The theory of crowdfunding and its development in the Visegrad countries

Introduction

Many entrepreneurs look for financing of their businesses, but have difficulties with the access to the capital. Some of companies will use traditional sources of financing, but many of them (mainly smaller or newly born) do not have full access to some forms of financing. They are not known on the market, do not have a credit history, nor have sufficient assets and capital to cover the credit risk. On the other hand there are sources addressed mainly to them. They use internal sources or external ones like private equity, venture capital, business angels, or crowdfunding (CF), which are, however, accessible to limited number of entrepreneurs, having new unconventional ideas and innovations. Using the concept of M.E. Porter innovations may be understood as: new technologies, methods of production, products, innovative approach to marketing, which create competitive advantages of certain sectors in the economy (Porter, 1990, pp. 69–71). In terms of market changes a trend of setting new companies with the use of traditional channels of financing becomes a big challenge, what determines CF development. Nowadays the enormous competition in sectors becomes a big challenge for investors. Thus, the new mechanism has been observed: a possibility to access the immediate feedback from the potential customers. If the first reaction is positive, people can invest even small amounts online. This is how CF becomes a strong step for new business to raise funds and proves the ideas before reaching out to investors.

There are two aims of this paper. The first one is to explore CF as the alternative to traditional instruments, its background, history and types of platforms. The second aim is to find the potential relations between:

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1) age of population, what may explain the potential willingness of investment in new technologies, using the new methods, basing on social media or online applications, 2) the welfare of the countries, measured by GDP *per capita* what may influence generosity, 3) availability of CF. The objectives are related to the thesis: the CF level grows in the countries with higher GDP *per capita* and younger age structure of the population.

The analysis was made on the example of the V4 countries: the Czech Republic, Hungary, Poland and Slovak Republic, who share the history, the EU accession, similar mindset and trust within the region (Beauchamp, Skala, 2017, p. 6). Giving a perspective of changes in different terms of economy, the period of 2006–2016 was taken into account. The authors used mainly descriptive statistics as a method of analysis and international desk research findings. The analysis was based on data and statistics provided by Eurostat and World Bank.

1. Crowdfunding as the alternative method of financing

The smallest and newly born companies have a particular situation regarding their access to financing, what is the most important limitation to their growth (de Mel, McKenzie, Woodruff, 2011, pp. 456–485). They have limited or even restricted access to some forms of financing like long-term bank loans and issue of shares or bonds. The most important source of financing for them is equity capital. Start-ups may apply for short-term bank credits (overdrafts) however it may be difficult to obtain and expensive for them. The alternative ways of collecting the financial means for providing business activity include financing offered by private equity funds (PE), venture capital (VC), business angels (BAs) and crowdfunding platforms (CF). PE funds provide capital to the enterprises not listed on the stock exchange, which develop new products or services, expand working capital, assist in a privatization, a merger or an acquisition. VC concerns financial support of an emerging or existing company, in the area of new technologies (ICT, cleantech, biotechnology, life sciences, media, etc.) aiming at increase the market value of the company and subsequent sale of shares to another investor with a significant profit.

BAs, as the individual investors, invest their own funds in the start-up or the early stages of development. They focus on sharing experience, exceptional know-how and help to grow the start-up's network of business contacts, what as a result, leads to the development and higher profits.

CF enables collecting money for the exact goal through the online tools (CF platforms) where fundraisers may start the project and raise money. CF relates to recent changes in the economic landscape and exposed and intensified phenomenon: an explosion in sharing, bartering, lending, trading, renting, gifting, and swapping (Botsman, Rogers, 2010, p. 29).

2. Theoretical background of crowdfunding and research methodology

The theories of innovation and entrepreneurship are the background of CF. Basing to J.A. Schumpeter's approach innovations are the main cause of economic development. Due to the fact that innovations appear irregularly, the economy is continuously disturbing from existing equilibrium and moves to another point of equilibrium (Jain, Malhorta, 2009, pp. 127–129; Schumpeter, 2004, p. 66). The great merit of J.A. Schumpeter is the awareness that innovations create a monopoly resulting from the ability to satisfy the needs on the market in the better way than the others. This advantage lasts till the moment when another new innovation appears on the market and will be ready to satisfy the needs even better (Schumpeter, 2004, p. 66).

J.A. Schumpeter viewed entrepreneurship as a force of "creative destruction". The core of an entrepreneur is to create 5 different types of innovations: introduction of a new good – that is one with which consumers are not yet familiar – or a new quality of a good, introduction of a new method of production, opening of a new market, the conquest of a new source of supply of raw materials or half-manufactured goods and the carrying out of a new organization of any industry (Schumpeter, 2004, p. 66). He distinguished also a new important group of entrepreneurs – the innovator-entrepreneurs. They are able to implement changes due to inventions and discoveries. On the other hand a pioneer is a person,

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who brings innovation to the economy. He is an individual endowed with specific traits: having creative passion and desire to fight, win and gain.

The approach of J.A. Schumpeter was continued by many economists. Their discussions contributed to the development of new theories called neo-technological theories (theory of technological gap, theory of product cycles, theory of scale of production and sale advantage). They referred to the crucial role of technological progress and innovation, and have emphasized the relationship between the development and international trade directions and intensity.

It is worth to mention the theory of technological gap invented by M.V. Posner. He highlighted the opportunities for the development of trade through different levels of technical knowledge between countries. Posner distinguished two important groups of entrepreneurs: innovators and imitators. Innovators create new products and technologies, while imitators take over the solutions found in other countries, and thanks to cheaper production factors can also become competitive on the market. International absolute competitive advantage can be achieved by the country (or by the companies present on this market), which is characterized by a high level of creativity and innovation and possible only under certain conditions. Other countries may only imitate this country and entrepreneurs in a more or less successful way (Posner, 1961, pp. 323–341).

3. The background and history of crowdfunding

The innovation is a key to success. People understand that only sharing the resources and contributing in other's businesses will make the visible change. This is how the sharing economy started to be a global mainstream, allowing CF to become an alternative way to finance small businesses. This approach represents a fundamental change giving the possibility to finance the business within only few hours (Steinberg, De-Maria, 2012, p. 2).

CF is very attractive to the business. It is possible to raise enough funds, at the same time allowing the market to test the idea. The key to success is to convince as many people as possible to invest even small amounts since that brings the power of the financial support.

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Although crowdfunding is only a few-years old term, the mechanism was used before it was named and defined. Long before the Internet was invented, there were systems allowing people lending money to each other, gathering funds for one goal or donating small amounts to others who needed them most. According to Hollis and Sweetman (1996), the beginning of CF is said to begin in 1700s, when Dean Jonathan Swift started the Irish Loan Fund that delivered loans to low-income people in rural areas. By the 1800s, more than 300 programs throughout Ireland were loaning small amounts of money for short periods of time (Clark, 2011). The fundamentals of modern microfinance were made by dr. Mohammad Yunus, who launched in 1976 a research project in Bangladesh. He introduced a mechanism which granted low-income people the banking opportunities and, as a first, focused on lending money to the poorest. Within five years, the program had over 30,000 members, and in 1983, the program transformed into Grameen Bank. Dr. Yunus, a pioneer of social business, was awarded a Nobel Peace Prize in 2006 for efforts in economic and social development together with Grameen Bank (The Nobel Peace Prize, 2006).

One of the first projects of what today we call CF was made in 1997, when the rock band Marillion was funded with more than 60,000 USD by its fans what allowed a US tour. Following that success, Marillion raised money for their album and become independent from the record label (Pledgemusic, 2017). With Internet getting more accessible there were new websites coming to life, making CF popular. A first platform ArtistShare was founded in 2001 and started its first project in 2003 (ArtistShare, 2017). Following this success, microlending platforms and peer-to-peer marketplaces were founded. The most popular platforms were initiated later: Indiegogo.com in 2008 and younger but more popular Kickstarter.com started in 2009. The term "crowdfunding" was first used by Michael Sullivan in its FundaVlog in 2006 (Dziuba, 2015, p. 9).

4. Definitions of crowdfunding

Crowdfunding is an innovative tool that have the potential to transform the financial system (European Commission, 2016, p. 31). The mechanism

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of CF is intuitive and understood. When it comes to the definition, every author explains the mechanism focusing on different aspects of the tool. CF refers to ability to attain funding from large audiences, when each individual provides a rather small amount of money, as an alternative of gathering a large sum from one minor and sophisticated investor, online, without standard financial intermediaries (Mollick, 2014, pp. 2–4). European Crowdfunding Network names CF a collective effort of many individuals who network and pool their resources to support efforts initiated by other people or organizations. This is usually done via or with the help of the Internet. Individual projects and businesses are financed with small contributions from a large number of individuals, allowing innovators, entrepreneurs and business owners to utilize their social networks to raise capital (Tordera, 2012).

No matter what the approach to a definition is, it is possible to name the fundamentals of every definition: Internet, project's goal and financial target, support of the crowd and the returns also known as perks or prizes. If there is no Internet, CF wouldn't exist. It is thanks to the online tools (CF platforms) that fundraisers may start the project and raise money. In majority of cases the existing platforms are used. Their main goal is to connect people (the crowd) with the entrepreneur (the initiator of the project). If a fundraiser decides on doing a CF campaign alone, one may start its own platform and do self-crowdfunding as well.¹

Fundraiser should consider collecting money for the exact goal (publishing a book, organizing an event etc.). Only in such case people will be able to identify themselves with the project. Additionally, the financial threshold is to be reached within limited time. The fundraiser needs to define how much money is needed to be raised to realize the project. One will get the money only if the threshold is reached within a given time. Otherwise, the money will be given back to all the investors or supporters. A big group of individuals contributing small amounts of money

¹ It is possible to launch the own CF platform (only for a project or a business) even with just "one click". As an example, www.selfstarter.us (27.12.2016) is an open source starting point for building own and ad-hoc CF platform. This is an option for someone who knows how to code the website.

is crucial, rather than a big player paying all in one tranche. This is the essence of the mechanism: many people paying small amounts together do something big.

Finally, the key CF component is financial or non-financial return. In the most popular model of CF, donators will receive chosen perks (which depend on the money donated). In the equity model, investors will receive shares of the company.

5. Types of crowdfunding platforms

CF platforms are websites designed to enable interaction between fundraisers and the crowd willing to donate money. They allow to pledge and collect money without a need for a fundraiser to create its own mechanism. The types of online alternative financing as well as examples of platforms are presented in Table 1. Majority of the platforms work on all-or-nothing model. It means that an initiator of the project needs to raise 100% or more of a financing goal to get the money, otherwise all the funds will be given back to the supporting individuals. CF is used in every business branch, but it is not enough to show the idea to the crowd. Only well prepared campaigns will have chances to reach a goal.

Table 1

Available online alternative financing platforms with definitions and examples

Type of the online alternative financing	Definition	Examples
1	2	3
Reward-based crowdfunding	a crowd donating to a project or business, with non-financial rewards in exchange for the contributions (i.e. for contributing of USD X, one receives a book)	Kickstarter.com Indiegogo.com
Donation-based crowdfunding	a crowd donating smaller amounts to finance a specific charitable project; individuals will not receive any financial or material return	JustGiving.com FirstGiving.com Philanthroper.org

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1	2	3
Investment-based	companies are issuing equity or debt instruments	Crowdcube.com
crowdfunding	to the crowd-investors:	Beesfund.com
	 when crowd invests in equity it is "equity crowdfunding", 	
	when a company is issuing i.e. bonds it is debt- based crowdfunding,	
	there is also a type including sharing future profits or revenues of the company named profit-sharing/revenue-sharing crowdfunding	
Lending-based crowdfunding	lending money from the crowd, to be paid back with an interest; instead of borrowing from the	Kiva.org Kokos.pl
	bank, one borrows from many individual inves- tors; this type is also called a peer-to-peer lending or marketplace lending	
Invoice trading crowdfunding	the business sell unpaid invoices or receivables to a group of investors	Platformblack.com Invoicefair.com
Hybrid models	the model which offers a combination of different elements of crowdfunding's types	FinanceUtile.com P2Pfinancial.ca Rockthepost.com

Source: own elaboration basen on European Commission Terminology (2016).

In V4 countries the most popular are reward-based and donation-based CF platforms. Equity CF is a very new model and just in 2016 it started to be important (Zhang et al., 2016, p. 73). It is growing all over the world very quickly. CF investments in 2015 were: North America 17.25 bn USD, Asia 10.54 bn USD, Europe 6.48 bn USD, South America 85.74 mln USD, Oceania 68.8 mln USD, Africa 24.16 mln USD (Massolution, 2015).

6. Benefits and advantages of crowdfunding vs. drawbacks and risks

CF has experienced a rapid growth of popularity since its formation in early 2000's. After the first big successful projects, it has attracted many creative authors and people interested in funding useful and innovative undertakings and initiatives, due to the numerous benefits of this tool for all the users.

The advantages of CF extent beyond the capital raised, and include access to valuable and appropriate feedback towards proposed concept,

proof of project validity, along with direct communication with probable partners (clients, media, funders, etc.) (Mollick, Kuppuswamy, 2014). One of the advantages, resulting from the online nature of CF, is a wide access to the campaign due to globalisation and unvisible barriers in the online world. Establishing micro-lending practices take local character as a given feature, however, participants need to be able to run geographically neighboring social networks due to such processes like monitoring, governance, and social sanction. The trend toward a boundary-less approach to investment is evident (Finance and Private Sector Development Department, 2013), but still on the contrary to investor sentiment and home bias in larger scale investment.

Due to necessity of convincing the potential contributors to generate money in virtual reality, the CF process requires honesty and transparency. CF platform allows investors to investigate several potential investments at the websites at one time and to control whether a company or a single idea fits the investors' portfolio, strategy, risk profile or other determinants of investment. Similarly to venture capital investment, CF investors may choose donation-based CF platforms to have opportunities for investments in innovative companies and products (Finance and Private Sector Development Department, 2013).

One of the biggest privileges is the possibility to discover a product's practicality and to check the decisions made by early adopters. This is a market research of a low cost and low entry barriers that opens a possibility to attract other investors. Once the originator of the project has proved the need for its idea on the market, the BA, VC and PE investors might be more willing to invest in the next phase. Wide variety of successful projects and many financial and non-financial benefits of CF seem to be an ideal mechanism for new initiatives and undertakings.

No matter how great it may sound, there are disadvantages of CF as well. Project originators have to realize that CF takes time and requires a well-prepared campaign strategy. They have to be conscious that almost certainly they will have to expense a lot of work and involvement and the whole process will require enthusiasm and strong belief in their idea.

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CF is a very innovative mechanism, however, law and supervision have not had time to adjust to a new tool. Although European Commission looks into best practices and gives recommendations on different aspects, the majority of the countries use the existing regulations, which often make it challenging for the fundraisers. In 2013 the open consultation on CF in the European Union started to be followed by the recommendations for the CF business models (European Commission, 2013). Nevertheless, the law change is yet to come. Finally, even the most acclaimed projects are not prejudged to succeed. Creating a project that gathers respectable opinions and is popular among the CF society is only half of the success. What really determines the chances for finalization is the amount of money people are willing to contribute and the time it takes to collect it.

7. The welfare and population structure of V4 countries

The welfare of population seems to be an important factor determining growth in the level of investment, generating donations, the aspiration to invest in advanced products and services. There are used many measures of welfare, more unified or multidimensional. The authors analysed the progression of GDP per capita in V4 countries in terms of a 10-year-old trend. In Figure 1 it is seen the rising trend of GDP per capita in the period of 2006–2016. All the countries were characterised by the volume of GDP per capita higher than 15,000 USD per person at the beginning of the analysis period. The highest initial level in 2006 was observed in the Czech Republic, 24,400.73 USD per one inhabitant, together with Hungary and Slovak Republic balancing around the level of 18,000 USD per person (Hungary 18,663.75 USD and Slovak Republic 18,866.24 USD). The lowest GDP per capita was noticed in Poland with 15,209.22 USD per person. The country with the highest dynamics of growth was Poland (almost 183% from 2006 to 2016), the medium dynamics was observed in Slovak Republik and the lowest one in the Czech Republic and Hungary (adequately 142%).

The country which was outstanding, concerning the rise of GDP *per capita*, was the Czech Republic. It was the leader either at the beginning

of the period of analysis and at the end, in 2016 (34,711.28 USD), while Hungary, Poland and Slovak Republic differed concerning the data. The Czech Republic achieved in 2016 the level 13% higher than Slovak Republic (30,631.95 USD), almost 25% higher than Poland (27,810.52 USD) and 30% higher than Hungary (26,680.59 USD). While the Czech Republic was a leader in terms of GDP *per capita* in Visegrad Group, Hungary and Slovak Republic were developing simultaneously in 2006–2016. In 2006–2011 Poland was the poorest country of V4 Group. In Hungary it was observed the slowdown in 2011–2012 and it ceased to exceed the level of Poland since then. All the countries still climbed up in the scale of GDP *per capita*, some reaching 30,000 USD in 2013 (the Czech Republic 30,198.45 USD) and 2016 (Slovak Republic 30,631.95 USD), or 26,000 (Poland 26,260 USD, Hungary 25,279 USD).

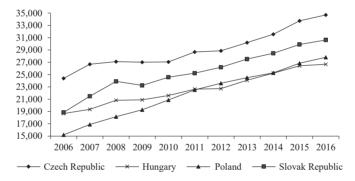


Figure 1. GDP *per capita* in the Visegrad countries (the Czech Republic, Hungary, Poland, Slovak Republic) (PPP, current international USD) in 2006–2016

Source: own elaboration based on database of World Development Indicators.

Four analysed countries differ concerning the size of population. Basing on Eurostat data, on the 1st of January 2017 there were 37.973 mln people in Poland², 10.579 mln in the Czech Republic, 9.798 mln in

² Central Statistical Office of Poland declares that at the end of 2016 in Poland there were 38.433 mln people.

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Hungary, and 5.435 mln in Slovak Republic (Eurostat, 2016). Comparison of population age structure by three major age groups in 2006 and 2016 was presented in Table 2.

Table 2
Population age structure by major age groups, 2006 and 2016
(% of the total population)

	0–19		20–34		35–64		65 and more	
	2006	2016	2006	2016	2006	2016	2006	2016
Czech Republic	21.0	19.7	23.5	19.1	41.1	42.8	14.2	18.3
Hungary	21.6	19.6	22.6	19.0	40.0	43.2	15.8	18.3
Poland	23.7	20.2	24.0	22.0	38.8	42.0	13.3	16.0
Slovak Republic	24.2	20.6	24.9	21.8	39.1	43.0	11.8	14.4

Source: own elaboration based on Eurostat.

It should be highlighted that in all countries there are less young people (0 to 19 years old) and less persons considered to be of early working age (20–34) in 2016 comparing to the situation 10 years earlier. It is also important to notice that the smallest decrease of people at the age 0–19 was in the Czech Republic and Hungary (6% and 9%, respectively), while the largest one was observed in Poland and Slovak Republic (both 15%). Taking into consideration the group of people 20–34 years old, the best situation was in Poland where the decrease was the lowest – 8%. In the rest of analysed countries the decrease was higher that 10% (in the Czech Republic – 19%, Hungary – 16% and in Slovak Republic – 12%). Moreover, in every analysed country now-a-days there are more persons at the age 35–64 and older persons (aged 65 or over) than 10 years ago.

8. Crowdfunding development in V4 countries

Since CF is still a new method of financing, there are only few reports presenting the scale of investments, but the aggregated volumes are not yet available for all V4 countries. That is why it was decided to take only the number of CF platforms which show the trend of the mechanism. The authors didn't focus on the amount invested but made the assumption

that the more platforms there are created on the market, the more interest and projects they should attract. Following this statement, the trend can be very well visible in Poland, where in the years 2011–2014 more platforms were created, allowing entrepreneurs to finance their projects or companies with crowd participation. As a result of difficult access to the alternative investments, lower volumes being invested and more companies created every year, a trend of establishing CF platforms can be observed (Figure 2).

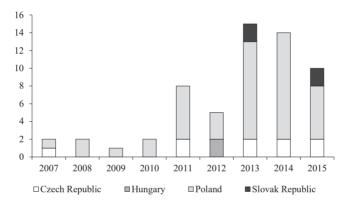


Figure 2. Number of created CF platforms in V4 countries (2007–2015) Source: own elaboration based on Internet research and Dziuba (2015), pp. 115–184.

The biggest number of CF platforms was created in 2013, when there were 2 new in the Czech Republic and 2 in Slovak Republic, followed by Poland with 11 new CF websites. There were more platforms established in Poland (12) and also 2 new in Slovak Republic in 2014. In 2015 there were 10 platforms created (6 in Poland, 2 in the Czech Republic and 2 in Slovakia). The educational process and attracting new projects take time, so this may be a reason behind lower number in the last analysed year. In V4 countries CF became more popular in 2013, but first platforms were already created in 2007 (1 in Poland). Among all 4 countries Hungary and Slovak Republic are not developing that fast in this area (2 CF platforms and 4 created respectively). In the Czech Republic the

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constant number is observed (2 platforms every year) and there is a dynamic change every year in Poland. The survival rate of this online tool is worth to consider in the further research.

It is worth to underline that in the V4 countries these are individuals and startups who finance ideas or businesses using CF. According to the newest findings, reward-based CF is second most popular model chosen in Poland and the Czech Republic (Zhang et al., 2016). Lack of aggregated data of CF volumes in the V4 makes it difficult to show the increase of investments. On the other hand, the CEE CF investments are growing very dynamic: 2013 ended with EUR 11 mln invested, 2014 represented a growth rate of 191% raising to EUR 33 mln and EUR 89 mln in 2015 (Zhang et al., 2016, p. 72). Knowing that the V4 countries have a great impact on entire CEE, authors made the assumption that CF investment volumes in analysed countries show the similar trend.

Conclusions

After analysing the factors, being the subject of this article, the following conclusions conferring the theses may be assumed. The biggest number of CF platforms were noted in Poland (followed by Czechia, Slovak Republic and Hungary), what might prove that GDP *per capita* does not seem to be the most important determinant of CF development, assuming that the highest GDP *per capita* was observed in the Czech Republic and Slovak Republic.

Along with the thesis, CF is growing in the V4 countries with younger population. While analysing the number of the young people at the age of 0–34 in the perspective of a decade, it can be said that there are less habitants in every country. Better situation is observed in Poland, where the decrease of people at the early working age (20–34) has been the smallest. In this respect, Poland may be perceived as a country of high dynamics of alternative development due to some reasons, which are: the structure of population and the biggest number of created CF platforms. The Czech Republic, as the country of the highest GDP *per capita*, and Slovak Republic, having a similar structure of population to Poland, were more resistant to the changes in structure of financing.

Hungary remained at the last place of V4 countries. Although its GDP *per capita* was growing and the population structure was similar to the other countries, the will to alternative investments was not observed.

Following the growing trend of CF investments in the CEE, the same tendency will be observed in V4 countries, since they are the important part of the region. The authors are aware that it is not only the number of platforms which makes the CF developed in the country, but the volume of investments as well. Since there are no aggregated data for the V4 volumes it can be assumed that the more platforms exist the biggest investments will be done.

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Summary. The study is attempt to identify crowdfunding (CF) as the potential alternative to traditional instruments and explore its background, history and types of platforms. The aim of the study is to examine if the structure of population and the welfare of the countries are related to the availability of CF. The research is dedicated to the Visegrad countries (V4) in the period of 2006–2016. The analysis was based on data and statistics provided by Eurostat and World Bank. The authors used mainly descriptive statistics as a method of analysis and international desk research findings. The results show that CF stimulates innovation, however, there was not found direct relation between growth of GDP *per capita* and CF development measured by number of CF platforms in analysed countries. The number of CF platforms grew, however, in the V4 countries with relatively younger population.

Keywords: crowdfunding, financing, CEE, V4

JEL classification: L26, M13, O16, O52

Istota i rozwój crowdfundingu w krajach wyszehradzkich

Streszczenie. Cele artykułu obejmują zbadanie potencjalnych relacji pomiędzy strukturą wiekową populacji, dobrobytem krajów i dostępnością źródeł finansowania przez crowdfunding (CF) jako alternatywnego pozyskiwania funduszy w stosunku do sposobów tradycyjnie wykorzystywanych (jak np. kredyt bankowy czy emisja akcji lub obligacji). Na tym tle opisano również historię i uwarunkowania CF. Analiza dotyczy krajów wyszehradzkich (V4) w latach 2006–2016. Do przygotowania artykułu wykorzystano metodę statystyki opisowej oraz wyniki międzynarodowych badań pierwotnych i wtórnych, w tym dane i statystyki publikowane przez Eurostat i Bank Światowy. Stwierdzono, że CF stymuluje innowacje, jednakże nie zauważono powiązania między rosnącym PKB na mieszkańca a rozwojem CF mierzonym liczbą platform w badanych krajach. Liczba platform CF rosła jednak w krajach V4 o relatywnie młodszej populacji.

Slowa kluczowe: crowdfunding, finansowanie, Europa Środkowa i Wschodnia, V4

Klasyfikacja JEL: L26, M13, O16, O52