

ROUND NUMBER HEURISTIC IN EQUITY CROWDFUNDING

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Abstract

Since the beginning of the 2000's, equity crowdfunding has emerged as a new avenue for founders to finance their ventures. This has attracted researchers to study the campaign factors that affect the criteria used by investors when investing in equity crowdfunding. Humans have been found to prefer the use of imprecise round numbers and the phenomenon has been also found in the financial markets. Therefore, as a novel research topic I study the effect of the round number heuristic on setting campaign targets, the success of equity crowdfunding campaigns and the success of companies thereafter.

My data sample covers 263 equity crowdfunding campaigns from April 2012 to December 2019 listed on the leading Nordic equity crowdfunding platform Invesdor. Campaigns are carried out based on the "all or nothing" model in which a predetermined minimum funding target needs to be met or else funds are returned to investors. I measure campaign success with multiple variables of which the primary one is a dummy variable taking the value of one if the target is reached and zero otherwise.

I find strong support for equity crowdfunding campaigns goals being clustered around round integers in line with findings in reward-based crowdfunding and many other strands of finance literature. However, I do not find sufficient evidence of round campaign goals affecting the success rate of campaigns, number of investments made to campaigns or the amount of capital pledged to a campaign. The results are robust to multiple definitions of campaign goal roundness and the use of multiple control variables.

The data sample for the analysis is not too broad when compared to Lin and Pursiainen (2019) who analyse over 300 000 reward-based campaigns. Thus, further research into the subject with a larger data set is warranted to validate my findings. Possible other reasons for the absence of the round number heuristic affecting campaign success in my thesis could be the partly institutional and highly educated investor base of Invesdor, as well as the significantly larger economical risk born by equity crowdfunding investors as opposed to reward-based crowdfunding investors.

Keywords equity crowdfunding, round number heuristic, behavioral finance, crowdfunding campaigns

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Tiivistelmä

Vuosituhanne alusta lähtien osakepohjainen joukkorahoitus on noussut uudeksi vaihtoehdoksi, kun yrittäjät etsivät rahoitusta hankkeilleen. Tämä on houkuttanut tutkijoita tutkimaan kampanjatekijöitä, jotka vaikuttavat sijoituspäätöksiin. Ihmisten on todettu suosivan epätarkkojen pyöreiden numeroiden käyttöä, ja tämä käytös on myös havaittu rahoitusmarkkinoilla. Siksi tutkin tässä Pro Gradu -työssä tasalukuheurestiikan vaikutusta kampanjatarjoitusten asettamisessa, osakepohjaisten joukkorahoituskampanjoiden menestymisessä sekä yritysten menestyksessä kampanjoiden jälkeen.

Otokseni kattaa 263 osakepohjaista joukkorahoituskampanjaa, jotka toteutettiin huhtikuusta 2012 joulukuuhun 2019 Pohjoismaiden johtavalla joukkorahoituslaitoksella Invesdorilla. Kampanjat toteutetaan "kaikki tai ei mitään" -mallilla, jossa ennalta määritellyt vähimmäistavoite on saavutettava tai muuten sijoittajien varat palautetaan. Mittaan kampanjan onnistumista useilla muuttujilla, joista ensisijainen on näennäismuuttuja. Se saa arvons yksi, jos tavoite saavutetaan, ja arvons nolla, jos tavoitetta ei saavuteta.

Tulokseni tukevat näkemystä siitä, että kampanjoiden tavoitteet ryhmittyvät tyypillisesti tasaluvuille, mikä seuraa löydöksiä vastikkeellisista joukkorahoituskampanjoista sekä muualta rahoituslaitokselta. En kuitenkaan löytänyt riittävästi todisteita sille, että pyöreät tavoitteet vaikuttaisivat kampanjoiden onnistumisen todennäköisyyteen, sijoittajien määrään tai kerätyn rahan määrään. Tulokset pysyivät samoina useista eri kampanjatarjoitusten pyöreiden määrittelyistä ja useiden kontrollimuuttujien käytöstä huolimatta.

Otoskokoni ei ole yhtä laaja kuin esimerkiksi Lin ja Pursiainen (2019), joiden tutkimus kattoi yli 300 000 vastikkeellista joukkorahoituskampanjaa. Näin ollen aihe vaatii vielä lisätutkimusta suuremmalla otoskokoilla, jotta löydösten todenpitävyys voidaan varmentaa. Mahdolliset muut syyt tasalukuheurestiikan vaikutuksen puuttumisesta tutkimuksessani voivat johtua Invesdorin osittain institutionaalista ja korkeasti koulutetusta sijoittajakannasta. Lisäksi osakepohjaisessa joukkorahoituksessa sijoittajien taloudelliset riskit ovat huomattavasti suuremmat verrattuna vastikkeelliseen joukkorahoitukseen johtuen yksittäisten sijoitusten koosta.

Avainsanat osakepohjainen joukkorahoitus, tasalukuheurestiikka, behavioristinen rahoitus, joukkorahoituskampanjat

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1 Introduction

Organized crowdfunding via the internet was first introduced in 2001 by ArtistShare, which is a crowdfunding platform for musicians who need financing for their creative projects. A major wave of crowdfunding platforms emerged in the late 2000s such as Kiva (2005), Kickstarter (2009), GoFundMe (2010), etc. which are nowadays household names within the sector. However, these forerunners of the online crowdfunding platforms focused on donation-based crowdfunding in which participants expect nothing in return of their investment, and reward-based or pre-purchase crowdfunding where investors do not become investors in the company but the investor receives a product or a discount in return for their investment.

Equity crowdfunding has opened up the possibility for investors to receive financial benefit from their investment in early-stage companies. The first platform for making equity investments was the Australian Small Scale Offerings Board (ASSOB) launched in 2007, which is still operating. The major hindrance of equity crowdfunding until 2016 was that in the United States only accredited investors (minimum income of \$200,000 or net-worth of at least \$1 million) were allowed to make investments. This was due to the Securities Act of 1933. However, the new Title III of the Jumpstart Our Business Startups Act made it possible for non-accredited investors also to get involved in equity crowdfunding, albeit being limited in the amount of capital they can invest. This increased the amount of funds available to companies considerably. Research on the decision making criteria of investors taking part in crowdfunding campaigns has been called for as the phenomenon is still relatively new (Drover et al., 2017).

Online crowdfunding platforms have disrupted the more traditional role of angel investors and venture capital firms. The market of online alternative financing, which comprises of all of the different crowdfunding types, has grown by a CAGR of 74% in Europe and 78% in the Americas between 2013 and 2017. (Ziegler et al., 2019;

Ziegler et al., 2018). The rapid growth in the industry's volume might be because of a previously experienced funding gap by early stage investors that is now being fulfilled by the new technology as proposed in the World Bank's 2013 report (Mundial, 2013).

The round number heuristic is the human habit of using round numbers more often than they would appear in reality. Lin and Pursiainen (2019) find in their research that crowdfunding campaigns on the rewards-based crowdfunding platform Kickstarter have campaign goals clustered at round numbers, and that the campaigns with round goals are less likely to succeed. Similar clustering has been found in multiple other areas of finance (Hukkanen & Keloharju, 2019; Bradley, Cooney, Jordan, & Singh, 2004; Harris, 1991). Humans also tend to place more trust on signals which contain more precise language (Zhang & Schwarz, 2011).

The research question that I aim to answer is whether or not there is a connection between the to which precision of an equity crowdfunding campaign's goal and the success of the campaign. This will give further insight into the criteria used by investors when analysing potential crowdfunding campaigns to invest in. Furthermore, the thesis analyses whether companies who had successful campaigns with precise campaign goals perform economically better in the long run than those who had round campaign goals.

For the purpose of this thesis, I examined 263 publicly marketed equity crowdfunding campaigns on Invesdor, a Finnish crowdfunding platform founded in 2012. My findings do not provide enough evidence to reject the null hypothesis of round campaigns goals not having an impact on campaign success while controlling for previously discovered success factors such as campaign duration, selling less equity and having institutional investors. For additional robustness, I use multiple measures to analyse campaign success and multiple definitions for campaign goal roundness. Furthermore, I analyse if having a round campaign goal has a negative effect on the future performance of the company. As in the case of campaign success, I did not find adequate evidence to reject the null hypothesis that campaign goal roundness does not have an

effect on post-campaign success.

The remainder of this thesis will continue as follows. Related literature on crowdfunding and the round number heuristic will be summarized in Chapter 2. Chapter 3 will go over the hypothesis of the study, after which the data utilized in the study is covered in Chapter 4 and the methodology used in Chapter 5. The empirical results of the analysis are presented in Chapter 6 with a discussion of the results in Chapter 7. Finally, the conclusions are given in Chapter 8.

2 Related literature

2.1 Crowdfunding

Crowdfunding is based on gathering small amounts of money from many individual investors. Mollick (2014) suggests a definition that offers a broader view of crowdfunding and leaves room for future development of the concept: ”*Crowdfunding refers to the efforts by entrepreneurial individuals and groups – cultural, social, and for-profit – to fund their ventures by drawing on relatively small contributions from a relatively large number of individuals using the internet, without standard financial intermediaries.*”

The broader crowdfunding market can be divided in to four subsections as presented by Bradford (2012). The first of which is the donation platforms where individuals can fund both non-profit and for-profit campaigns but receive nothing in return of their donation. Secondly, there are reward and pre-purchase platforms. Reward campaigns offer investors some kind of payback for their support such as giving them credit publicly, whereas the pre-purchase campaigns give the investor a product in return or a discount on the purchase of that product.

Third, there are platforms that focus on lending, also known as peer-to-peer lending. These can be divided in to two subsections with some platforms offering non-interest

loans and others offering interest bearing debt. Finally, there are the equity platforms which offer investors the ability to receive a share of ownership in the company they are funding. Based on research by the Cambridge Alternative Financing Centers between 2015 and 2017, donation-based crowdfunding volumes grew by 141% and 32% in the Americas and Europe, respectively. During the same period, reward-based crowdfunding grew by 14% in Europe while in the Americas it shrunk by 33%. Peer-to-peer consumer and business lending in aggregate had a similar trend as European volumes increased by 222% while volumes in the Americas decreased by 20%. Finally, equity crowdfunding also followed the general market trend with volumes up 33% in European and down 57% in the Americas during the period. The main driver for volumes decreasing was the significant increase in balance sheet lending in the United States. In this model, platform providers themselves provide loans to consumers and businesses as opposed to outside individual or institutional investors. (Ziegler et al., 2019; Ziegler et al., 2018).

2.2 Equity Crowdfunding

Cholakova and Clarysse (2015) find that equity crowdfunding investors make their investment decision based almost exclusively on the possible financial reward as opposed to non-financial rewards. Thus, investors might use equity crowdfunding for diversification as Invesdor, the Finnish crowdfunding platform, informs that 87% of its investors also invest in the public markets and 40% have over 10 years of investing experience. Furthermore, Signori and Vismara (2016) find that the average annualized return for investors in initial equity crowdfunding is 8.8% with 10% of the companies failing. Companies that have qualified investors, namely venture capital funds, before their initial crowdfunding campaigns have yet to be found to go bankrupt (Signori & Vismara, 2016; Signori & Vismara, 2018).

Lukkarinen et al. (2016) find that investors in equity crowdfunding campaigns do not utilize similar criteria in their investment decision making as angel and venture

capital investors. Rather, they rely on similar criteria as investors in other forms of crowdfunding. Their analysis of company characteristics that seem sensible such as team quality, attainable market, how good is the new concept, scalability of the business model, what stage the company is in and the crowdfunding deal terms were not found to impact the campaign outcome.

Vulkan et al. (2016) confirm that larger campaign goal amounts lead to a lower chance of success and the lower percentage raised, results that are in line with findings of multiple studies on campaign goal effects in reward-based crowdfunding (Cumming et al., 2015; Frydrych et al., 2014). A one standard deviation change in the campaign goal is found to have a -6.9% effect on the chance of success and a 22.55% effect on the percentage raised.

Vismara (2016) and Ahlers et al. (2015) both find that selling a smaller equity share leads to higher probability of success, larger investor base and more capital raised. In traditional corporate finance theory, selling a smaller equity stake is believed to signal the quality of the company as entrepreneurs who believe in their company's success will try to hold on to as much ownership as possible.

In addition, Vismara (2016) finds that entrepreneurs who have larger amounts of social capital have a higher probability of their campaign succeeding. This is believed to be due to the increased amount of attention on their pitch, resulting in a greater number of investors and more capital. However, Ahlers et al. (2015) find no connection between social capital and campaign although these two studies use different proxies for social capital. The first uses the number of LinkedIn connections of the founder and the later uses the percentage of non-executive board members. Also, the use of the company's own social capital in the form of social media marketing of the ongoing equity crowdfunding has been found to be a positive contributor to campaign success (Lukkarinen et al., 2016).

Ralcheva and Roosenboom (2016) find multiple additional factors which have a pos-

itive effect on campaign success. Being awarded a grant, being backed by venture capital or angel investor and having intellectual property rights all have a significant positive effect on campaign success rate, percentage of capital raised and number of investors.

According to Block et al. (2018), updates made during the campaign have a positive effect on the investments made. However, not all updates have a positive effect as only updates on the campaign developments, new funding, business developments and cooperation projects are found to make a difference. Ahlers et al. (2015) find that companies with larger boards and boards that are better educated receive a larger number of investors. Furthermore, larger boards also increase the total funding received. Also, campaigns with no financial forecast receive less funding. Lukkarinen et al. (2016) on the contrary find that providing financials has a positive impact on investor amount but not on the amount of funding received.

2.3 The Round Number Heuristic

The existence of the round number heuristic in human decision making has been identified in a multitude of studies (Baird et al., 1970, Dehaene & Mehler, 1992, Jansen & Pollmann, 2001). Choosing to use more precise language has been found to convey that the speaker has more confidence in their statement (Yaniv & Foster, 1995, Goldsmith et al., 2002, Welsh et al., 2011). Furthermore, messages with more precise language are interpreted to originate from more informed viewpoints and are more likely to be trusted (Zhang & Schwarz, 2011). This would seem logical as individuals faced with harder tasks use more imprecise values (Whynes et al., 2007).

Clustering of values at round numbers has been found to happen in the financial markets on many occasions. Hukkanen and Keloharju (2019) find that M&A initial bids cluster around round numbers, as approximately half of all bids are at the precision of one dollar and only one-sixth are given more precisely. In an IPO setting, 75.3% of offer prices for US IPO's between 1981 and 2000 were at an integer level (Bradley

et al., 2004). Also crowdfunding campaigns on Kickstarter have been shown to have clear clustering at the \$5 000 and \$10 000 levels with 89% of all campaign goals being set at intervals of 100, 1 000 or 10 000 (Lin & Pursiainen, 2019).

Other instances of the round number heuristic in financial markets can be found in stock prices (Harris, 1991), foreign exchange markets (Grossman et al., 1997), in the market for Bitcoins (Urquhart, 2017), in the pricing of credit default swaps (Meng et al., 2013) and option quotes, as well as trades on the London International Financial Futures and Options Exchange (Ap Gwilym et al., 1998).

The use of precise numbers has been found to increase with confidence and skill in the context of financial markets. Analysts round their forecasts due to decision making fatigue (Hirshleifer et al., 2019). Furthermore, analyst who make round forecasts exert less effort than those who make precise forecasts (Dechow & You, 2012). Trades made by high-frequency trading firms as opposed to non-high-frequency traders are less likely to be made at round intervals, depicting that more informed and analytical traders can limit the bias in their trading decisions (Davis et al., 2014). Individuals with higher IQ's have been found to use more precise numbers when defining inflation forecasts (D'Acunto et al., 2019).

The findings of Lin and Pursiainen (2019) from over 300 000 campaigns on the reward-based crowdfunding platform KickStarter were the primary inspiration for my study. They find that precise crowdfunding campaign goals increase the likelihood of the campaign succeeding, increase the amount of pledged capital and decrease the likelihood of the campaign receiving no capital at all.

2.4 Contribution to existing literature

To the best of my knowledge, my thesis is the first to study the relationship of equity crowdfunding campaign success and the round number heuristic. I expand on the existing but limited research on the factors determining equity crowdfunding

campaign success, which has become a key funding channel for new companies during the past decade. I provide fresh evidence of the round number heuristic being visible in the context of setting equity crowdfunding campaign goals, but unlike in reward-based crowdfunding I do not find sufficient evidence of it influencing the outcome of campaigns.

Furthermore, the novelty of my study comes from the possibility to research the post-campaign financial success of companies due to the better availability of financial statements for private companies in Finland compared to most other countries. Thus, I can analyse the effects of round campaign goals and also other variables which have been previously associated with campaign success, now in the context of post-campaign financial success.

3 Hypotheses

The aim of this study is to examine whether the round number heuristic is found in equity crowdfunding, how it is associated with the success of companies in the short-term campaign success and long-term financial performance. I examine the question from three different viewpoints which make up the hypotheses of this thesis.

Humans have been shown to favour the use of round numbers far more often than precise ones (Baird et al., 1970, Dehaene & Mehler, 1992, Jansen & Pollmann, 2001). The effect has also been documented well within the financial markets, see for example Ap Gwilym et al., 1998. Therefore, it is consistent to assume that it is found also in the setting of equity crowdfunding campaign goals:

H1: Equity crowdfunding campaign goals are clustered around round numbers.

Humans are naturally more inclined to trust precise terminology rather than vague statements (Zhang & Schwarz, 2011). Furthermore, the use of more precise language is associated with higher levels of confidence, which should make investors trust the company more as an investment target (Yaniv & Foster, 1995, Goldsmith et al., 2002,

Welsh et al., 2011). Thus, the second hypothesis is as follows:

H2: Equity crowdfunding campaigns with precise goal amounts have a higher likelihood of campaign success.

Signori and Vismara (2016) found the average annualized return for investors on initial equity crowdfunding campaigns to be 8.8% with 10% of the companies failing. Thus, it is of great interest for investors to find characteristics which can determine the future success of campaign companies. Setting a more precise goal might convey information of a more intelligent management, following the findings of D'Acunto et al. (2019). This likely bodes well for the company's future success.

Setting a more precise campaign goal is most likely associated with more effort exerted by the management, in line with the findings of Dechow and You (2012) suggesting that the management teams of companies with precise goals have taken more time to think about the next steps of the company and what amount of funding they need. Thus, the final hypothesis is:

H3: Companies with successful equity crowdfunding campaigns that had precise goal amounts have better future performance than those counterparts with round goal amounts.

4 Data

I obtained the data for the thesis from Invesdor. Invesdor is a Finnish crowdfunding platform which started operations in 2012 and has thereafter become the leading equity crowdfunding platform in the Nordics. The platform is used mostly for equity crowdfunding campaigns but also IPOs and bond issuances. The total amount of capital invested through Invesdor was 67.2 million as of May 2020. The data for this study consists of publicly marketed equity crowdfunding campaigns that were conducted on the platform between April 2012 and December 2019. Invesdor also hosts private fundraising campaigns on their platform but these are not included in

the sample. The data set is made up of 263 campaigns.

Figure 1 depicts the amount of capital and number of investments made per year during the sample period. The least amount of investments and capital raised were during 2012, the first year of the sample, with capital raised being €60,867 and the number of investments 31. 2018 was the most active year with capital raised being €23,401,353 and the number of investments 7,664.

For a campaign to succeed on Invesdor it must receive capital over a certain capital threshold. This threshold is displayed on the site as the target capital amount for the campaign. This requirement is known as the "all or nothing" model of crowdfunding. Furthermore, campaigns have a maximum capital amount they are looking to raise. Of these two, the threshold amount is displayed with a larger font and distinct color and thus is more likely to attract the investor's attention. Of the campaigns conducted, 133 were successful resulting in a success rate of 51%.

4.1 Campaign success

Campaign success will be measured in this study along the lines of previous research. Vismara (2016) and Lin and Pursiainen (2019) use a dummy variable taking the value of one if the campaign threshold is reached and zero otherwise. Additional measures for success will be used to obtain more robust results. One of these is the number of investors, as bot raising the required capital and marketing the company are valuable. Thus, a campaign can be seen to have succeeded better if there are more investors taking part in it (Gerber & Hui, 2013). Finally, as the campaigns that receive more funds than others can be seen naturally as more successful, the natural logarithm of the amount of pledged capital is used to measure campaign success.

4.2 Roundness of campaign goals

For determining if the campaign goal is round or not, four different approaches will be utilized. The first will be the dummy variable *Round* which has the value of 1 if the campaign goal is 50 000, 100 000, 150 000, 200 000 or 500 000. Second, the dummy variable *Significant* will receive the value of 1 if the campaign goal only has one significant number in it. In the third case, four dummy variables *Divisible by 1 000 000*, *Divisible by 500 000*, *Divisible by 100 000*, *Divisible by 50 000*, which receive the value of 1 if the goal amount is divisible by the specific amount. Finally, the dummy variables *Precision 100*, *Precision 10* and *Precision 1* will receive the value of 1 if the goal amount is indicated at the required precision.

4.3 Future performance

The companies in the data set are privately held, thus their performance needs to be analysed with the help of readily available financial metrics. For information of the companies current operating state, revenue and net income margin were gathered from the Orbis database to analyse how they have performed after their campaign. Companies that have completed more than one campaign on Invesdor were excluded from the analysis as their campaign goals could have different levels of precision depending on the campaign.

From the 133 successful campaigns, data on their current operating state, bankrupt or still in operation, was available for 105 companies. Revenue and net income margin data was available for only 55 of the companies. These financial metrics were derived from the latest financial statements with the requirement that there was at least a one year gap between the company's equity crowdfunding campaign and the published financial statements. However, these two financial data points had multiple extreme outliers skewing the data. Therefore, both data sets were winsorized at the 5% level to make the analysis more consistent.

4.4 Control variables

Previous studies on equity crowdfunding campaign success have found multiple factors that affect campaign success. Just as in traditional corporate finance theory Vismara (2016) finds that campaigns succeed more often when entrepreneurs sell a smaller amount of their ownership. Therefore, the *Equity share* variable is used to control for the amount of equity being sold. Signori and Vismara (2016) find that firms backed by venture capitalists before their equity crowdfunding rounds have yet to be found to go bankrupt and Ralcheva and Roosenboom (2016) find that campaigns of backed firms perform better. Thus, *Backed by VC* dummy variable will be used to control for venture capital and angel investor involvement. Higher funding targets have been associated with less successful campaigns, which will be controlled with the $\ln(\textit{Goal})$ variable (Vulkan et al., 2016; Cumming et al., 2015; Frydrych et al., 2014).

Campaign length will be controlled with the $\ln(\textit{Duration})$ variable as longer campaigns have been found to under perform (Frydrych et al., 2014; Mollick, 2014). Ahlers et al. (2015) find in their study that better human capital of campaign companies improves their chance of success. Thus, two proxies for human capital are adopted, *Team size* and *Advisors*. Following the findings of Block et al. (2018), the number of updates on a given campaign is controlled for by the *Updates* variable.

Minimum investment amounts are controlled with $\ln(\textit{Minimum investment})$ as campaigns have differing minimum investments requirements and larger minimum investments have been previously found to have an adverse effect on both the amount raised and the number of investors (Lukkarinen et al., 2016). Campaigns that have a non-profit motive have a significantly better chance of succeeding. In this data, such campaigns are for example those of local breweries, cultural ventures or sports clubs (Lukkarinen et al., 2016; Belleflamme et al., 2013). The dummy variable *Support* is used to identify these non-profit campaigns.

Companies are ranked into three different development phases on Invesdor: seed, early

and growth. This is presented in the general info of the equity offering. Therefore, the company development phase will be controlled with the *Early* and *Growth* dummy variables. Nordea Bank Abp, the largest financial institution in the Nordics, acts as a partner in some campaigns. This means that contingent on the success of the campaign Nordea would offer debt financing to the companies or ease the conditions of previously given loans. Investors could see this collaboration clearly in the very beginning of the campaign page, and it is also explained in more detail later in the campaign text. Thus, the dummy variable *Nordea* for Nordea's involvement is also added as a control variable. The effect of this partnership has not been studied in prior research, as the partnership only started in 2018. All the variables used in this thesis are listed and explained in Table 1.

Table 2 presents the summary statistics of the data set. The average success rate of campaigns listed on Invesdor was 51%. On average 274,186.29 was pledged per campaign with the standard deviation being 429,163 and the most successful campaign raising nearly 2.5 million. The amount of investments made also varies between campaigns with the average campaign receiving 119 investments, the standard deviation being 222 and the most investments attracted by a single campaign being 1755.

Table 3 depicts the campaigns based on the company's development stage. Companies which are more developed have a distinctly higher success rate, amount raised and number of investments made. Table 4 presents the number of campaigns per industry and how these campaigns have succeeded. Notably, companies in the most common fields are rather representative of the whole sample. However, some fields are represented by only one or two campaigns, which makes inference on the effect of the business area difficult.

Table 5 shows which industry and at what development stage the companies conducting campaigns are in. The highest representations are in the Technology, Food and Drink, Internet Business and Consumer products industries. Furthermore, over half of all the campaigns are from companies which are categorized as being in the Seed

stage, which is the least mature of the three stages used to categorize companies on Invesdor.

5 Methodology

As a preliminary test on the effect of round campaign goals on the success of campaigns, I carry out a t-test between the success rates of *Round* and *Non-Round* campaign goals for each year from 2012 to 2019. Additionally, the t-test is used to analyse the difference on the success rate of all *Round* and *Non-Round* campaigns during the time period. Due to the many limitations of the t-test, a regression analysis follows. Similarly, I also carry out a t-test between the bankruptcy rate, revenue and profit margin of companies who had *Round* and *Non-Round* campaign goals to analyse the potential post-campaign difference in their financial performance.

Due to the binary nature of the *Success* and *Bankrupt* variables, I use a logistic regression to analyse the relationship between the dependent variables and the independent variables which has been common practice in prior literature such as Vulkan et al. (2016). The results of the logistic regressions will be displayed as the marginal effect at means. This means that all other variables are held at their means while only one independent variable is assumed to change.

For analysing the number of investments gathered by a given campaign, I ran a negative binomial regression in accordance with prior studies (Ralcheva & Roosenboom, 2016; Vismara, 2016). This is due to the variable having a mean significantly smaller than its variance and it being a discrete count. Table 1 of the appendix presents the distribution of the number of investments gathered by campaigns.

The natural logarithm of the amount of capital raised is the final dependent variable, which I used to measure the success of a campaign. Table 2 of the appendix depicts that the values without taking the logarithm are highly skewed to the left and have

a long tail. The logarithmic transformation makes the interpreting of results clearer as campaign goals vary, and thus relative changes of the dependent variable are more interesting than absolute ones. To make the logarithmic transformation possible one unit is added to the capital raised of all campaigns as some campaigns could not raise any capital. I then run an OLS regression on the natural logarithm of capital raised in line with previous research (Lukkarinen et al., 2016). I also run OLS regressions on the two other measures of post-campaign success, the natural logarithm of revenue and the profit margin.

Robust standard errors are presented for all the independent variables in these regressions. The regressions on campaign success includes fixed effects for year and industry. However, due to small sample sizes, these fixed effects are not applied in the regressions for post-campaign success. Natural logarithmic transformations are applied to the goal amount, minimum investment and campaign duration variables as they are highly skewed.

6 Empirical results

6.1 Campaign goal roundness

Figure 1 presents the level of precision at which campaign goals are set. The vast majority of goals are set at the 10 000 or 100 000 precision level which build up 35% and 27% of the campaigns, respectively. Only 20% of the goals are set at a level of precision of 100 or smaller. Furthermore, Figure 2 indicates that there is clear clustering at specific round goal amounts, specifically 50 000, 100 000, 150 000, 200 000 and 500 000. 31% of all campaign goals during this period are set at these five goal amounts.

6.2 Univariate analysis of round campaign goals and campaign success

Table 6 presents the results of the t-test on the difference between the success rates of campaigns with *Round* and *Non-Round* goals. I find statistically significant results at the 5% level in 2017 where campaigns with *Non-Round* goals had a different and better success rate than *Round* campaigns. However, in the very next year the roles are reversed and campaigns with *Round* goals perform better at the 1% level. Success rates are not statistically different for *Round* and *Non-Round* over the whole sample period, although the absolute difference was 6 percentage points higher for *Non-Round* campaigns. Thus, the results do not give adequate support for Hypothesis 2.

6.3 Univariate analysis of round campaign goals and post-campaign success

Table 7 presents the results for t-tests between the post-campaign success of companies which had *Round* and *Non-Round* goals in their Investor campaigns. Companies with *Round* campaign goals had a 7% bankruptcy rate while companies with *Non-Round* campaign goals had a rate of 13% however the difference was not statistically significant. In the case of revenue and profit margin, companies with *Non-Round* campaign goals performed better on average but as before the difference of the results were not statistically significant. The null hypothesis of campaign goal roundness not affecting post-campaign results cannot therefore be rejected.

6.4 Regression results of round campaign goals and campaign outcome

Table 8 presents the first regression analysis for the effect of the *Round* and *Significant* variables on the logistic regression for *Success*, the negative binomial regression for the

number of investments made and the OLS regression for the natural logarithm of the amount of capital raised. Neither the *Round* or *Significant* variables had a significant effect on the *Success dummy* dependent variable although they both have a negative coefficient. However, in the case of the *Number of investments* dependent variable the results are somewhat contradictory. *Round* decreases the number of investors by 27% while being significant at the 10% confidence level. On the other hand, *Significant* increased the number of investors by 32% at the same confidence level. Finally, on the $\ln(1 + Pledged)$ dependent variable there was no statistically significant effect from either of the two variables and the coefficients are negative. Thus, the findings do not support Hypothesis 2, which conjectured that round campaign goals would have a negative effect on campaign success.

In line with the findings of Ralcheva and Roosenboom (2016), being backed by a venture capitalist or angel investor had significant positive effect on the probability of success and number of investors. However, I do not find evidence of it affecting the amount of capital raised which Ralcheva and Roosenboom (2016) do not analyse but do find that it positively affects percentage raised. The backing of a VC or angel investor increased the chance of campaign success by 32% and number of investors by 88% both at the 1% confidence level. Larger campaign goals are found to have a negative impact on campaign success in accordance with the findings of Vulkan et al. (2016), while having a positive impact on the number of investors and the amount of capital raised.

Both control variables for firm stages *Early* and *Growth* have a positive impact on all the dependent variables compared to the base case of being a seed stage company. The amount of updates posted on the campaign page had a significant positive effect on the success of the campaign, but does not have a significant effect on the number of investments or the amount of capital pledged. Larger minimum investment requirements negatively impact the amount of investors in line with the findings of Lukkarinen et al. (2016). However, differing from their results, I did not find a relationship between the minimum investment requirements and capital raised. In addi-

tion, based on my data no significant relationship between the variable and campaign success exists.

My findings on the effect of campaign duration support the findings of Frydrych et al. (2014) and Mollick (2014) as longer campaigns are found to have a negative impact on all of the dependent variables. My findings are in line with those of Ahlers et al. (2015) regarding the effects of human capital as I find that introducing more team members increased the probability of the campaign succeeding and attracting more investors. However, opposite to the findings of Ahlers et al. (2015) I do not find that introducing a larger team would increase the amount of capital raised. Although, I perform a logarithmic conversion to the amount of capital raised whereas Ahlers et al. (2015) do not. Having outside advisors on the company's board, which I used as the second proxy to measure human capital, did not have a significant effect on the dependent variables. In contrast to the findings of Ralcheva and Roosenboom (2016), I do not find evidence of companies with information on pending or accepted patents having better campaign success.

I find that campaigns that are characterized as *Support* have a significant positive effect on all the dependent variables at the 1% confidence level, with coefficients being larger than that of any other independent variable. Interestingly campaign companies that have partnered with Nordea do not perform better than other campaigns. Finally, the amount of equity being sold in the campaign had a negative effect on the number of investors at the 10% significance level but no significant effect on the success or capital raised.

6.5 Regression results of round campaign goals and company performance

Table 9 presents the results for the regression of the three different dependent variables used to measure the companies post-campaign success. The next two columns

present the regression results for the *Bankrupt* dependent variable. Neither *Round* nor *Significant* have a statistically significant effect on the dependent variable with the coefficients being slightly negative and positive for the two variables, respectively. In the next two columns the results of the dependent variable $\ln(\text{Revenue})$ being regressed on the independent variables are presented. The variables measuring campaign goal roundness do not have statistically significant results in this case either, with coefficients being again slightly negative for *Round* and slightly positive for *Significant*.

Finally, the two last columns present the results for the *Net Income margin* dependent variable. As in the previous results, the *Round* independent variable does not have a statistically significant effect on the dependent variable, and the coefficient was negative. However, the *Significant* independent variable had a statistically significant result at the 10% level with the coefficient being 2.021. This means that a company with a campaign goal that had only one significant number had on average a 202% higher net income margin than companies with goals that have more significant numbers. The findings of these regression analyses do not give sufficient support for Hypothesis 3 of this thesis, which theorized that the two variables used to measure campaign goal roundness would have significant negative coefficients.

In contrast to previous research by Signori & Vismara, 2018 who find that none of the successful campaigns which were backed by institutional investors had gone bankrupt my findings suggest that being backed by a VC or angel investors increased the chance of bankruptcy. The *Backed by VC* variable was significant at the 5% level with a coefficient of 0.200 and 0.194 in columns 1 and 2, respectively. This means that being backed by a VC or angel investor increased the chance of bankruptcy by 20.0% and 19.4% which can be interpreted as economically significant results. However, for the $\ln(\text{Revenue})$ and *Net Income margin* dependent variables *Backed by VC* did not have statistically significant results while the coefficients were positive in both cases.

Companies that were more developed when they launched their equity crowdfunding

campaign seem to perform better post-campaign based on the regression results. Companies categorized as *Growth* had around a 28% lower chance of bankruptcy post-campaign. Furthermore, revenues for both *Early* and *Growth* were significantly higher than those of seed stage companies. Finally, companies labeled to be in the *Growth* stage had higher profits, although only in one of the two regression analyses and at the 10% significance level.

Other variables that lower the firms post-campaign probability of bankruptcy are the minimum investment required to participate in the crowdfunding campaign and the amount of equity sold in the campaign. Both of the variables $\ln(\text{Minimum investment})$ and *Equity share* were significant at the 5% level and lower the chance of bankruptcy by 1% for every ten percent increase in the minimum investment amount required and by about 7% for every ten percent of equity sold. Furthermore, for every additional percent of the company sold in the campaign the net income margin increased by 12,2%. However, this result was only significant at the 10% level and only for one of the two regressions.

Interestingly, if a company mentioned a patent in their campaign text, it seems to affect the success of the company negatively. The *Patent* variable decreases the revenue of the company on average by around 60%, the coefficients were significant at the 10% level. Furthermore, in terms of profitability the net income margin decreases by over 300% for campaigns which mentioned a patent, statistically significant at the 5% and 10% levels for the two analyses. The campaign goal amount was also found to influence the profitability of the company post-campaign.

The $\ln(\text{Goal})$ independent variable was significant at the 10% level and decreases the net income margin by around 20% for every ten percent increase in the campaign goal amount. The *Team size* independent variable had a positive impact on the net income margin, with one additional team member being introduced in the campaign text increasing the margin by around 45% with the results being significant at the 5% and 10% levels for the two analyses.

6.6 Robustness checks

To achieve additional robustness of the results I also ran similar regression analysis as in table 7 and 8, but using *Divisible 1 000 000, 500 000, 100 000, 50 000* and *Precision 1, 10, 100* dummy variables for proxies of campaign goal roundness. Thus, making sure that the criteria used to measure roundness was not incorrect, resulting in no clear connection between campaign goal rounders and campaign success or when post-campaign company performance is observed. The results for these were in line with the findings of the results for the *Round* and *Significant* dependent variables, with the additional dependent variables having no distinct effect on the success of the crowdfunding campaign or the company's success thereafter.

7 Discussion

My findings on the existence and effect of the round number heuristic on equity crowdfunding are two-fold. First, as postulated by alternative Hypothesis 1, I find that the campaign goals are clustered at round numbers. This is in line with findings by Lin and Pursiainen (2019) on reward-based crowdfunding and also a vast amount of research in many other strands of finance. However, unlike their study, I did not find sufficient evidence of a relationship between round campaign goals and campaign success which would support my Hypothesis 2. I wish to discuss a few potential reasons why the effect was found in reward-based crowdfunding but not in equity crowdfunding at least based on the data from Invesdor.

First, investors that use Invesdor to take part in equity crowdfunding campaigns are rather highly educated and have previous experience from investing. 84% of investors on Invesdor have attended university, while 40% of investors have over 10 years of investing experience. Furthermore, 8% of all investments and 33% of the invested capital are made by legal entities. Unfortunately, Kickstarter does not offer similar data of their investors, however it is not known for professional investors using it which is understandable as participating in campaigns does not offer them financial

incentives. Professionals and higher educated individuals have been found to be less inclined to adhere to biases such as the disposition effect (Calvet et al. (2009); Shapira and Venezia (2001); Dhar and Zhu (2006)), the endowment effect List (2003) or anchoring bias Kaustia et al. (2008). Thus, it would not be unreasonable to assume that the reason for not finding similar round number bias on Invesdor as in Kickstarter could be due to individual investors having a higher level of education and Invesdor being used by a higher proportion of professional investors.

Second, the average investment on Invesdor in 2018 was 3 200 euros whereas on Kickstarter the average investment has been 80 dollars. The difference between the two is economically very large and thus the financial risk being taken by investors differs significantly between the two platforms. As investors on Invesdor are pledging notably larger amounts of capital, it is plausible to assume that they are also using more time and effort to investigate the pitch and the company before making such investment decisions. Therefore, it would be understandable that investors are not as inclined to make their decisions based solely on the amount of capital being sought and the precision at which it is communicated.

8 Conclusion

In this thesis I studied the effect of the round number heuristic on equity crowdfunding campaign outcomes and the future financial success of those companies that had a successful equity crowdfunding campaign. The data I used comprised of 263 campaigns that were conducted on the Finnish crowdfunding platform Invesdor between April 2012 and December 2019. I found evidence of campaign goals being clustered around round numbers, similarly to Lin and Pursiainen (2019), but contrary to their findings I did not find sufficient evidence of campaign goal precision influencing the campaign's success. Additionally, as a new point of interest, I did not find enough evidence of a connection between the precision of the campaign goal and the future success of the campaign company.

I find that campaign goals are distinctively clustered around round numbers as campaigns with goals divisible by 10 000 or higher make up 67% of all campaigns. I did not find adequate evidence of round campaign goals having a significant positive impact on campaign success. My findings are robust for multiple measures of campaign success, which for this thesis were whether the campaign was successful, the number of investments made to the campaign and how much capital was raised by the campaign.

Furthermore, I did not find conclusive evidence to refute the null hypothesis that financial performance of companies who had more precise campaign goals does not differ from peers with round campaign goals. For additional robustness I used three measures to estimate financial performance, which were whether the company is still operational, how large its revenue is and what its net income margin is. Additionally, both analyses included campaign and company characteristics previously found to affect campaign success such as backing from angel or venture capital investors, campaign goal size and campaign duration. I also utilized multiple different measures of campaign goal roundness.

Probable reasons for my findings differing from those of Lin and Pursiainen (2019) are the vast differences in sample sizes as Kickstarter has more campaigns with smaller goals, investors on Invesdor being highly educated and also experienced in investing. Additionally, the significantly larger economic risk that is associated with investing on Invesdor compared to Kickstarter as investment size in the prior is 40 larger than in the other. Further research with a larger data set would be beneficial to ensure the validity of the findings presented in this thesis.

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Tables and Figures

Table 1: Definitions of the variables

The below table presents the variables used in this study. The sample ranges from April 2012 and December 2019, covering 263 publicly marketed equity crowdfunding campaigns on the Finnish crowdfunding platform Invesdor.

Variable	Definition
Success dummy	Dummy variable which has value of 1 if the campaign succeeds
Number of Investments	The number of individual investments made to the campaign
Pledged	Amount of capital pledged to the campaign
Bankrupt	Dummy variable with the value of 1 if the company is no longer operational
Revenue	The company's revenue for the last financial year, either 2018 or 2019
Profit margin	The company's net income margin for the last financial year, either 2018 or 2019
Round	Dummy variable with value of 1 if goal amount is either 50 000, 100 000, 200 000 or 500 000
Significant	Dummy variable with value of 1 if the goal amount has only one significant number
Divisible by 1 000 000	Dummy variable with value of 1 if the goal amount is divisible by 1 000 000
Divisible by 500 000	Dummy variable with value of 1 if the goal amount is divisible by 500 000
Divisible by 100 000	Dummy variable with value of 1 if the goal amount is divisible by 100 000
Divisible by 50 000	Dummy variable with value of 1 if the goal amount is divisible by 50 000
Precision 100	Dummy variable with value of 1 if the goal amount is a multiple of 100
Precision 10	Dummy variable with value of 1 if the goal amount is a multiple of 10
Precision 1	Dummy variable with value of 1 if the goal amount is a multiple of 1
Backed by VC	Dummy variable with value of 1 if the company already has VC or angel investors
Goal amount	The minimum amount of capital required to be gathered for the campaign to succeed
Early	Dummy variable with value of 1 if the company is categorized as being an Early stage venture
Growth	Dummy variable with value of 1 if the company is categorized as being an Growth stage venture
Updates	Number of updates posted on the campaign page during the campaign
Minimum investment	The minimum investment amount required converted to EUR
Duration	Campaign duration length in days on Invesdor
Team size	Number of team members presented on the campaign page
Advisor	Dummy variable with value of 1 if the company has independent advisors
Patent	Dummy variable with value of 1 if the campaign text mentions a pending or accepted patent
Support	Dummy variable with value of 1 if the venture has a non profit motive
Nordea	Dummy variable with value of 1 if the company's campaign is supported by Nordea
Equity share	Equity share sold at minimum campaign target

Figure 1: Campaign statistics

The figure presents the amount of capital and number of investments made through the Invesdor platform for the sample used in this study. Amounts are calculated based on the campaigns that ended during the specified year. The sample ranges from April 2012 to December 2019, covering 263 publicly marketed equity crowdfunding campaigns on the Finnish crowdfunding platform Invesdor.

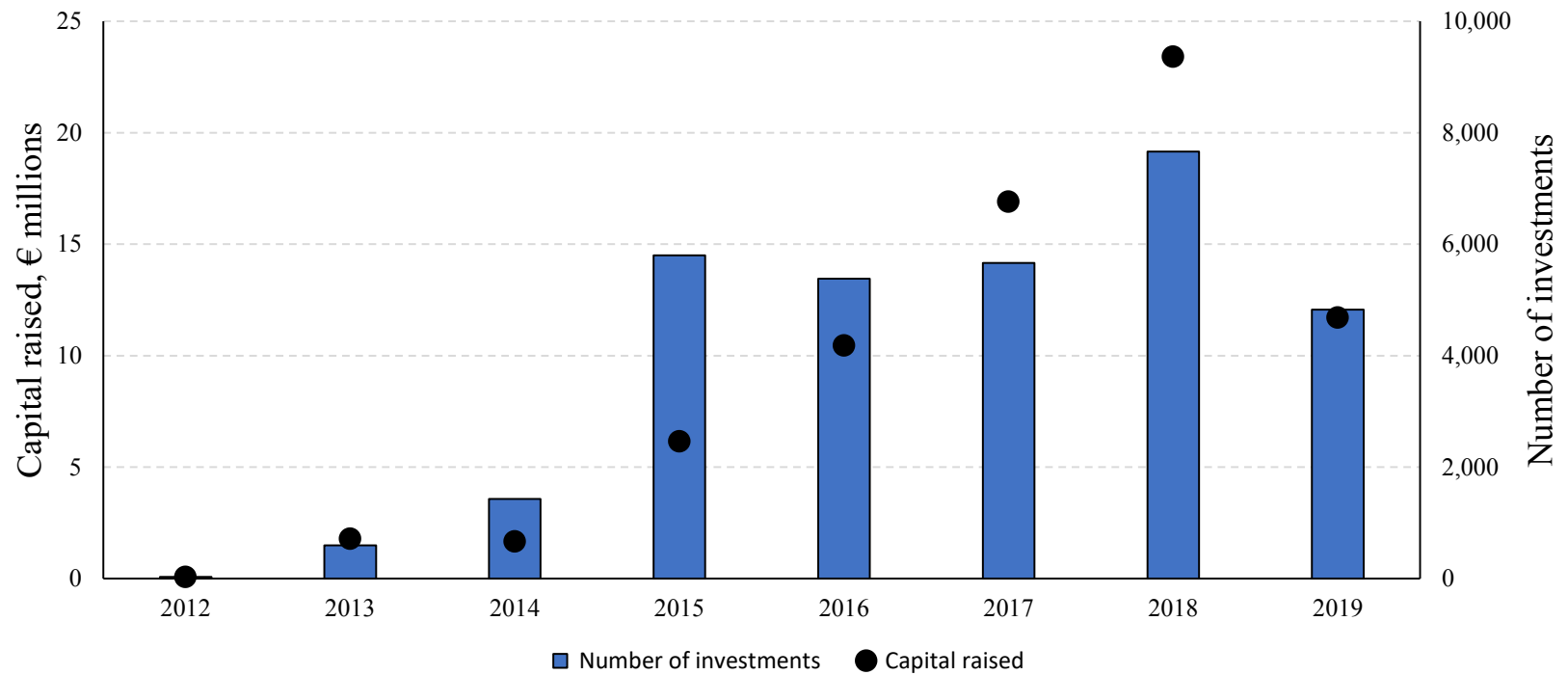


Table 2: Descriptive statistics

Descriptive statistics for variables defined in Table 1. The sample ranges from April 2012 to December 2019, covering 263 publicly marketed equity crowdfunding campaigns on the Finnish crowdfunding platform Investor.

Statistic	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Campaign outcome						
Success dummy	0.5	0.5	0	0	1	1
Number of investments	119.4	222.1	0	7	121.5	1,755
Pledged	274 186	429 163	0	17 088	306 804	2 499 266
Campaign characteristics						
Campaign goal (thousands)	486.6	1,062	20	60	475	9,310
Backed by VC	0.4	0.5	0	0	1	1
Early	0.2	0.4	0	0	0	1
Growth	0.2	0.4	0	0	0	1
Updates	1.6	2.0	0	0	2	15
Minimum investment	441.1	655.2	1	203.0	499.5	7,500
Duration	75.4	43.7	12	49	92	299
Team size	6.1	3.2	0	4	8	16
Advisor	0.5	0.5	0	0	1	1
Patent	0.2	0.4	0	0	0	1
Support	0.1	0.2	0	0	0	1
Nordea	0.03	0.2	0	0	0	1
Equity share	0.1	0.1	0.004	0.04	0.1	0.8
Campaign goal statistics						
Round	0.3	0.5	0	0	1	1
Significant	0.5	0.5	0	0	1	1
Divisible by 1 000 000	0.1	0.2	0	0	0	1
Divisible by 500 000	0.1	0.3	0	0	0	1
Divisible by 100 000	0.3	0.5	0	0	1	1
Divisible by 50 000	0.5	0.5	0	0	1	1
Precision 1	0.1	0.3	0	0	0	1
Precision 10	0.1	0.4	0	0	0	1
Precision 100	0.2	0.4	0	0	0	1
Company future success						
Bankrupt	0.09	0.29	0	0	0	1
Revenue (thousands)	1,353	2,248	0	91.0	1,559	11,601
Profit margin	-4.04	15.60	-107.11	-1.38	-0.003	0.58

Table 3: Campaigns by industry and development stage

This table presents the distribution of campaigns based on industry and their development stage where Seed is the least and Growth the most developed stage. The sample ranges from April 2012 to December 2019, covering 263 publicly marketed equity crowdfunding campaigns on the Finnish crowdfunding platform Invesdor.

Industry	Seed	Early	Growth	Total
Art and Design	2	0	0	2
Biotechnology	3	0	0	3
Consumer products	11	7	2	20
E-Commerce	0	0	5	5
Education	2	1	2	5
Environmental and Ethical	4	1	0	5
Film, TV and Theatre	2	0	1	3
Finance	2	0	2	4
Food and Drink	15	4	8	27
Health & Fitness	7	3	4	14
Internet Business	17	4	3	24
IT and Telecommunications	8	4	4	16
Leisure and Tourism	5	0	0	5
Manufacturing	3	0	1	4
Media and Creative services	7	0	4	11
Other	10	2	5	17
Professional and Business Services	4	6	5	15
Retail	3	0	3	6
Sport and Leisure	4	4	4	12
Technology	41	12	12	65
Total	150	48	65	263

Table 4: Average campaign success by development stage

This table presents campaign outcomes by development stage. The sample ranges from April 2012 to December 2019, covering 263 publicly marketed equity crowdfunding campaigns on the Finnish crowdfunding platform Invesdor.

Stage	Number of campaigns	Success rate	Amount raised	Number of investments
Seed	150	0.38	150,570	62
Early	48	0.63	239,975	93
Growth	65	0.71	584,719	272
Mean	88	0.51	274,186	119

Table 5: Average campaign success by industry

This table presents campaign outcomes by industry. The sample ranges from April 2012 to December 2019, covering 263 publicly marketed equity crowdfunding campaigns on the Finnish crowdfunding platform Invesdor.

Industry	Number of campaigns	Success rate	Amount raised	Number of investments
Art and Design	2	0.38	150,570	62
Biotechnology	3	0.63	239,975	93
Consumer products	20	0.71	584,719	272
E-Commerce	5	0.38	150,570	62
Education	5	0.63	239,975	93
Environmental and Ethical	5	0.71	584,719	272
Film, TV and Theatre	3	0.38	150,570	62
Finance	4	0.63	239,975	93
Food and Drink	27	0.71	584,719	272
Health & Fitness	14	0.38	150,570	62
Internet Business	24	0.63	239,975	93
IT and Telecommunications	16	0.71	584,719	272
Leisure and Tourism	5	0.71	584,719	272
Manufacturing	4	0.38	150,570	62
Media and Creative services	11	0.63	239,975	93
Other	17	0.71	584,719	272
Professional and Business Services	15	0.38	150,570	62
Retail	6	0.63	239,975	93
Sport and Leisure	12	0.71	584,719	272
Technology	65	0.71	584,719	272
Mean	13	0.51	274,186	119

Figure 2: Campaign goal roundness

The figure presents the percentage of campaigns set at different roundness levels. Integers are used to set campaign goals on Invesdor therefore the highest level of precision in the sample is a campaign with a campaign goal that is a multiple of 1. The sample ranges from April 2012 to December 2019, covering 263 publicly marketed equity crowdfunding campaigns on the Finnish crowdfunding platform Invesdor.

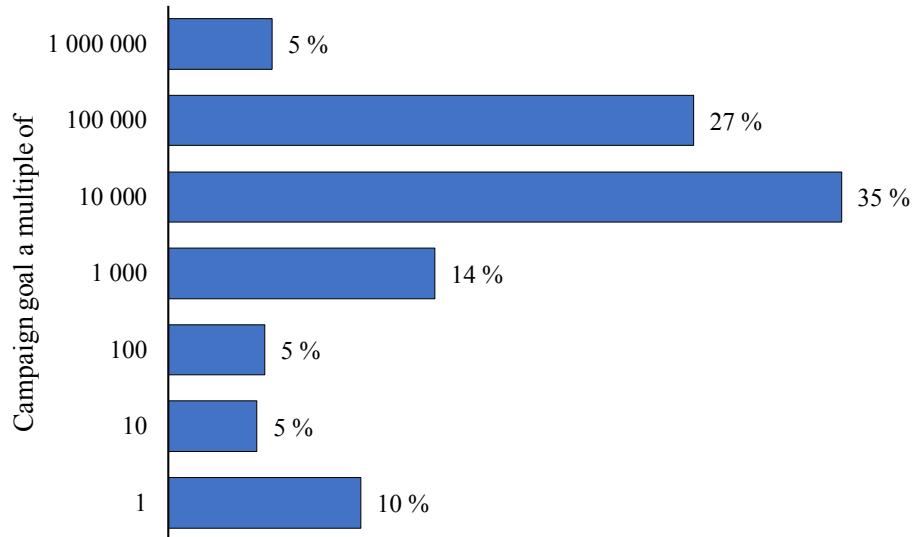


Figure 3: Histogram of campaign goal amounts

The figure presents the data samples campaign goal amounts and their frequency cut off at 1 000 000 due to illustrative purposes. The sample ranges from April 2012 and December 2019, covering 263 publicly marketed equity crowdfunding campaigns on the Finnish crowdfunding platform Invesdor.

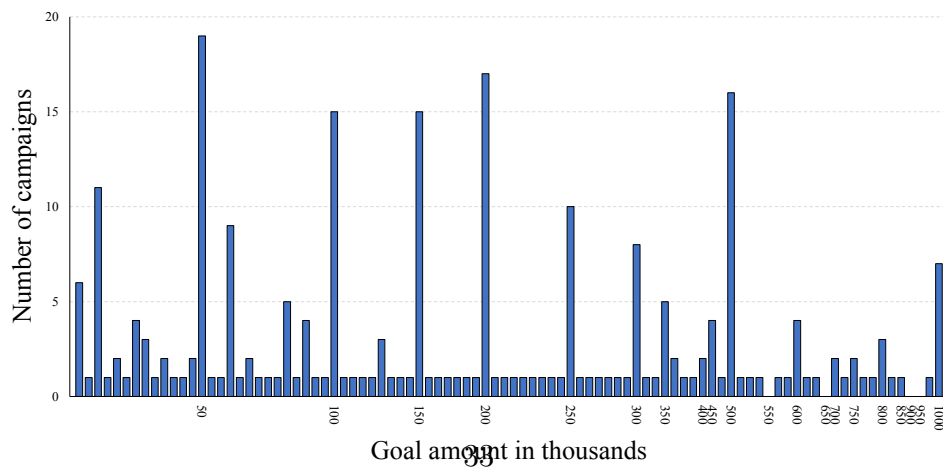


Table 6: Campaign success and goal roundness

The table presents the number of campaigns by year, divided into *Round* and *Non-Round* campaign goals. The sample ranges from April 2012 to December 2019, covering 263 publicly marketed equity crowdfunding campaigns on the Finnish crowdfunding platform Invesdor. Average success rate for both groups is calculated as is the difference of the success rates.

	<i>Round</i>				<i>Non-Round</i>				<i>Round -Non-Round</i>
	<i>Successful</i>	<i>Unsuccessful</i>	<i>Total</i>	<i>Success rate</i>	<i>Successful</i>	<i>Unsuccessful</i>	<i>Total</i>	<i>Success rate</i>	Δ <i>Success rate</i>
2012	0	3	3	0.00	1	3	4	0.25	-0.25
2013	3	9	12	0.25	4	14	18	0.22	0.03
2014	2	5	6	0.17	12	13	25	0.48	-0.31
2015	9	5	14	0.64	12	9	21	0.57	0.07
2016	4	9	13	0.31	15	13	28	0.54	-0.23
2017	6	9	15	0.40	27	14	41	0.66	-0.26*
2018	9	1	10	0.90	14	12	26	0.54	0.36**
2019	6	3	9	0.67	10	8	18	0.56	0.11
Total	38	44	82	0.46	95	86	181	0.52	-0.06

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 7: Round campaign goals and post-campaign performance

The table presents the number of campaigns by year, divided into *Round* and *Non-Round* campaign goals. The sample ranges from April 2012 to December 2019, covering 263 publicly marketed equity crowdfunding campaigns on the Finnish crowdfunding platform Invesdor. Average success rate for both groups is calculated as is the difference of the success rates.

	<i>Round</i>		<i>Non-Round</i>		<i>Round -Non-Round</i>
	<i>Observations</i>	<i>Average</i>	<i>Observations</i>	<i>Average</i>	<i>Average</i>
Bankrupt	29	0.07	76	0.13	-0.06
Ln(Revenue)	16	12.72	39	12.77	-0.05
Profit margin	16	-9.32	39	-0.57	-8.75

Note:

* p<0.1; ** p<0.05; *** p<0.01

Table 8: Campaign success and goal roundness

This table presents the marginal effects at means of the logistic regression as well as the coefficients of the negative binomial and OLS regressions with heteroskedasticity-consistent z and t-values in parenthesis. Ln() stands for natural logarithm. The sample ranges from April 2012 to December 2019, covering 263 publicly marketed equity crowdfunding campaigns on the Finnish crowdfunding platform Invesdor. See Table 1 for variable definitions.

	<i>Dependent variable:</i>					
	Success dummy		Number of investments		ln(1 + Pledged)	
	<i>Logistic</i>		<i>Negative binomial</i>		<i>OLS</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
Round	-0.032 (0.084)		-0.312* (0.174)		-0.354 (0.322)	
Significant		-0.007 (0.076)		0.277* (0.168)		-0.118 (0.286)
Backed by VC	0.323*** (0.083)	0.321*** (0.081)	0.632*** (0.188)	0.592*** (0.181)	0.477 (0.438)	0.454 (0.436)
Ln(Goal)	-0.183*** (0.057)	-0.184*** (0.057)	0.326*** (0.057)	0.343*** (0.106)	0.751*** (0.205)	0.749*** (0.202)
Early	0.207* (0.096)	0.208* (0.096)	0.397* (0.220)	0.368* (0.213)	0.908** (0.351)	0.902** (0.352)
Growth	0.412*** (0.090)	0.414*** (0.090)	0.924*** (0.247)	0.911*** (0.248)	0.979** (0.469)	1.026** (0.463)
Updates	0.050* (0.027)	0.050** (0.027)	0.033 (0.036)	0.033 (0.036)	0.108 (0.075)	0.107 (0.076)
Ln(Minimum investment)	0.002 (0.045)	0.002 (0.046)	-0.418*** (0.080)	-0.409*** (0.078)	-0.065 (0.301)	-0.082 (0.312)
Ln(Duration)	-0.232** (0.104)	-0.230* (0.104)	-0.518** (0.213)	-0.498** (0.205)	-0.889** (0.387)	-0.870** (0.383)
Team size	0.039** (0.016)	0.039** (0.016)	0.086** (0.042)	0.083** (0.039)	0.052 (0.057)	0.054 (0.057)
Advisor	0.028 (0.099)	0.028 (0.099)	0.098 (0.210)	0.063 (0.210)	0.397 (0.387)	0.401 (0.385)
Patent	0.046 (0.108)	0.049 (0.108)	0.228 (0.180)	0.305* (0.180)	0.079 (0.450)	0.116 (0.447)
Support	0.478*** (0.062)	0.478*** (0.062)	1.758*** (0.230)	1.725*** (0.229)	1.423*** (0.444)	1.367*** (0.429)
Nordea	0.100 (0.256)	0.106 (0.257)	-0.023 (0.359)	-0.030 (0.355)	-0.258 (0.494)	-0.229 (0.489)
Equity share	-0.568 (0.578)	-0.578 (0.569)	-1.070* (0.600)	-1.094* (0.634)	-0.318 (1.210)	-0.384 (1.174)
Year FE	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y
Observations	263	263	263	263	263	263
Adjusted R ²					0.340	0.337
Wald Chi sq.	61.505**	61.397**	314.5***	306.45***		
Pseudo R sq.	0.338	0.338	0.484	0.484		

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 9: Round campaign goals and post-campaign performance

This table presents the marginal effects at means of the logistic regression as well as the coefficients of OLS regressions with heteroskedasticity-consistent z and t-values in parenthesis. Ln() stands for natural logarithm. The sample ranges from April 2012 to December 2019, covering 263 publicly marketed equity crowdfunding campaigns on the Finnish crowdfunding platform Invesdor. See Table 1 for variable definitions.

	<i>Dependent variable:</i>					
	Bankrupt		Ln(Revenue)		Net Income margin	
	<i>Logistic</i>		<i>OLS</i>		<i>OLS</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
Round	-0.070 (0.068)		-0.054 (0.444)		-1.187 (1.428)	
Significant		0.027 (0.062)		0.186 (0.399)		2.021* (1.167)
Backed by VC	0.200** (0.075)	0.194** (0.075)	0.012 (0.433)	0.001 (0.421)	2.792 (1.715)	2.660 (1.612)
Ln(Goal)	0.054 (0.053)	0.057 (0.054)	0.017 (0.319)	0.033 (0.326)	-2.086* (1.063)	-1.981* (1.072)
Early	-0.063 (0.114)	-0.070 (0.114)	1.336*** (0.486)	1.356*** (0.497)	2.334 (1.654)	2.545 (1.572)
Growth	-0.274** (0.115)	-0.277** (0.117)	2.589*** (0.477)	2.555*** (0.510)	2.698* (1.570)	2.496 (1.597)
Updates	-0.017 (0.021)	-0.016 (0.021)	-0.074 (0.096)	-0.075 (0.096)	-0.278 (0.316)	-0.268 (0.302)
Ln(Minimum investment)	-0.102** (0.051)	-0.103** (0.051)	-0.101 (0.295)	-0.105 (0.295)	-0.724 (0.690)	-0.770 (0.703)
Ln(Duration)	0.095 (0.070)	0.097 (0.071)	-0.234 (0.376)	-0.265 (0.413)	-1.272 (1.040)	-1.656 (1.184)
Team size	-0.013 (0.009)	-0.011 (0.009)	0.071 (0.063)	0.068 (0.063)	0.467* (0.241)	0.443** (0.218)
Advisor	-0.036 (0.076)	-0.045 (0.076)	-0.216 (0.362)	-0.229 (0.354)	-1.190 (1.589)	-1.292 (1.442)
Patent	-0.115 (0.088)	-0.107 (0.088)	-0.630* (0.373)	-0.636* (0.370)	-3.548** (1.928)	-3.534* (1.848)
Support	-0.060 (0.097)	-0.086 (0.086)	0.627 (0.647)	0.575 (0.578)	1.562 (1.392)	0.795 (1.325)
Equity share	-0.716** (0.305)	-0.702** (0.302)	-0.557 (1.551)	-0.294 (2.042)	8.347 (5.452)	12.205* (6.177)
Year FE	N	N	N	N	N	N
Industry FE	N	N	N	N	N	N
Observations	105	105	55	55	55	55
Adjusted R ²			0.428	0.430	0.147	0.200
Wald Chi sq.	9.255	9.627				
Pseudo R sq.	0.392	0.375				

Note:

*p<0.1; **p<0.05; ***p<0.01

Appendices

Figure 4: Histogram of capital raised

This figure presents the distribution of the amount raised by the campaigns in the sample. The sample ranges from April 2012 to December 2019, covering 263 publicly marketed equity crowdfunding campaigns on the Finnish crowdfunding platform Invesdor.

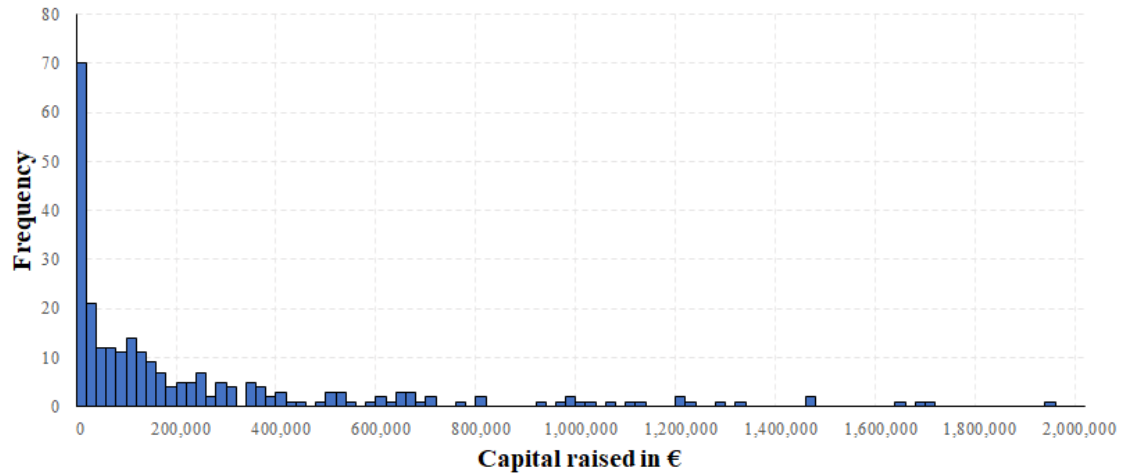


Figure 5: Histogram of number of investments

This figure presents the distribution of the number of investments in the campaigns in the sample. The sample ranges from April 2012 to December 2019, covering 263 publicly marketed equity crowdfunding campaigns on the Finnish crowdfunding platform Invesdor.

