public offering is a communication made in any form and by any means to at least 150 persons in the territory of one member state or to an unspecified addressee, which contains sufficient information on the securities to be offered and the terms and conditions of their acquisition, so as to enable an investor to decide whether or not to purchase the securities. As for Poland, in the jubilee year of the 25th anniversary of the Warsaw Stock Exchange, there were over 430 issuers with a registered office in Poland and over 50 foreign companies listed on the regulated market (Giełda Papierów Wartościowych, 2017).

The basic sources of financing for enterprises are in this case funds from the owners (shareholders) or creditors. It should be noted that equity-based and debt-based sources of financing are not mutually exclusive. The selection of sources of financing and the method of fundraising are directly related to the stage of company development as well as current needs and cost of capital.

The characteristic features of stock exchange trading include (Górski, 2018):

- regularity of contacts,
- standardisation of traded securities,
- achievement of prices that balance supply and demand,
- dissemination of information on prices, trading volume and stock exchange indices.

4.1. Procedure for Introducing Shares to Stock Exchange Trading

The Initial Public Offering is a long-term and multidimensional process, and it requires therefore a proper preparation. In this context, the procedure can be divided into two stages: a preparatory phase and a transactional phase. The main purpose of the former is to draw up and approve the prospectus. The subsequent stages are aimed at arousing investors' interest and having instruments listed on the Warsaw Stock Exchange (WSE).

The public offering consists of two phases:

- preparatory phase (determination of the terms and conditions of the issue, preparation and approval of the prospectus, educating investors);
- transactional phase (roadshow and bookbuilding, subscription by investors and allocation of securities, debut on the WSE).

During the preparatory phase, the issuer is obliged to present a resolution of the General Meeting (possibly a resolution of the Management Board), in which the relevant body:

- determines issue parameters,
- approves the dematerialisation of shares,
- agrees to the introduction of shares (other securities) to stock exchange trading.

The objective of the preparatory phase is also to draw up a prospectus. It includes a registration document, a securities note and a summary. The prospectus is an essential part of IPO. The issuer is legally obliged to ensure the reliability of the data presented. Hence, companies very often decide to conduct a due diligence study. Such analysis allows for the identification of all opportunities and risks that should be taken into account when making investment decisions.

The due diligence analysis covers the following areas:
- law,
- finance,
- business,
- environment,
- taxes,
- technical issues.

It should be noted that a properly conducted due diligence process allows for the preparation of an issuer valuation model, which in the next stage serves as an indication for determining the issue price of shares within the framework of an Initial Public Offering.

The preparatory phase usually lasts from three to five months. This is close to the duration of the next stage, the transactional phase, which is estimated to take up to four months.

The objective of the investor education phase is to carry out a preliminary analysis of investor interest in the offering. This is achieved by presenting the company and its business model in an analytical report, which takes the form of an official document.

The next element of IPO is the approval and publication of the prospectus. The institution responsible for granting consent is the Polish Financial Supervision Authority. Pursuant to Article 33 of the Act on public offering, the Authority has 20 working as of the date of submitting the application. The issuer is obliged to publish the prospectus on its website immediately after its approval.

The roadshow and bookbuilding (building the book of demand) are the consequences of the publication of the prospectus. Both processes are aimed at getting investors interested in participating in the initial public offering. The roadshow involves meetings of the issuer's management board with investors to present the company. Bookbuilding has as its objective to get an insight into demand for shares so as to determine the optimal issue parameters (issue price and offer size).

Investors subscribe by placing subscription orders at customer service points within the time limit set forth in the prospectus. Upon placing subscription orders, investors are required to make a full payment for the subscribed shares. The next step is the allocation of shares, which is generally made by the management board. Market practice shows that the allocation to institutional investors is often made arbitrarily, whereas in the case of individual investors shares are allocated pro rata to the subscriptions placed by these investors.

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A stock exchange debut can take place only after meeting a number of formal requirements, such as, for example, submitting an application to the National Depository for Securities for entering shares in a register maintained by the aforementioned institution. Only after this condition is met, are shares registered on the accounts of investors who have subscribed the shares and to whom they have been allocated. At the same time, the issuer is obliged to submit an application for admission of shares to trading on the stock exchange. If it meets all the requirements, the Management Board of the Stock Exchange makes a decision admitting the issuer to stock exchange trading.

The first and the next few trading days usually show whether the debut should be considered successful. In the short term, attention should be first and foremost paid to the interest in the company's shares. The final price of IPO shares should not differ significantly from the maximum share price proposed.

4.2. Pros and Cons of IPO

Businesses wishing to make a debut on the stock exchange market are driven by numerous motives. In the face of an extraordinary sensitivity of markets to changes taking place in the world, it is worth considering the pros and cons of a public issue. Its positive aspects include:

- increasing the possibility of raising capital for development,
- more stable financial basis,
- increased liquidity,
- possibility of mergers and acquisitions,
- objective valuation of the enterprise,
- increased prestige and credibility of the enterprise,
- promotion of the company,
- motivation for managers and employees.

Despite numerous advantages, the presence on the stock exchange is also associated with potential risks, which may include:

- high costs of issue and current reporting,
- obligation to publicise information that could formerly be treated as sensitive,
- risk of losing control over the company owing to the fragmentation of shareholding,
- more formalities – preparation of a bigger number of documents, reporting data on a regular basis; rigorous financial reporting,
- pressure to achieve best possible results as fast as possible.

IPO can be an excellent investment opportunity for both the issuer and the investor. As in the two preceding cases, the advantages and disadvantages of this form of financing should be carefully considered before any decision is taken.

5. Comparison of Crowdfunding, ICO and IPO

The enterprise's financial strategy should be focused on multiplying its value. This value to a large extent hinges on the capital raising policy. In the era of ubiquitous and ever deepening digitisation and dematerialisation, the market for alternative capital raising is growing strong. Therefore, one should consider what added value or risks stem from raising capital via crowdfunding, the Initial Coin Offering and the traditional method, i.e. the Initial Public Offering.

Similarities and differences are worth considering, with reference to at least ten comparative criteria (Table 1).

Criterion	Method of financing		
	Crowdfunding	**ICO**	**IPO**
1. Regulatory supervision	None	None	Very high
2. Reliability of the method and the issuer/funded entity	Low	Low	Very high
3. Time needed to raise capital	Short	Short	Long
4. Ease of raising capital	Very easy	Very easy	Moderate
5. Value of capital raised	Low or medium	High	High
6. Complexity of offerings for investors	Low	High	Medium
7. Availability of offerings for investors	High	High	Low
8. Type of issuer/funded entity	Micro- and small companies, natural persons	Startups, FinTech and joint venture entities	Medium and large companies
9. Entry barriers for funded entities	Low	Medium	High
10. Risk that funds will be used for an unintended purpose, for example misappropriation or money laundering	Medium	High	Low

Tab. 1. Comparison of crowdfunding, ICO and IPO. Source: own study.

IPO is subject to supervision and is at the same time a highly reliable method of raising capital. The issuer must meet stringent legal requirements and submit the draft prospectus to the assessment by the supervisor (in Poland, KNF) and other market makers (e.g. stock exchange). Con-

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sequently, the issuer's credibility is subject to evaluation and, at the same time, it is likely to increase as a result of the IPO process. Crowdfunding and ICO do not have this advantage. These forms of financing are not supervised or they are supervised to a very small extent, and their reliability is low compared to IPO.

However, their advantage is the great ease and speed of soliciting capital. The offer of the entity seeking funding can reach many potential investors via a platform available on the Internet (e.g. Kickstarter, Indiegogo in the case of crowdfunding, or Waves, NXT Platform in the case of ICO). History shows that investors commit large sums of money over a short period of time through ICOs. In practice, the amounts pooled through classic crowdfunding are much lower than in the case of large ICOs and IPOs.

As a rule, offers of entities seeking financing through crowdfunding are easy to understand. A little more time should be spent on comprehending the offers of securities, and it seems that the analysis and understanding of token issuances are the most time-consuming. This is due, on the one hand, to the blockchain technology itself, which requires specialist knowledge and, for this reason, projects based on this technology may be difficult to assess; on the other hand, ICOs are not so easy to vet, because IPO prospectuses are generally broader and better prepared than ICO White Papers. The availability of offers published on the Internet is higher in the case of crowdfunding and ICOs. It is easy to become an investor. As for IPOs, the circle of investors is limited. In order to be able to invest on the stock exchange, it is necessary to have an investment account in a brokerage house that is a member of a given exchange.

It is small and micro companies as well as natural persons that most often look for capital through crowdfunding. A public issue of securities can only be carried out by an entity that is a joint-stock company and has an adequate turnover and financial resources. This means that such an entity usually falls into a group of medium or large companies. A decision to issue tokens is usually taken by startups from various branches of the economy, including the FinTech industry. It is potentially possible to establish joint ventures with the participation of large entities with excellent reputation and a long history of operating on the market (e.g. banks).

The highest entry barriers occur in respect of IPOs. The company must have capital, turnover and history of operation. In addition, the process of issuing securities absorbs significant financial resources. In ICOs, procedures are simpler and costs lower. However, the cheapest way to raise funds is via a crowdfunding platform (e.g. Kickstarter or Indiegogo).

ICOs tend to be criticised for being susceptible to the risk that funds will be misused, including that they will be misappropriated or used to launder money. With IPOs, this risk is reduced to a minimum. In the case of crowdfunding, the level of this risk can be estimated as medium, i.e. between the level of this risk for ICOs and IPOs (high and low, respectively – see Table 1).

6. Conclusion

The paper analysed crowdfunding (charity, rewards-based, pre-sale-based, equity, debt crowdfunding) and the public issuance of tokens (ICO) versus the public issue of securities (IPO). The comparison of the forms of financing shows that more similarities can be found between ICOs and IPOs. Crowdfunding (social funding) is better suited for smaller investment projects and smaller entities.

The strength of ICOs lies in the possibility of raising high capital in a short time from investors from around the world without the need to comply with strict regulatory requirements. However, these advantages of ICOs are also the disadvantages of this funding method for issuers and investors, because they carry a high legal risk (legal classification of tokens), financial risk (risk of misappropriation and failure to fulfil the rights arising from tokens) and operational risk (risk of fraud, data security, hacker attacks). That is why ICOs are treated disparately in different countries. While the approach of regulators in Switzerland, Singapore and Hong Kong should be considered highly liberal, the regulator in the United States is of the opinion that in the vast majority of cases the issuance of tokens should be subject to the requirements of a public issue of securities. The Polish regulator has adopted a wait-and-see position, while the Chinese regulatory body has banned this form of raising capital.

The public issue of securities (IPO) is available to more mature companies with a longer history and higher capital which are ready to pay higher issue costs in exchange for the benefits of presence on the regulated capital market. By opting for a longer lasting issue of securities, companies gain higher credibility, legal certainty and prudential supervision.

Despite their dynamic development, at the current stage crowdfunding and ICOs do not threaten the position of regulated trading platforms, such as stock exchanges. Nor do they pose a threat to the banking sector since, for the time being, they are complementary rather than competitive towards the traditional sources of financing. Their development should nevertheless be constantly monitored by both traditional financial intermediaries and financial market regulators, which should identify a materialising risk in advance.

It should be emphasised that crowdfunding and ICOs are a response to the challenges of the global digital network economy, in which ventures are not bound by local conditions. ICOs are based on the prospective blockchain technology, enabling the financing of innovative projects that draw value from the network of entities. Recent experience from the first half of 2018 shows that the level of formalisation and the cost of issuances through ICOs are increasing. The regulatory corset is slowly tightening around this model of financing. Following the ICO funding boom, blockchain startups began to increase their fundraising through token pre-sales to private investors and venture capital funds (CB Insights, 2018).

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