

DILEMMA OF DIRECTIONS FOR REINVESTMENT

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ABSTRACT

Successful entrepreneurial activity is mostly connected with added value creation. This activity simply means that each process generates a profit to increase the financial value of the company. The next step, from the financial point of view, is to make decisions on how to properly reinvest the profit generated to positively influence the company in the future. This study investigates the factors that have the potential to affect profit reinvestment decisions based on primary research on 238 business entities in the Czech Republic. Using primary data collection, it was possible to explain the main motives, such as payback period or extra benefit from reinvestment, as the most significant factor influencing reinvestment direction. Finally, the average reinvestment percentage rate is very low (20%), when the recommended value is mostly about 64%. Surprisingly, factors such as age, gender or competitive advantage were confirmed to be statistically non-significant. Finally, this article suggests future directions for the development of portfolio models.

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Introduction

Every entrepreneur or researcher knows, and economic theory also states, that the primary goal of a business is to maximise profits, as Baumol and Blinder assume in their *Principles of Economic Policy* (2016). However, according to Veber and Šrpová (2012), there are other kinds of success in business: for example, creativity that helps to develop the direction of the company, an initiative that is very important in ensuring the company does not stand still in today's dynamic economy, and also the activity connected with "returns to entrepreneurship" which is supported by other studies (Astebro, 2010; Astebro and Chen, 2014; Berkhout et al., 2016; van Praag and Raknerud, 2017). Reinvestments are com-

monly associated with the behaviour of joint stock companies when the general company meeting determines the direction of profit from previous investments. These financial flows can take many paths, but do not always go back into the business. The research gap was found in case of a business dilemma pertaining to where this profit should be directed to best have a significant impact on the development, direction, and the future of the company. Given this fact the main goal of the paper is to discern typical groups of factors which affect the reinvestment process according to the main groups of reinvestment possibilities such as marketing, R&D, human resources or technology development.

1. Literature review

One of the basic principles of business is sustainable business development, which is reflected in all business decisions that are made in a functional enterprise. The distribution of revenues, the acquisition of financial resources, investment or reinvestment, the ability to create value and thus to create a successful business in the long term, all go into making a good enterprise (Režňáková, 2012). However, for long-term success, the money that an entrepreneur has earned from doing business needs to be reused wisely, because however important it is that the entrepreneur is busy now, it is more important to have a prosperous long-term business that stands the test of time.

According to economic theories, people should behave rationally in accordance with the spirit of capitalism. From the point of view of the selected topic in this article, this is behaviour related to avoiding the uncontrolled spending of profit, which is supported by the theory of reinvesting profits and accumulating capital (Lane, 2007). This approach to entrepreneurship is supported by Czech statistical data, where up to 70% of companies will end their commercial activity in the first year of business, and up to 90% of entrepreneurs will end their commercial activity within five years of establishing the business (Srpová and Řehoř, 2010).

The concept of investment and reinvestment is linked to the issue of investing profits in the business once again. Investments are sometimes characterised as deferred consumption. Reinvestment is therefore the reinvestment of part of the company's profits into the same company with the expectation of attaining higher profits in the longer term. Synek (2007) divided this into three areas (financial, tangible and intangible investments). This investment (reinvestment) has its own risks, so it is sensible to diversify and reinvest in

different areas of business. The company may invest in many different business activities. This is determined by the type of company, especially with regards to innovation potential or the long-term strategy of the company. Reinvestments are typically mostly implemented in the areas of science and research and human resources, thereby attracting new employees in order to develop innovation, which makes the company more profitable or competitive (Hanusch and Pyka, 2007; Chakravarty and Xiang, 2011).

Lazonick (2014) has been involved in the decision-making process related to the redistribution of the resources of large American companies for three decades. In his article, the author mentions a trend that spans the period from the end of World War II to the end of the 1970s, where companies tried to maintain and reinvest the allocated resources. Companies tended to retain business earnings and reinvest them in improving their skills, especially when it came to their employees. In this way, companies tried to increase competitiveness. An example of such investment or reinvestment is an increase in employee wages, which should lead to stable and fair economic growth; the author calls this sustainable prosperity.

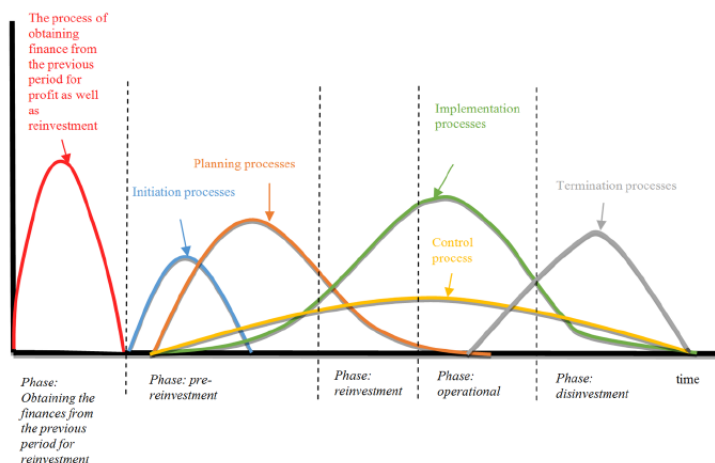
Deciding on the direction of these financial flows is difficult, as the fact that there is a problem choosing a suitable, future-oriented portfolio has long been known. The right portfolio is precisely the document that helps at the strategic level in deciding the direction of both cash and the future direction of the company, as stated by Ronyas-tra et al., (2015). This decision also entails a certain degree of uncertainty in the form of the loss of the invested funds, for example in the form of future uncertain conditions of the investment. In this regard, Shakshi-Niaei et al., (2011) also commented that

a relatively small amount of attention has been paid to this part of the investment process. This decision is closely related to what influences a person, both rationally and psychologically, whereby either the top management or the company owner defines his more or less rational decision on the portfolio (McCarthy et al., 1993).

Business profit is usually limited in two main ways. The first is that entrepreneurs do not have enough regular customers to generate sustainable profit. The second is a limitation of enterprise capacity, which restricts the amount of orders and the company's ability to accept more. Reinvestment could be a solution to both these problems. Companies can provide earned money (in the form of reinvestments) for employees, machinery, research and development and appropriate promotion. The fact that reinvestment should help a company to support handling orders can be a key element in acquiring a different business dimension. When the company reinvests profits in itself, the money is usually used for research and development, debt repayment, or possibly as net cash

flow from investment activities, all of which makes for a stronger and more competitive company. By contrast, for a joint stock company, the typical procedure is that a firm pays out dividends to shareholders, increases such dividends or buys back its shares, but the company does not grow. Such companies do not enjoy a competitive advantage and do not move towards higher goals and long-term prosperity in today's highly open and competitive market. Internal reinvestment supports growth from within and has a greater and more stable positive impact on corporate shares than the distribution of profits to shareholders, as discussed previously. By contrast, companies driven by the distribution of profit to shareholders are often at the peak of their market potential and can no longer grow through organic (internal) growth (Hall et al., 2004). When a company distributes profits to shareholders, it may lose support from investors who want the company to grow or take the lead in a different corporate direction. Reinvestment processes are illustrated in Figure 1.

Figure 1. Reinvestment processes



Source: Own elaboration based on Scholleová, 2009.

The process above is only indicative, but it is necessary to mention that individual steps in the company are not taken separately, but result from a continuous decision-making process in which several phases occur simultaneously, as can be seen in Figure 1. The process can be divided into five basic phases, as every correct process is a reinvestment process associated with the final check, so the entire process has six parts in all.

When it comes to the process of reinvestment, we must discuss the zero phase, as it includes a successful investment process ending with profit, which can be reinvested. This creates reinvestments, but the exact identification thereof is very difficult (it may be even impossible). This item is important not only for entrepreneurs, but also for banks and insurance companies. However, we are only at the beginning of this process. The first part of the process can be called reinvestment – a decision that profit from previous business activities will be returned to the company in the form of reinvestment. We may label the second part the pre-reinvestment phase – this phase has three parts. This includes the identification of projects which are the aim of this phase, i.e. to find potentially feasible projects (achieving the objectives of reinvestment, ideally using the SMART rule). If the company has more than one project, the next step in selecting the right project(s) is to select such projects realistically (without emotion) and to evaluate the projects using the proper methodology. After managers make their decisions on the advantages and disadvantages of individual projects, it is time for the next phase. After the evaluation and decision-making stages, the aim of the next phase is to choose those projects that will be applicable in real terms from the already selected projects, and obviously the calculation of the return on individual projects.

Next comes the investment phase, which includes the company or the implementation team and will ensure the conditions for the successful commencement of the reinvestment process. The next stage is operational – this phase ensures reinvestments and an eventual response to new conditions and barriers to reinvestment. The penultimate phase is the disinvestment phase, which includes the termination phase at a given stage of reinvestment. The last, but certainly not an irrelevant, phase is the Post-Reinvestment Audit, which is not closely linked to the entire reinvestment process, but this phase is important for decision making and the management of other similar reinvestments in the enterprise; it is a retrospective evaluation of reinvestment, not only in terms of economic returns but also the level of achievement of goals under the given conditions. This evaluation phase is important, not only for a current assessment, but in the sense that lessons can be “learned” from the situation in terms of decision making. Dammon and Spatt (1992) state that the redemption of the company's shares by current shareholders through their profits may also be part of the firm's reinvestment plans, and thus this cycle closes without disturbing external influences in the form of foreign shareholders.

A functioning financial system (the system is currently set up in the country, is suitable for businesses and is sustainable from a long-term perspective) in each country is important for reinvestments. A limited use of external finance by companies not only includes a lack of business loan supply, but also a lack of loan demand and other problems in accessing financial resources (Johnson et al., 1999; Cull and Xu, 2005). The rate of reinvestment may vary, depending both on the strategic plan of the company and on the area of reinvestment so the optimum reinvestment rate is different:

financial advisors generally recommend 64% of reinvestments, whereas reinvestment in engineering is recommended to be below 20% (Walker et al., 2011).

As already mentioned, the reinvestment process is preceded by a phase of gaining profit from a previous investment. If a company has this profit, it has the opportunity to dispose of it. An entrepreneur who "lives for the moment" prefers transient sensual satisfaction and makes his decision accordingly, i.e. not to invest this profit back into the company but, for example, to pay for a vacation. Thus, the reinvestment process does not take place. However, if the entrepreneur decides to do the opposite, his profits will be reinvested in the company. Now the question of how much an entrepreneur or the executive management decides to invest arises, whether it is all of the profit or just a proportion thereof. For example, Vallejo-Martos (2011) stated that the trend in family businesses is to focus on the future of the company, and hence the family. It is a long-term orientation of the company and several factors come into play, namely the level of indebtedness, attitude to risk and the emphasis placed on reinvesting profit. This trend, especially in the area of reinvestment activities of family businesses, is supported by other authors, e.g. Vilaseca (1996), Gallo and Vilaseca (1996), McConaughy et al., (1998) and Poutziouris (2001), Pakšiová (2017) and Popescu and Banta (2019). It is also necessary to consider the direction of the flow in the decision-making process on the company's funds. The decision as to where and how much money will be directed to a particular company segment takes into consideration where the company

wants to go and what it wants to achieve. A company that has a large number of employees can mainly channel its funds into human resources, such as improving the work environment, improving or introducing a benefit reward scheme, or investing in training. A manufacturing company can improve or replace its machinery, or it can also invest in warehouse equipment for better handling of materials or finished products. Shrader (2001) states that investment in technologies represents a far better option for profit utilisation than its mere reinvestment in marketing. Another segment that can be invested in is an area of business that does not necessarily have to be research and development. This separation may well be one of the most important factors that influences the direction of the business and ensures competitiveness and thus the sustainability of the business on the market. The last, but a no less important, area is marketing – whether it is about exploring new markets and their specifics or activities related to raising awareness of the business in the current country in which the company operates. If these activities are successful, the resulting outcome is profit made by the company or persons entrusted with it at the beginning of the scheme itself, and then the whole cycle can start again. Oakey (1984) states in his article that successful innovation and reinvestment generally negate the need for external financing of the company and the project in particular. Factors which could help to decide on reinvestments could be assumed according to the following formulas (Johnson et al., 1999; Cull and Xu, 2005; Myers and Majluf, 1984: 207):

$$I_d = I(p, s, r^l, r^e); I_d = R + L^E; \text{ if} \quad (1)$$

where: I_d is a company's demand for investable funds, p represents expected (pre-

extortion) profits, s represents the amount of those profits that will be extracted by

corrupt bureaucrats or criminals, and r^l represents the cost of external funds (the interest rate paid on borrowed money) or r^e – the interest rate which can be earned by investing the company's profits externally, R represents reinvested earnings and L_d the company's demand for loans.

Because external funds are so expensive, company owners first use internal

funds to support reinvestment before asking for credit. Company i has a maximum amount of money that it is willing to reinvest out of its current profits, E_i ; this might be the total current profit, or it might be strictly less than that. This decision belongs to the business owner. According to this, a willingness to reinvest profit could be represented as follows:

$$I_d = R; \text{ if } I_d \leq E_i \text{ and } I_d = E_i + L^E \text{ if } I_d > E_i \quad (2)$$

Finally, factors which influence the estimation of maximum reinvestment rate could be measured thus (Cull and Xu, 2005):

$$R = I(p, s, r^l); \text{ if } I_d \leq E_i \text{ and } r^E < r^l; R = E_i \text{ if } I_d > E_i \quad (3)$$

The optimum reinvestment rate is different: financial advisors recommend 64% of reinvestments, while reinvestments in engineering are recommended at a level be-

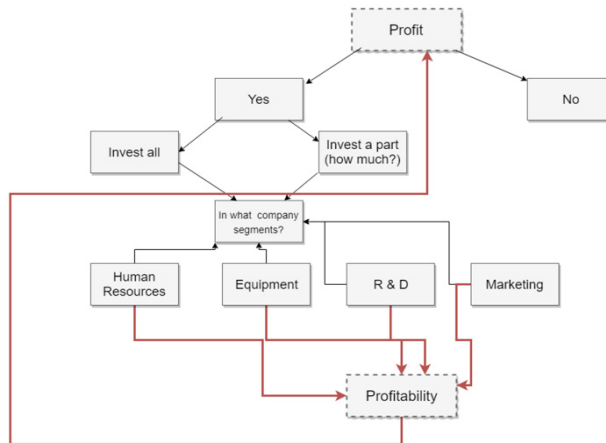
low 20% (Walker et al., 2011). To be able to measure return rate, Illés (2016) proposed the following formula:

$$(E_{t-1}i + E_{t-1}) - H_t = E_t; H_t < E_{t-1}(1+i); 0 < t < z \quad (4)$$

where: H_t = the yields (that is, the difference between revenues and expenditures) in year t , where the value of H_t is always positive for years $0 < t \leq z$ according to the terms of an orthodox cash flow pattern and the initial investment occurring at the zero point in time, E_t = the unreturned part

of capital at the end of year t , i = required rate of return, t = serial number of years, z = number of years of the pay-off period (including the last reinvested year). Those formulas (1 to 4) give us a theoretical background for a decision-making tree in the area of reinvestments (Figure 2).

Figure 2. Reinvestment decision tree for entrepreneurs



Source: Own elaboration.

The decision tree shown above (Figure 2) can be a tool for an authorised manager or business owner in terms of the reinvestment dilemma. At the same time, the explanation of the procedure is further specified in the description, and with the specific examples of the mentioned areas, the financial resources generated can be (re)invested in them. Based on this literature review, the main research question arose: *What are the typical factors influencing reinvestment behaviour under local conditions?*

2. Methodology and data collection

First of all we have to set a standardised definition of reinvestment, based on the previous literature review (in section 1); we used the point of view of Parker (2009) and re-defined it as follows: "Entrepreneurial owner income (as a source for reinvestments) is allocated to the owners in proportion to their ownership share, and we could define it as total taxable profit per year. The reinvestment is done to account for the opportunity cost of invested financial capital, which should not be counted as part of the return to entrepreneurship to support company development" (van Praag and Raknerud, 2017).

Secondly, a quantitative study was used to obtain relevant primary data. The main objective of this study was to obtain relevant information from entrepreneurs in the field of investment and its practical application in the field of reinvestment. In this study, a questionnaire was used to standardise basic answers from entrepreneurs. At the same time, a brief interview about the company was held before the questionnaire was filled out. Emphasis was placed on economic activity in the area of reinvestment, in particular as regards this activity, in terms of funds and means to be

implemented. This approach has been defined by Walker et al., (2011), Johnson et al., (2002) and Myers and Majluf (1984).

All interviews were based on a personal visit or, in cases where the entrepreneur (business owner) agreed only to talk, they were made by direct phone call. The results were managed online through a secure link to the electronic version, and a record of the interview was sent to the entrepreneur by e-mail on request. The time limit for each interview was set individually according to the needs of individual entrepreneurs and interviewers. A total of 9658 minutes was spent on this part of the research, which is an average of 40.58 minutes per one complete questionnaire. Data was collected from the second half of 2018 to March 2019 through a combination of an online form and a personal interview of the team members. Of all the companies in the Czech Republic, we were only interested in companies meeting the following conditions (quota selection by region):

- only sole proprietors and limited liability companies (joint stock companies have high turnover and a large share of GDP, but we are interested in the number of opinions);
- turnover of min. CZK 1 (to eliminate inactive enterprises);
- the maximum number of employees being 249. This is due to the fact that managers are employed in large enterprises and therefore have no experience in setting up an enterprise;
- it was necessary to randomly select enterprises meeting the above requirements from each region (the number of enterprises selected in each region is indicated in the last column). A total of 1136 enterprises were selected and are shown in Table 1.

Table 1. Number of enterprises in the Czech Republic by region

Region (NUTS II)	Percentage from the Czech Republic	Number of enterprises	Number of enterprises in the sample
Prague Rg.	9.1	239,725	240
Central Bohemia Rg.	5.45	143,687	144
South Bohemia Rg.	2.52	66,351	66
Plzeň Rg.	2.1	55,307	55
Karlovy Vary Rg.	1	26,283	26
Ústí n. L. Rg.	2.37	62,524	63
Liberec Rg.	1.67	43,976	44
Hradec Králové Rg.	2.18	57,316	57
Pardubice Rg.	1.88	49,481	49
Vysočina Rg.	1.82	47,845	48
South Moravia Rg.	4.94	130,248	130
Olomouc Rg.	2.11	55,539	56
Zlín Rg.	2.23	58,816	59
Moravian-Silesian Rg.	3.75	98,742	99
Total	43.12	1,135,840	1,136

Source: Ministry of Industry and Trade, 2018.

In order to approach the sample of the interviewed group, the questionnaire included a survey of demographic and social profiles of entrepreneurs. Based on individual characteristics, further investigation pertained to how the responses to the financial management questions contributed to reinvestment policy, and the answers were then analysed in two dimensions. The characteristic that had the greatest impact on changing responses to financial or reinvestment competency-oriented questions was selected.

The data that was obtained from the interviews was generally evaluated based on keywords. The importance of the qualities that people need for a start-up, or the source of motivation for each respondent, has been classified in the order they were named. The order was divided into the groups below: 1) the first group = strongly agree; 2) the second group = mostly agree; 3) negative sentiment was seen in answers when the respondent said: "I don't think that... or I am not sure about...".

The data was rewritten according to a Likert scale of 1 to 5, where 1 means that the respondent strongly agrees and 5 means that the respondent strongly dis-

agrees. The data was evaluated in terms of sentiment, either predominantly positive or predominantly negative.

The **identification data** of individual business owners was evaluated based on the inclusion of the data obtained in pre-determined groups. Gender was divided into groups of men and women. Age was divided into five groups. The first group was comprised of people between 18-25 years old; the second group was 26-40 years old; the third group was 41-55 years old; the fourth group was 56-65 years old; and the fifth group was 65 years old and over. Education was also divided into three groups. The first group represented Vocational School education. The second group represented High (Secondary) School education and the third group represented University education. In addition, identification data (gender, age and education) was recorded in an individual scale number within the main label. They were therefore grouped, for example, by type of school or by type of gender. The main demographic and personal characteristics of entrepreneurs is summarised in Table 2.

Table 2. Typical respondent by gender

Variable	Male (N=163)	Female (N=75)
Age	41-55 years (52.38%)	41-55 years (59.74 %)
Business experience	20 + years (46.42%)	20 + years (36.36%)
Education	High school graduate (40.48%)	University degree (38.96%) High school graduate (38.96%)
Reinvestment activity	Yes (88.1%)	Yes (79.22%)

Source: Own elaboration.

The data from the above-mentioned interviews was encoded into a matrix in order to acquire certain descriptive data. The average age for both of the two interviewed groups was the same, namely the age group 41-55 years (men 52.38% and women 59.74% overall, 54.69% of the surveyed respondents). For men, the most frequently occurring level of education was secondary school level with GCSE (General Certificate of Secondary Education): this group included a total of 40.48% of respondents. In the case of women, there was consensus on the two most common categories, namely secondary education with GCSE (38.96%) and university education (38.96%), which had the same number of female entrepreneurs. On the whole, it is interesting that most of the surveyed entrepreneurs are engaged in reinvestment activities in their company. If we were to compare both samples in terms of higher reinvestment activities, men returned a figure of 88.1%, while women lagged behind with 79.22%, though this is still not a low number.

Finally, the size of the examined companies was as follows: 14% solo proprietors, 48% with 1 to 10 employees, 19 % between 11 and 50 employees, 11% between 51 to 249 employees, and 8% with 250+ employees.

3. Analysis of research results

In the first step of the evaluation, we asked entrepreneurs about the amount of profit reinvested in general to be sure about their willingness to reinvest. Table 3 compares the difference in terms of gender in that case.

Table 3. Intensiveness of Reinvestment Activity in general (N=238)

	Male (%)	Female (%)	Total share (%)
up to 20%	35.86	47.5	39.32
up to 40%	28.28	26.23	27.66
up to 60%	20.69	14.7	18.93
80% or more	15.17	11.4	14.08

Source: Own elaboration.

We can observe a higher reinvestment rate for men than women. Since we had collected information about respondents, it is easy to find at what age entrepreneurs most often reinvest, and what amounts they reinvest. As can be seen from Figure 3, the trend pertaining to those who reinvest and those who do not is roughly the same across the age groups. According to the age structure, the trend of entrepreneurs who reinvest and do not reinvest is negligible, so we can say that the selected sample is balanced and suitable from this point of view. Furthermore, it is evident that entrepreneurs who reinvested and who are also successful in the company are mostly those who are aged from 41 to 55.

Figure 3. Respondents' age distribution based on the factor of reinvestment

Source: Own elaboration.

Most of the entrepreneurs addressed apply various reinvestment activities. It is therefore clear that this activity is not neglected in business, and certainly not by the addressed respondents.

The second step of the evaluation process was focused on reinvesting entrepreneurs only (203 out of 238); the question

(based on the decision tree in Figure 2) arose as to the area of business where these profits would be directed. There are four basic categories mentioned, namely Human Resources, Enterprise Equipment, R&D and Marketing Activities. The reinvestment rates and the most frequent values are listed in Table 4.

Table 4. Segments of reinvestment (N=203)

Category/percentage share	0 %	0-20 %	21-40 %	41-60 %	80 % +	Total
Human Resources	26.79%	54.07%	14.83 %	2.87 %	1.42 %	100 %
Equipment	8.13%	20.57%	26.79%	22.97 %	21.53 %	100 %
R & D	45.93%	35.41%	13.93%	2.87 %	2.39 %	100 %
Marketing	34.92%	48.33%	11%	3.35 %	2.4 %	100 %

Source: Own elaboration.

As illustrated in the Table 4, if companies decide not to invest in a particular segment, this is most often research and development. However, the most common area of company reinvestment was human resources, with a 1-20% reinvestment of profit. It has long been known that the human factor is irreplaceable and, thanks to the successful economy and relatively low unemployment in the Czech Republic, where research was carried out, it is difficult to find suitable employees in the labour mar-

ket – and when they are already employed at a business, the company tries to keep them and support their personal development. From the data analysis, there are already three limit variables which divide the individual answers of respondents. Both the individual segments in the company which can be reinvested in and the best percentile indicators with values of 25, 50 and 75 are presented in Table 5.

Table 5. Percentile limits of reinvestments

Percentile	Marketing	R & D	Human Resources	Equipment
25th	20 %	20 %	20 %	60 %
50th	20 %	0 %	20 %	40 %
75th	0 %	0 %	0 %	20 %

Source: Own elaboration.

Table 5 confirmed the data distribution of the percentage reinvestment share in individual segments. As is clear from this table, the least money goes to the R&D segment where the value of what entrepreneurs reinvest in this segment is, in a considerable percentage of the enterprises surveyed, absolutely zero. Marketing and Human Resources development areas return a finding of zero at the 75th percentile, but for the Equipment segment, the investment rate is equal to zero because, according to the 75th percentile, the reinvestment value is 20%.

Third, the factors influencing the decision-making process in the case of potential reinvestment (in case they do not show the activity in question) were also part of the research. These categories (factors) are:

- according to the bank loan percentage rate;
- depending on how long it takes to get my money back;
- according to possible tax credits;
- depending on how much extra it brings me (yield);
- depending on how I gain an advantage over others;
- According to the calculated financial indicators – e.g. yield percentage.

The Likert scale was used from 1 to 5, where 1 shows complete acceptance of the statement, 2 moderate consent, 3 shows a neutral attitude to the subject, 4 shows slight disagreement, and finally 5 expresses clear disagreement with the statement.

Table 5. Reinvestment influencing factors (N=203)

Factors	Mean	Std. Deviation	percentage share					Total
			1 (%)	2(%)	3(%)	4(%)	5(%)	
According to the bank loan percentage rate	3.09	1.239	10.09	26.70	21.86	26.09	15.12	100%
Depending on how long it takes to get my money back	1.95	.802	27.31	56.72	9.66	5.88	0.42	100%
According to possible tax credits	2.94	1.127	7.56	35.71	19.75	28.99	7.99	100%
Depending on how much extra it brings me (yield)	1.74	.747	40.75	46.21	9.24	2.94	0	100%
Depending on how I gain an advantage over others	2.19	1.073	28.99	40.76	15.12	11.76	2.94	100%
According to the calculated financial indicators - e.g. yield percentage.	2.56	1.032	13.44	40.33	26.47	15.96	3.78	100%

Source: Own elaboration.

The answers above reflect the scale of motivation for reinvestment by an entrepreneur (according to personal preference and experience). The worst rating of all offered options was the third reinvestment decision-making factor – according to pos-

sible tax credits. In this case, it is possible that this option is the worst rated because many entrepreneurs may not be informed about this option. On the other hand, the most important motivation for reinvestment for the business owners interviewed is to

gain a competitive advantage over other entrepreneurs.

The highest score in the answers (56.72%) was given with regard to the factor of a pay-back period with a median value of 2 (max. of 5) in the above scale. Furthermore, an important aspect here was the fact that the sum of scales 1 and 2 exceeds the above-mentioned maximum, and thus we obtain the cumulative total of the response at a percentage value of 86.96%.

Cluster analysis

To be able to answer the research question, a cluster analysis was used to compare data obtained from primary research on the influence of willingness to reinvest (the main dependent variable). Those clusters were created by way of a K-means method analysis, based on the nearest mean similarity grouping from the entire sample (N=238). Thus, five clusters were created to represent the five potential groups of investor prototypes. These clusters are specified in Table.

Table 7. Cluster analysis results summary

	Cluster (N=238)				
	1 (N=46)	2(N=49)	3(N=45)	4(N=50)	5(N=48)
Education	College	Graduation	Graduation	Graduation	Higher Vocational School
Practice length	Up to 20 years	Up to 20 years	Up to 20 years	Up to 20 years	Up to 20 years
Decision to reinvest profits back into the business	Yes	Yes	Yes	Yes	Yes
Marketing activities (advertising...)	Up to 20 percent	0%	Up to 20 percent	0%	Up to 20 percent
Business equipment (machinery, technology...)	Up to 40 percent	Up to 60 percent	Up to 20 percent	Up to 60 percent	Up to 20 percent
Development of the company in a new direction (adding a new department such as packaging...)	Up to 20 percent	Up to 20 percent	Up to 20 percent	0%	Up to 20 percent
Employee development (education...)	Up to 20 percent	Up to 20 percent	Up to 20 percent	Up to 20 percent	Up to 20 percent
According to the bank loan percentage rate	More likely not	More likely not	Neutral	More likely yes	More likely yes
Depending on how long it takes to get my money back	More likely yes	More likely yes	More likely yes	More likely yes	More likely yes
According to possible tax credits	Neutral	More likely not	Neutral	More likely yes	More likely yes
According to the calculated financial indicators - e.g. the percentage of return	More likely yes	More likely yes	Neutral	Neutral	More likely yes

Source: Own elaboration, $p < 0.05$.

Based on the above, we evaluated two main directions:

- **Education influence.** Cluster 1 and Cluster 5 are unique within educational groups, as they cover the lowest and the highest level of education. The most significant group from among clusters 2 to 4 by number of respondents was cluster 4. Thanks to the analysis, certain identical elements of behaviour have been analysed and recognised by the fact that, as already mentioned, five clusters are created. As the first cluster was characterised by the respondents having completed higher education, and with 20 years of experience. Furthermore, it is "typical" for this cluster to reinvest 20% of capital into the following segments: marketing, business development and employee development; and only after the company is equipped with machinery will

the "entrepreneur" be willing to reinvest 40%. Regarding the factors influencing reinvestment, a more negative attitude towards the banking sector is noted: this "entity" has a neutral attitude towards the "tax relief" of the reinvestment. More often, positive indicators turned out to be payback times and also indicators such as net present value (NPV).

- **Reinvestment factor influence.** The F test was used to present the significance of the main factors which are significant in terms of reinvestment behaviour (Table 8, $p < 0.05$). There were three non-significant factors such as age (Sig. = 0.082), gender (Sig. = 0.052) and the opportunity to gain comparative advantage through reinvestments (Sig. = 0.215), which were not included in the summary of the factors.

Table 8. Main influence on reinvestment behaviour

	Cluster		Error		F
	Mean Square	df	Mean Square	df	
Marketing activities (advertising...)	4.198	4	0.732	233	5.735
Business equipment (machinery, technology...)	75.332	4	0.713	233	105.695
According to the bank loan percentage rate	41.931	4	0.842	233	49.785
Education	48.983	4	0.592	233	82.672
Practice length	5.256	4	0.853	233	6.161
Decision to reinvest profits back into the business	1.828	4	0.097	233	18.901
Development of the company in a new direction (adding a new department such as packaging...)	5.202	4	0.766	233	6.787
Employee development (education...)	2.451	4	0.656	233	3.739
Depending on how long it takes to get my money back	3.853	4	0.588	233	6.548
According to possible tax credits	27.372	4	0.823	233	33.270
According to the calculated financial indicators – e.g. the percentage of return	7.978	4	0.947	233	8.425

Source: Own elaboration, $p < 0.05$.

4. Discussion

This research study focuses on the willingness to reinvest within the Czech business environment. Numerous differences in Czech business behaviour were found according to primary data analysis. Based on the literature review, the reinvestment rate (as recommended by financial advisors) should be at least 64% (Walker, 2011; Illés, 2016). According to research data, only 33.01% of entrepreneurs mentioned a 60% reinvestment rate in general. The average reinvestment rate was about 20% of annual profit. Surprisingly, those results correspond with Nguyen (2018) in the case of the reinvestment rate of Vietnamese companies (a sample of 300,000 entrepreneurs) who reinvest 15 % of total capital per year over the study period.

To follow the research question about the main factors influencing the reinvestment process, we can confirm that it depends mostly on the payback period (preference for short term reinvestments, value 1.95) and extra benefits which it could bring to the company (value 1.75). The last factor was the percentage rate of bank loans. One explanation for that phenomenon may be that those entrepreneurs prefer to finance their business activities from their own capital, not from external resources, which supports the work of Nguyen (2018).

In line with Davidson (2010) and Knox et al., (2019), no clear effects of gender on reinvestment ratio and possible growth can be confirmed. This study enriches the results to date because of its relationship with business experience, which are omitted in studies mentioned in the literature review.

Conclusions

This study has shown that entrepreneurs do reinvest profits; nonetheless, the analyses performed have established that they still lack economic knowledge and are de-

pendent on the development of the enterprise. But where reinvestments relate only to entrepreneurs, there is a certain trend in reinvesting, for example in the human resources segment, in which many entrepreneurs are not afraid to invest. This process is affected by their knowledge of ratios to be able to evaluate effectiveness of their reinvestment, as mentioned in several resources (Altshuler and Magni, 2012; Dluhošová, 2004; Durrah et al., 2016; Neumaier and Neumaierová, 2014; Kędzierski, 2017; Kaczmarek, 2014; Michalski, 2009), but they are not widely used in the Czech Republic (Pokorná and Šebestová, 2019; Kislingerová, 2011).

It was confirmed that the main motivation for planning this process would be (1) profit maximisation; (2) maximising the current value of future net cash inflows with cost minimisation; or (3) the maximisation of profits in the long run and the prestige of the enterprise according to the owner or owners (Kędzierski, 2017; Kaczmarek, 2014; Pakšiová, 2017; comparison of results in Tables 7 and 8).

One of the biggest challenges in terms of this research is the lack of a single definition of reinvestments and its constituent parts or the possibility of obtaining comparable data. To sum up, the study clearly showed that there is no significant relationship between factors such as age, gender and competitive advantage over other entrepreneurs, which seems to be interesting.

This study has both conceptual and methodological limitations. One limitation came from a definition of reinvestment, and the second in sample size and the geographical distribution of the examined sample which was taken according to general rules for primary data collection, according to the current number of business entities in the Czech Republic. Although

the variables were selected according to the literature review (mostly Illés, 2016; Walker, 2011; Altshuler and Magni, 2012; Dluhošová, 2004), it is not possible to cover all factors to provide a complete picture of that problem in the Czech business environment. Finally, increasing the number of responses studied for each assessment may enhance the generalisability of our findings.

On the other hand, a future research direction could be indicated for future development in accordance with the previously defined reinvestment strategy of a portfolio management model, based on the maximisation of preferred values (payback period, yield) using geometric capital growth rate models, as did Markovitz (1990) or Kashirina et al., (2016).

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