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ICO vs. ICO. WILL BLOCKCHAIN TECHNOLOGY REVOLUTIONIZE PUBLIC OFFERING MARKET?

Introduction

In 2014-2017, there was a certain decrease in the number of debuts on the Warsaw Stock Exchange despite a favourable situation and the boom on the market. In 2014, there were 15 debuts. In seven cases these were the transfers of quotations from the New Connect market, while in 2015 there were 30 debuts. A detailed analysis of empirical data may lead to the conclusion that the role of the Warsaw Stock Exchange diminishes as regards the mechanisms of capital allocation and the support of economic growth. The causes of this trend can be found in several areas. From the demand side, the stock exchange is still a significant alternative for various forms of capital investment. However, it should be pointed out that the changes in the Open Pension Funds (OFE) resulted in a notable reduction of the influx of new funds from this source. The supply issue seems more interesting. Does the stock exchange not have the capacity to provide capital to companies with particular needs on conditions that are comparable to or more attractive than other alternative forms such as credits, leasing, PE or VC? Evidently, such capital does exist; however, it seems that the crucial problems are the prices of its acquisition and the further consequences of being a public company. The average cost of raising capital through the stock market are 3 – 7%. The range is fairly wide but the share issue volume or its mode may significantly influence this parameter. However, the cost itself is not the main factor that should be considered by companies. Further information requirements impose a rather heavy formal and organizational burden as regards reporting: EBI, ESPI. What is more, information requirements increase the responsibilities of companies and their boards. The changes were introduced by the Act of 10 February 2017 amending the Trading in financial instruments act and some other acts (Journal of Laws, No.724). The act introduces rigorous punitive and administrative sanctions for all public traded companies and this includes the ones where only a part of shares is traded publicly.

For example, in line with the Act of Public Offering…, Art. 96, item 1 (Journal of Laws 2016, item 1639 as amended), the failure to make reports on confidential information or an

inadequate conduct in this area results in a maximum penalty of 1 million zlotys for the issuer and from the 6th May the maximum penalty may amount to 10 364 000 zlotys or 2% of the total annual revenue accounted for in the latest audited financial report for the fiscal year. Previously, in the cases of the issuer's confidential information abuse, the penalty on the company Board member was up to 100 000 zlotys. Now, after the amendment of the act is introduced, the penalty amounts to 4 145 600 zlotys and the issuer's abuse will not have to be particularly significant.

The natural consequence of the introduction of stricter regulations will be the search for more flexible solutions in such a difficult formal and legislative environment. New opportunities involve the development of technologies, particularly such as fintech or blockchain. The first group is accepted by regulatory authorities while the latter is put on warning lists, which is surprising as they both have similar objectives. Their aim is mainly to eliminate trading barriers, intermediaries and transaction costs with the application of modern technologies. The article presents basic parameters that describe the significance of the IPO market to economic growth and development. This significance was presented many times in the national and foreign literature on the subject and justified by numerous calculations and evidence. The other issue discussed is the ICO market. Is it going to be an expansion and addition to the IPO market? Or rather its competition? In the most unfavourable scenario, when there is no supervision, it may become the place for abuse and the way to drain investors' wallets.

1. Definition of public offering

The first public issue occurs when shares are offered for the first time by an issuer to unspecified investors, with the assumption that for the securities a market will develop that is adequately liquid with regard both to the value and volume of the turnover. The first public issue may concern ownership and debt securities. It is also referred to as the first stage of a private company to raise capital in a public market[1]. The term of company public offering may also mean the first issue of company's shares on the stock exchange[2].

The basic differentiation of public offering concerns the first issue, the initial public offering IPO and subsequent offerings (the increases in share capital) - secondary public

[1] Ho B., Taher M., Lee R., Fargher N., "Market Sentiment, Media Hype and the Underpricing of Initial Public Offerings: the Case of Australian Technology IPOs", The University of New South Wales Paper, 10 August 2001,
[2]Cf. Bertsch O., Groh A., Lehmann L.: „Corporate finance", Verlag Vahlen, Monachium 1998 p. 264

offering SPO and seasonal equity offering[3]. The narrow understanding of initial offering does not have to mean only the listing on the stock exchange but also the financing by outside capital[4] (e.g. corporate bonds). However, due to the character of the article, this case is not going to be taken into consideration.

As opposed to private forms of financing (e.g. by banks, private, shareholders, venture capital funds), public offering involves financing on the public capital market. In this context *public* does not refer to the legal form of the capital donor but it concerns the questions of information publishing and of the public access to the capital market[5].

Precise definitions of public offering are provided by the act. Polish provisions define public offering as *offering to purchase or purchasing securities that are issued in a series, with the application of mass media or directed to an unspecified investor,* with the exception of cases that are precisely defined in the act.

EU did not have a standard definition of public offering for a long time. Only the provisions of the Regulation on the prospectus to be published when securities are offered to the public or admitted to trading define the term precisely enough: *offer of securities to the public* means a communication to persons in any form and by any means, presenting sufficient information on the terms of the offer and the securities to be offered, so as to enable an investor to decide to purchase or subscribe for those securities. This definition also applies to the placing of securities through financial intermediaries[6].

2. Macroeconomic significance of public offering

Table 1. Examples of empirical research on the relation between the development of capital market and the growth at the level of industry and companies

Authors	Dependent variables	Independent variables	Control variables	Panel	Results
Rajan, Zingales (1998)	The growth of value added in industry, all calculations with USA as benchmark	Demand of industry (sector) for external financing; development of the financial sector of particular countries	Indices specific for particular countries, sector indices, the share	UN Annual Yearbook on the industry, S&P Compustat, manufacturing	The dependence between the variables is clearly positive in all specifications, which means that companies

[3] Seasonal offering as a particular case of secondary offering, which occurs at defined time intervals, is frequently repetitive in character

[4] Cf. Ritter J.R.: "Initial public offerings" p. 1 w Logue, D.E.: "Handbook of modern finance", Warren Gorham & Lamont, 1998

[5] Gleisberg R.: „Börsengang und Beschaeftigungsentwicklung. Analyse deutscher Börsengaenge der Jahre 1987 bis 1997", Studien des Deutschen Aktieninstituts, No. 10, June 2000, p. 12

[6] Regulation (EU) 2017/1129 of the European Parliament and of the Council of 14 June 2017 on the prospectus to be published when securities are offered to the public or admitted to trading on a regulated market, and repealing Directive 2003/71/ECText with EEA relevance.

		(stock exchange capitalization, bank debt volume, accounting standards)	of the sector in overall turnover	companies, 1980 – 1990, 36 sectors in 41 countries	that depend to a greater extent on external financing develop more promptly when the financial system is well developed. Better results were obtained as regards the increase in the number of companies than in their size
Demirgüc – Kunt, Maksimovic (1998)	Company's growth rate and internal and short-term financing	Stock market volume, stock exchange capitalization, volume of bank deposits in relation to GDP, 1980 – 1995	Inflation, domestic turnover growth, index of legal articles and regulations, government subsidies, per capita GDP	Database: Global Vantage and IFC Developing Countries, 30 countries, 1980 - 1995	Companies develop more promptly in countries where financial sector is better developed
Carlin, Mayer (1999)	Turnover growth, investment share, R&D	Dependence of financial variables (ownership concentration, publication index of financial information, capitalization) on the sector characteristics (external capital, debts in banks, qualified staff)	Specific features of the sector and particular countries	OECD STAN database, 27 sectors in 14 OECD countries, 1970 - 1995	In the countries with developed accounting standards and high ownership concentration, companies that depend on external financing have a quick development rate. Financial variables have better results for R&D than for tangible investments
Demirgüc – Kunt, Maksimovic (2000)	Share of companies whose growth rate exceeds the average rate reached by internal financing	Bank assets, stock market turnover, the significance of bank sector in relation to capital market	GDP growth, inflation, average size of companies, per capita GDP	Worldscope database, data of public companies, 40 countries, approx. 45.000 companies, 1989 - 1996	The majority of companies obtain external financing when legal environment is favourable; the size of bank market in relation to securities market does not have an obvious impact; however, companies that require long-term financing benefit from a well-developed capital market
Beck, Levine (2000)	Added value increase, number of companies, the size of companies in sectors	Interaction of external financing with the development of financial sector and its structure	Specific features of the sector and the country	UN Annual Yearbook on the industry, database of the World Bank financial structure, S&P Compustat, manufacturing companies, 1980 – 1990, 36 sectors in 41 countries	The development of financial sector and the protection level of investors affect positively the growth of sectors; the financial structure does not explain the growth in particular sectors in a definite way. The development of financial sector justifies the number of companies but not their size
Cetorelli, Gambera (2001)	Real increase in value added in manufacturing industry	Level of domestic credits in relation to GDP , capitalization of stock market, banking sector concentration	Sector's share, legal regulations, GDP, population, accounting standards, human capital	UN Annual Yearbook on the industry, S&P Compustat, IBCa Bankscope, manufacturing companies, 1980	All financial variables are statistically significant. The concentration of the banking sector decreases the growth in sectors. This fact increases the

				– 1990, 36 sectors in 41 countries	accessibility of credits for young companies.
Rivaud-Danset, Dubocage, Salais (2001)	Increase in value added, volume of employment	Equities, financial lever, debt structure, liquid capital	Analysis of differences between small, medium-sized and big enterprises	BACH database, turnover in 9 industrialized countries 1990 - 1996	The growth and profitability indices do not correlate with financial variables. The financial structure depends on the characteristics of a particular country

Source: Rajan R.G., Zingales L: Financial Dependence and Growth, American Economic Review No. 88, 1998, p. 559 – 586; Demirgüc – Kunt A., Maksimovic V.: Law, Finance and Firm Growth, Vol. 53 No. 6, 1998, pp. 2107 – 2137; Carlin W., Mayer C.: Finance Investment and Growth, CEPR Discussion Paper No. 2233, September 1999; Demirgüc – Kunt A., Maksimovic V.: Funding Growth in Bank-based and Market-based Financial Systems: Evidence from Firm Level Data, World Bank Working Paper No. 2432, 2000; Beck T., Levine R.: New Firm Formation and Industry growth: Does having a market or bank-based system matter?, World Bank Working Paper No 2383, May 2000; Cetorelli N., Gambera M.: Banking Market Structure, Financial Dependence and Growth: International Evidence from Industry Data, Journal of Finance Nol. 56 No. 2, April 2001, pp. 617 – 648; Rivaud-Danset, Dubocage, Salais: Comparison between the financial structure of SMEs and that of large enterprises (LES) using the BACH database, European Commission, DG ECFIN Economic Papers No. 155, 2001; Thiel M.: Finance and Economic Growth – a review of theory and the available evidence, Economic Paper No. 158, 2001, ECFIN C3/469/01-EN

3. The impact of public offering market on economic growth

In the 20th century, some economists - J.A. Schumpeter among them – emphasized a positive influence of the development of national financial sector on the level and growth rate of the per capita GDP. On the basis of liquidity and risk measures, models were developed that show that a more significant international risk division through integrated stock markets results in an accelerated growth in productivity due to an increased trend of turning from secure, long-term portfolios to alternative instruments with a higher risk level and substantially higher potential rate of return.

According to Rajan and Zingales[7] - in line with theoretical models – the development of a financial sector should disproportionately help the companies and sectors (currently, it concerns particularly innovative high-tech industry) whose growth usually highly depends on external financing. In order to check this assumption, they investigated a wide range of industries and countries to verify whether the sectors with a higher level of dependency on external financing develop relatively faster in countries with an a priori more developed capital market. Their empirical findings prove that an ex ante development of the financial market actually shows an ex post growth of the sectors that are dependent to a large degree on external financing.

[7] Rajan R.G., Zingales L.: "Financial Dependence and Growth", American Economic Review No. 88, 1998, pp. 559 - 586

The results of the research also indicate that the development level of the capital market may be beneficial to the growth of new companies. If young enterprises are an outstanding source of new ideas, the financial development may increase innovativeness and consequently stimulate indirectly the economic growth. The investigation results prove the significance of the existence of developed capital markets. They are the source of competitive advantage of a particular country or a group of countries in the sectors that are more dependable on external financing[8].

The issue whether well-functioning stock markets stimulate economic growth was investigated by Levine and Zervos[9] on the basis of data from 47 countries. They proved empirically that the measures of liquidity, volume and activity of stock market as well as its integrity level with the global capital market are strongly correlated with the current and future rate of economic growth, capital accumulation, productivity growth and the propensity to save. However, they did not confirm the theories that the liquidity of stock market, the international integrity of the market or the average rate of return may have an impact on the decrease of private savings rates or may restrict long-term growth. Quite the contrary; they claim that stock market liquidity that is measured by the turnover volume in relation to the size of market and by the turnover volume in relation to the economy's size is positively and significantly correlated with the current and future rate of economic growth, capital accumulation, and productivity growth. Moreover, the positive relationship between the development of the financial market and the rate of economic growth indicates that financial factors are an integral growth factor.

The investigation conducted by Beck, Levine, Loayza[10] on the basis of data from 63 countries was not only devoted to the assessment of the direct impact of capital market growth on economic growth but also to its impact on the sources of economic growth. The analysis included particularly the impact of financial intermediation on savings rates, physical accumulation of capital and the total growth of productivity. The results do not reflect a clear relationship between the development of financial intermediation and physical accumulation of capital or private savings rates. However, they show a significant dependence of this factor in relation to the real per capita growth of GDP and to the growth of total productivity.

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[8] Rajan R.G., Zingales L.: *Op. Cit*. pp. 559 - 586
[9] Levine R., Zervos S.: „Stock Markets, Banks and Economic Growth", American Economic Review No. 88, 1998, pp. 537 - 558
[10] Beck T., Levine R., Loayza N.: "Finance and the Sources of Growth", Journal of Financial Economics No. 58, 2000, pp. 261 - 300

Table 2. Examples of empirical investigation on the relationship between capital market development and economic growth

Authors	Financial variables	Dependent variables	Data source	Calculation technique	Results
Andres, Hernando, Lopez-Salino (1999)	Liquid liabilities and bank credits for non-financial sector, stock exchange capitalization – all in relation to GDP	Inflation, real per capita turnover growth	21 OECD countries, 1961 – 1993	Regression between the growth rate of particular countries with the consideration of the inflation rate and characteristics of a given country	Stock market capitalization is the only variable where clear dependence is visible
Bassanini, Scarpetta, Hemmings (2001)	Liquid liabilities, credits for private sector from bank deposits, stock market capitalization – all in relation to GDP	a) real per capita turnover growth, b) real change in the share of private investments by non-residents in relations to GDP	21 OECD countries, 1971 – 1998		a) clear dependence on stock market, bank credit only with the consideration of inflation rate b) credits for private sector and stock market variables crucial for investment level. Clearer dependence as regards stock market variables rather than banking variables
Beck, Levine, Loayza (2000)	Legal environment variables to define external factors of development	Real per capita turnover growth	71 countries, 1960 – 1995	Estimation of ancillary variable between particular countries which is used to develop a determination panel of change dynamics	External components of financial variables are correlated to real economic growth
Demirgüc – Kunt, Levine (1999)	Financial sector volume and effectiveness determined by the volume of assets, liabilities, turnover, overheads, reserve ratio, etc.	per capita GDP	150 countries, 1990s	Correlation	Financial systems are developed better in wealthier countries. In countries with higher GDP level, stock markets are more active and effective than banking sector. Variables regarding legal regulations affect the financial sector level and structure
Leahey, Schich (2001)	Liquid liabilities, credits for private sector from bank deposits, stock market capitalization – all in relation to GDP	a) growth of real investments by private non-residents, c) real growth of per capita turnover,	19 OECD countries, 1970 – 1997 for banking variables, 16 OECD countries, 1976 – 1997 for stock market variables		a) all financial variables are significant for the same main group of estimators b) variables of credit market and stock market are significant for investment
Levine, Zervos (1998)	Capitalization, stock exchange turnover, volume of stock exchange transactions, changes in the rate of return on shares, level of bank credits for private sector, global capital market integration market (measured by APT	Real growth of per capita turnover, capital accumulation, growth in effectiveness , savings rate index	49 countries, 1976 – 1993	Regression between particular countries with the consideration of initial income, inflation, political and social variables	Clear correlation of stock market liquidity and bank sector development with the future rate of economic growth. No correlation of the activity level on stock market, capitalization and market international integration with the economic parameters of economic growth

	and by CAPM alternatively)				
Rousseau, Wachtel (1998)	Ratio of financial institutions' assets to turnover, ratio of the sum of financial institutions' assets, stock of share-holding companies and corporation bonds to total financial assets	Real growth of per capita turnover,	5 countries (USA, Canada, UK, Sweden, Norway), 1871 – 1929	Error vector correction model	Evidence for a one-way influence on the growth of the financial sector
Singh, Singh, Weiß (2000)	Stock exchange market capitalization, turnover, number of listed companies	Indices of technological sector companies: mobile phones, personal computers, Internet servers, exports of technologies	63 developed and developing countries, data for 1990s	Regression between particular countries	No clear relationship of stock market with the development of high-tech sector having considered the number of scientists and researchers and the GDP level and growth

Source: Andres, Hernando, Lopez-Salino: The Role of the Financial System in the Growth – Inflation Link: The OECD Experience, Banco de Espana Documento de Trabajo No. 9920, 1999; Bassanini, Scarpetta, Hemmings: Economic Growth: The role of Policies and Institutions. Panel Data Evidence from OECD countries, OECD Economic Department Working Paper No. 283, 2001, Beck, Levine, Loayza: Finance and the Sources of Growth, World Bank Working Paper No. 2059, 2000; Demirgüc – Kunt, Levine: Bank-based and Market-based Financial Systems: Cross-country Comparisons, World Bank Working Paper No. 2143, 1999; Leahey, Schich: Contributions of Financial Systems to Growth in OECD Countries, OECD Economics Department Working Paper No. 280, January 2001; Levine, Zervos: Stock Markets, Banks and Economic Growth, American Economic Review No. 88, 1998, pp. 537 – 558; Rousseau, Wachtel: Financial Intermediation and Economic Performance: Historical Evidence from Five Industrialized Countries, Journal of Money, Credit and Banking No. 30, 1998, pp. 657 – 678; Singh, Singh, Weisse: Information Technology, Venture Capital and Stock Market, University of Cambridge Accounting and Finance Discussion Papers No. 00-AF47, 2000; Thiel: Finance and Economic Growth – a Review of Theory and the Available Evidence, Economic Paper No. 158, 2001, ECFIN C3/469/01-EN

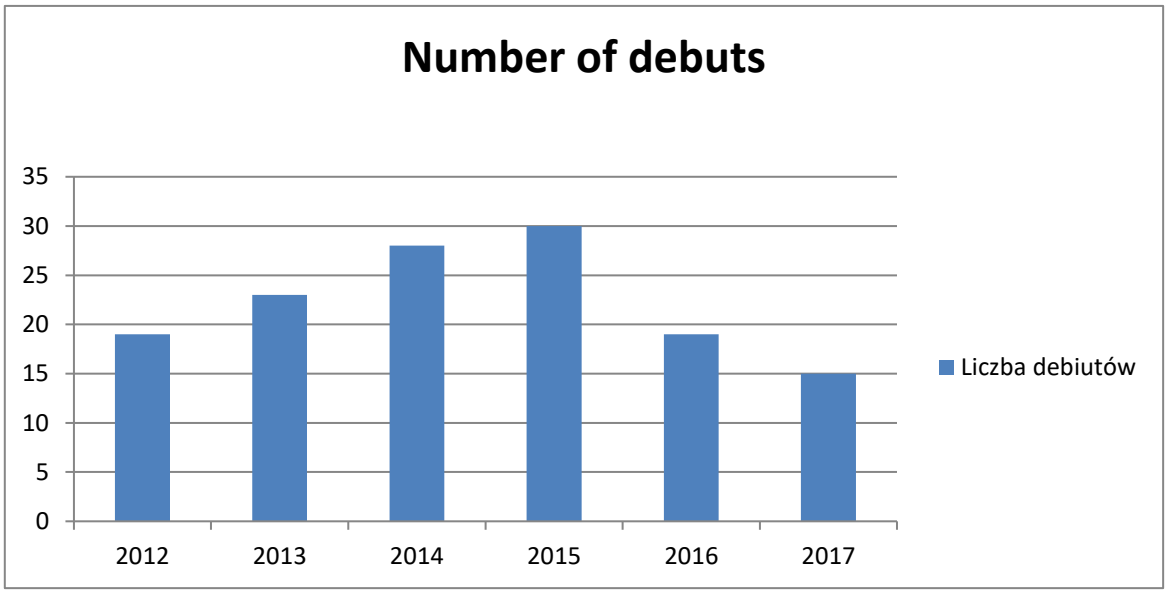
4. IPO market in Poland in 2012-2017

In 2012-2017, there was a certain regress in the IPO market in Poland. It appeared despite a good situation on the international capital market and a favourable macroeconomic environment.

The reasons for the low activity of companies on the public offering market include:

- the stoppage of privatization processes;
- the significance of alternative sources of raising debt capital: cheaper credits, leasing, factoring, bonds, etc.;
- the accessibility of structural funds, particularly the opportunity to finance parts of investments by non-refundable grants;
- an increased accessibility of alternative instruments of debt financing (e.g. online loans) or ownership financing: private equity, venture capital, start-up financing, seed capital funds, investment funds from PFR (previously BGK);

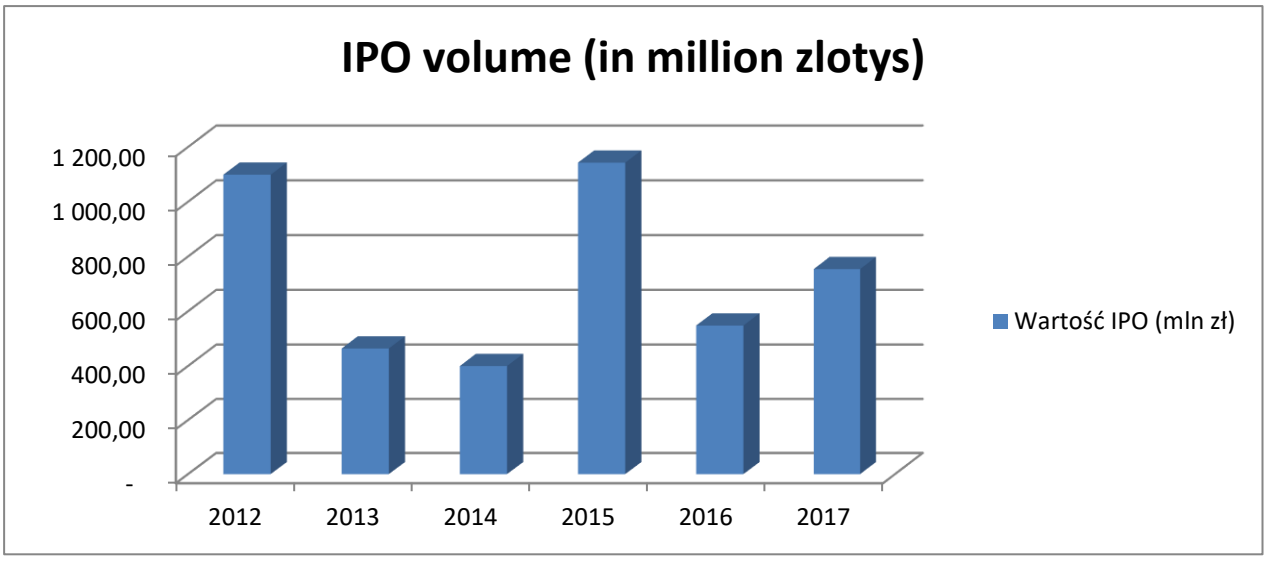
Figure 1. Number of debuts on the Warsaw Stock Exchange in 2012-2017



Source: Warsaw Stock Exchange. www.gpw.pl, Accessed: 21.02.2018

- lower attractiveness of the stock exchange caused by the related costs of financing and excessive information requirements;
- an increasing liability of issuers and member of issuing bodies for the breaches of provisions and regulations resulting from the listed company status.

Figure 2. Volume of IPOs on the Warsaw Stock Exchange in 2010-2017



Source: Warsaw Stock Exchange, www.gpw.pl, (accessed: 21.02.2018)

In the period under analysis, the volume of IPO exceeded 1 bln zlotys only in two years (2012 and 2015). When comparing it with the historic data, the figures are even less favourable as in the record year 2007 the volume of public offering exceeded 18 bln zlotys. What is more, some of the offerings were right issues. In this period, the largest issue was conducted by Alior Bank and its volume was 700 million zlotys. This is not an optimistic situation and leads to questions about such state of things. The reasons for the low volume of offerings include:

- a shrinking base of investors interested in new issues of shares;
- a too low market valuation of shares in relation to the expectations of shareholders and companies themselves;
- selective investors' approach to companies; a significant choice between companies that are already listed; the access to projects on private market;
- a limited number of institutional investors.

Despite low interest rates and negative real interest rates of bank deposits, the influx of funds to the institutions of collective investment is not sufficient. According to the Analizy Online portal, which monitors the influx to the funds, the increase in 2017 amounted to 17 bln zlotys. However, the structure of the influx was unfavourable to the stock market. As regards retail funds, the largest sales were among cash and money funds (+8.2 bln zlotys net). The next on the list were mixed funds (+3.5 bln zlotys) and debt funds (+3.4 bln zlotys). In spite of the boom on the global stock markets, only +0.9 bln zlotys were paid to foreign and Polish retail share funds while in the record 2007 the influx of capital reached approx. 17 bln zlotys the majority of which went to share funds.

5. Can ICO be a remedy for the IPO's crisis?

Blockchain technologies used to be associated by investors and market observers with cryptocurrencies. Many of them became the object of speculations, particularly the most recognizable one, i.e. the bitcoin. Such perception conceals slightly the idea of the technology itself which inherently has several positive qualities. These include a high security level and the independence from intermediaries, institutions and regulators. This technology and its concept may be advantageous in appropriate hands and it may constitute a breakthrough.

The acquisition of financing through venture capital type funds or IPOs is an arduous process. It requires a number of documents, presentations and reports. Only on their basis can a company make an offering to investors. In the case of IPOs, the process is even more complex

as it requires the preparation and confirmation of the prospectus by a supervising body. Thus, an institutional verifier appears which checks the correctness of the presented information. In extreme cases, the prospectus may not be accepted. Obviously, this needs a substantive justification. Nonetheless, the entity itself and the data concerned are subject to verification; such a solution is time-consuming, requires the work of numerous specialists in law, finance and economics and involves high procedural costs.

In the case of the blockchain technology, no platform is necessary to raise funds. Negotiations are not required – anybody, at any time, can raise the necessary capital and invest in projects they wish. In other words, it is an open phenomenon, dispersed and continually liquid.

Raising capital in the blochchain technology has the form of initial coin offering (ICO), i.e. the bitcoin version of IPO. Projects sell tokens in return for such cryptocurrency as the bitcoin or ethereum. The value of a token – at least in theory – is related to its successful sales in the future. Investing in tokens is the investors' way to bid directly on their implementation and value. Blochchain companies can shorten the conventional capital-raising process through ICOs by the sale of tokens directly to individual investors.

Thanks to the fact that blockchain companies have a direct access to financial liquidity through ICO, the blockchain technology creates a new, cryptoeconomics model of financing that detaches the access to capital from traditional financial services.

In this way, a total of $5.6 bln were raised in 2017. In the first half of the year the figure amounted to 1.13 bln and with the growing popularity the ICOs sales in December itself reached as much as $1.21 bln. [11].

As regards blochchain companies, ICOs lead to the following direct benefits[12].

- they are conducted globally and online, which provides companies with the access to a much larger group of investors. The companies are not confined to wealthy individuals, institutions and other entities that are able to prove their credit worthiness to the government;
- they provide companies with an instantaneous access to liquidity. When on sale, the token is evaluated on the global market that is open 24 hrs per day.

[11] Author's research wis based on the report in CB Insights Blockchain Investment Trends in Review, A data-driven deep dive on the evolution of the blockchain landscape — and how VCs, token sales, and consortia are shaping its future.
[12] Ibid.

The drawbacks of this solution are the following[13]:

- the lack of any control or supervision over the transactions. Despite the advantages of the blockchain technology, the transactions are subject to a specific risk;
- the companies that use ICOs to raise capital employ the Internet and social media.

The promotion of particular ICOs is supported increasingly by sports and show business celebrities, whose task is to endorse the attractiveness of the promoted investments. It should be emphasized that ICOs operations may potentially be subject to several legal requirements, including the development of prospectuses and public offering, the development and management of alternative investment funds and the protection of investors; however, they must be assessed individually.

ICOs are a new way of raising funds in public with the application of the so called tokens or coins (further together referred to as tokens). By purchasing a token, the buyer is given particular rights. Individual ICOs may significantly differ from one another as regards their parameters and rights involved, which means that the rights involving the purchase of tokens within a particular ICI are not standardized in any way. The token frequently is like a voucher as the redemption value that is offered by the token issuer is connected with the product or service that the issuer provides. The creation or development of a product or service are secured by the funds acquired from ICOs. Some tokens give rights that reflect such shareholders' rights as the dividend or the right to vote. It happens that they do not represent products with a measurable value.

There is also a lack of uniformity as regards the funds that are raised by ICOs organizers. The most frequent fact is that there is no direct transfer of the means in return for tokens. In most cases the ICOs products are purchased for a particular crypto/virtual currency (e.g. the Bitcoin, Ether).

Campaigns which aim at the sales promotion of tokens are run online and practically everybody who has the access to the Internet can purchase them. A secondary market of tokens is also a common practice where the tokens can be sold on dedicated trading platforms,

Tokens are created and disseminated using Distribution Ledger Technology (DLT).

Depending on the structure, ICOs can operate either beyond the regulations regarding the financial market or may be offered without the required permissions and consequently the buyers may be devoid of the particular legal protection related to the market. As a new

[13] See the KNF Recommendation: https://www.knf.gov.pl/o_nas/komunikaty?articleId=60178&p_id=18

phenomenon and the resulting legal uncertainty, ICOs attract individuals or entities that operate on financial markets without appropriate permissions and have dishonest intentions. Since there are no legal guarantees, the investors should be well aware of the status of the entity that sells the tokens and of the content and effects of the contract they sign when buying them. It cannot be also excluded that some ICOs are conducted to legalize money that comes from illegal or undisclosed sources[14].

The majority of ICOs concerns projects at the early stages of development. Thus, a high risk of failure is involved. Tokens frequently do not represent other value than the right to receive a particular product or service from the issuer. One should be aware of the fact that there is no certainty that the product or service will actually be developed. It may also happen that despite the success of the project, the benefit received may have a significantly low value in comparison to the invested capital and the risk it involved.

It may happen that the information that is accessible to potential buyers in the so called white papers is not verified by an audit and it is unreliable, incomplete or misleading. Usually, the emphasis is laid in benefits and the accompanying risk is not referred to. The presentations of the information tend to be inadequate and practically incomprehensible without advanced technical and economical knowledge. When there is no possibility to understand the risk involving the investment, it is impossible to decide whether the investment suits the needs of the investor.

The trading of tokens or their exchange to state currencies may be subject to restrictions. Not all tokens are traded on virtual currency trading platforms. As a result, the buyers may not have the opportunity to sell them in order to regain the invested capital. What is more, even if a particular token is traded on a trading platform, its rate of exchange may be extremely volatile. This is caused by the fact that numerous trading platforms are not regulated and vulnerable to price manipulation or other unfair activity. Consequently, the buyers may have a limited capacity to sell the token at a fair price.

The technology (DLT/Blockchain) that is used to create and disseminate tokens as well as its actual implementation has not been tested sufficiently. The codes or software which are to create, store and transfer tokens may be faulty and consequently the buyers of tokens may

[14] On 13 November 2013, the European Securities and Markets Authority (ESMA) issued two statements on ICOs to potential invetors and entities involved in ICOs:
https://www.esma.europa.eu/sites/default/files/library/esma50-157-828_ico_statement_firms.pdf
https://www.esma.europa.eu/sites/default/files/library/esma50-157-829_ico_statement_investors.pdf

not have the access to their tokens or may be unable to control them. Moreover, due to the lack of adequate cyber protection, tokens may be stolen, for example in a hacker attack. There is a high risk of problems regarding the efficient and secure functioning of the technology when there is an intensive traffic in the DLT/Blockchain –based network.

Conclusions

The presented above figures reflect a poor condition of the IPO sector on the Polish market in the period under analysis. Despite a favourable market environment, the situation is not improving and one can even speak of increasing negative trends. The reasons for such state of affairs include:

1) A poor supply base of individual investors;
2) A restricted role of institutional investors (a reduced role of the OFE open pension funds which in the previous years constituted a stabilizing factor on the Stock Exchange and were one of the key players on the IPO market);
3) Limited or blocked privatization processes. As a result, large liquid companies, the object of national and foreign investors, are in short supply. The supply of such companies activated the demand. A good example is the public offering of the PKO BP bank which attracted a staggering number of shareholders through special encouragement among individual investors. This is the way to encourage individual shareholders as small companies and insignificant issues will not do it;
4) The overregulation of trading. The trend is that new regulations introduce rigid procedures and increase penalties. The intention is right: the protection of minority investors. However, the effect is contrary to the objective. Numerous private companies which could make the Stock Exchange more powerful stay away from the public market. What is more, there is an outflow of companies from the stock market (the number of companies leaving the Stock Exchange exceeds the number of companies that go public)
5) The market evolves strongly. The range of products that can be used by companies to raise funding is extending. This is proved, among others, by a significant interest in EU funds. Thanks to aid measures, companies can get involved in innovative projects through non-returnable support. Every entrepreneur who is given a choice between a non-returnable grant and a public stock issue with all its consequences will certainly choose the grant. This creates a disadvantageous situation as the stock exchange should

be supplementary to grants. It should provide funds for company's own contribution when realizing innovative projects. Then investors would be able to use these funds indirectly, which would limit the investment risk.

6) The model of saving has changed. Until 2007, the previous boom resulted in the concentration of capital on the market of risky shares. The investments of Polish people were dominated by share funds (mainly of small and medium-sized companies). The slump that was caused by the global crisis after the fall of the Lehman Brothers bank triggered a landslide of losses among the investors who had chosen this model of saving. Consequently, a negative sentiment to the stock market emerged in spite of a long-term boom on global markets and good prospects of national economy. After this experience, investors became interested in assets that are more liquid and secure. Hence the popularity of founds that are considered secure, money and bond funds. If share funds are chosen, absolute return products prevail as they give a potential possibility to earn profits also in the case of a correction or fall on the spot market. Moreover, investing cash in real estate for renting purposes is becoming a new trend. Although this is not the main subject of this article, it is worth mentioning that a significant part of savings has been invested in this way.

In relation to the above considerations a question arises about the improvement of the market or the search for the alternative to Stock Exchange as the financing source of development investment. Here the technology comes as the support. The Blockchain technology is the invention of the latest years (or perhaps even months). The concept seems basically correct. It combines technological security and decentralization. On the other hand, it is dangerous as it becomes a field of abuse and profiteering. It seems, however, that certain changes are irreversible and sooner or later they will change the capital market. According to the author, the following changes will occur:

1) Decentralization of the market. A limited role of institutions, particularly of intermediaries. This will be beneficial to investors and will facilitate their operations on the global market.
2) The decrease in the number of regulations. At present, the securities market aims at the increase of regulations and controls. This results from the desire to strengthen the protection of individual investors and to decrease the abuse in securities market or money laundering. Consequently, overregulation occurs, which kills trading. The ideal

situation is when the market regulates itself. Obviously, this is impossible in practice. The temptation of easy profits will always attract people or entities that will try to bend the rules to achieve their goals. Nevertheless, measures should be taken to create procedures and rules to civilize the market. E-commerce markets are a good example. In spite of direct trade and fairly simple rules, fraud is marginal here and does not influence negatively the stability of the whole market growth.

3) The elimination of superfluous operations. Thanks to the blockchain technology, some operations were practically eradicated. Transfer and transaction commissions and the like used to be a significant burden to the operations.
4) The pace of operations. Traditional IPOs are time-consuming. It takes even one year from the decision on public emission and the inflow of the funds to the issuer's account. When ICO technologies are used, the process may last a few days. In times of quick changes such operations are advantageous and allow for prompt reactions to the fast changing environment.
5) The dissemination of financial products. The technology enables the development of real public shareholding or even a kind of shareholders' community. This is practically impossible in a traditional model. The only opportunity when shareholders can meet are AGMs which take place once or a few times a year. Thus, the influence of shareholders on the company and its operations is purely illusory. The introduction of solutions like ICO may be an advantage and may result in the development of a new type of a shareholder who participates actively in the life of company or at least attempts to determine its development trends.

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Abstract

Blochchain technologies have numerous advantages but even more disadvantages. It is justified that regulators make attempts to protect shareholders and investors against these drawbacks and make them aware of the risk of investing in these innovative but dangerous tools. However, certain directions of changes have been made that cannot be stopped. In the long run it will be impossible to maintain the public offering market in its present shape as it may become unattractive, too expensive and complicated for investors.