



# Gender-related Differences in Investment Decisions - Through the Lens of Equity Crowdfunding

*An empirical study in collaboration with Dealflow*

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## Acknowledgements

This thesis was written as part of our master's degree in Economics and Business Administration at the Norwegian School of Economics. We are both majoring in Business Analysis and Performance Management, and find female presence within business to be truly interesting. We therefore wished to provide a deeper knowledge about female investors and their impact for the innovation sector. We found this topic to be especially relevant in light of the increased focus on the investment gap and the relatively low share of female investors within the Norwegian market.

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## Abstract

The remainder to progress towards full gender equality requires increased female presence in financial markets, in particular in investing. The need to better understand female investment decisions, in an environment traditionally dominated by men, is therefore crucial. Even though great attention has been paid to general gender differences within investment behaviour, the extant literature has marginally explored the nature of non-professional, individual decisions.

The purpose of this study is to investigate how females and males differ in their investment decisions, by examining Norwegian equity crowdfunding investors. Our research therefore contributes to existing literature, by exploring whether females have specific characteristics compared to males in investment behaviour within a high-risk environment. We use a quantitative method with a qualitative supplement to analyse data retrieved from Norway's leading equity crowdfunding platform, Dealflow. Through our analyses, we examine how female and male individual investors differ in decisions related to risk, herding behaviour, and homophily.

Our first findings suggest that there are no differences between male and female investors when observing the choice of risk level. Furthermore, we observe that females do not tend to follow the crowd, thus they do not exhibit a larger degree of herding behaviour compared to males. These findings contradict conventional beliefs about female investment behaviour, as well as similar research from equity crowdfunding, which fosters a discussion exploring plausible explanations for this within our context. Lastly, our results show that females have a higher tendency than males to invest in ventures with a female entrepreneurial team. Investment decision is therefore partly influenced by homophily, leading investors to choose entrepreneurs similar to themselves in terms of gender.

As we have examined an emerging field in entrepreneurial finance, our thesis provide practical implications going forward. We want to further highlight the overall implications and avenues for further research from our study, as we explore, to our knowledge, relatively new reasons for differences (similarities) in investment behaviour.

**Keywords** - Crowdfunding, Female investors, Gender-differences, Investment decisions

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# 1 Introduction

Decades of improvements in fundamental equal rights and labour market participation, for women around the world, have contributed to economic growth and incrementally narrowing the so-called “gender gap” (Hilson, 2007)(OECD, 2018). While rising female employment rates (Gompers & Wang, 2017) have resulted in higher wages and enabled economic independence for women, participation in financial markets still stands as a remainder for gender equal wealth and ownership (DNB, 2019). To further foster and realise benefits from female participation, in an environment dominated and based on knowledge from men, it is crucial for institutions and financial practitioners to seek new insight (Fidelity International, 2019).

Financial inequalities between genders also in the Nordic countries sheds light on an existing paradox, as the region elsewhere stands as a world pioneer in gender equality (OECD, 2018). Statistics reveal that Norwegian males had 53 BNOK more capital income in 2017 compared to their female counterparts, owned 80 % of private stock values and founded 80 % of all new companies (DNB, 2019). Numerous initiatives and campaigns have addressed the need for change, encouraging increased female participation in investments in particular. Moreover, promoting the gender investment gap has evidently had a positive effect, and in the last quarter of 2019 it was reported that the count of new female investors, for the first time in history, was equal to that of males on the Oslo Stock Exchange (Telle, 2020).

In this era of change, new possibilities for investing have also opened up in entrepreneurial finance. By making cases more accessible and the process easier than traditional investing (D. J. Cumming et al., 2019), the emergence of online alternative funding sources such as crowdfunding is said to “democratise” the investment process and thus improve the diversity of funding sources (Mollick & Robb, 2016). In particular this enables increased participation for non-professional individuals, including female investors. A more diverse investor pool can further be said to benefit female entrepreneurs, as it is evident that they are not given access to funding to the same extent as males (Malmström et al., 2017)(Unconventional Ventures, 2019). This reveals an additional dimension of financial inequality, and research suggests that “a combination of risk aversion, gender investment



bias, and lack of female representation among investors and founders creates a vicious circle that is difficult to break” (Fackelmann et al., 2020). As female founders are shown to benefit from both alternative funding sources and female investors (Unconventional Ventures, 2019) - the democratising of investing potentially represents an important change for female entrepreneurs going forward (Pompian, 2016)(Gafni et al., 2019).

The aforementioned contextual state highlights the advantages of an increased share of female investors, both for the purpose of gender equality itself, and the case of funding access for female entrepreneurs. Existing studies of female investors in particular, show evidence that there are gender-related differences in investment behaviour, with an emphasis on females being more risk averse than males (Croson & Gneezy, 2009). However, the majority of studies investigate these differences through savings, experiments, and corporate business decisions. As entrepreneurial finance until now has been restricted to professional investors, there are few studies exploring how non-professional individuals make investment decisions within a high-risk environment (Ahlers et al., 2015)(Vismara, 2016). Furthermore, the majority of knowledge on crowdfunding has been provided from research on reward-based models, which has limited applicability to equity crowdfunding as an investment-based model. Combining the need for increased knowledge of female investment behaviour and decisions in investment-based crowdfunding, only a few studies have examined a similar issue (Mohammadi & Shafi, 2018)(Hervé et al., 2019).

This thesis contributes to research concerning gender-related differences in investment decisions within equity crowdfunding. To our knowledge, there is still room for improvement in studying how female individuals actually distinguish from men traditionally dominating the investment environment. Assuming that there is a collective striving for a more gender-equal investor pool, increased knowledge about female investment decisions will help various stakeholders pivot to improve products and practices. Open-access platforms such as equity crowdfunding and a growing female investor population in the Norwegian economy, represent new possibilities for this cause. Hence, our research question is:

*How do gender-related differences in investment decisions occur in the context of equity crowdfunding?*

By investigating the investor side of this emerging financing source, we provide insight into a limited understanding of the decision-making process that takes place in this context. Drawing on the logic borrowed from Mohammadi and Shafi (2018), we explore gender-related differences in choice of risk level and herding behaviour. Furthermore, we look into the presence of homophily in investments decisions, to emphasise the implications of an increased share of female investors. We analyse data collected from Dealflow, the leading equity crowdfunding platform in Norway, by quantitative method and a qualitative supplement. Our findings present three sets of evidence regarding gender-related differences in investment behaviour. Contrary to previous research, we find that there is no difference between female and male investors in chosen risk level, as well as in herding behaviour. Lastly, we present confirming evidence suggesting that female investors tend to choose female entrepreneurs within our context.

### **Scope**

Our study is limited to investors, who constitute the supply side of equity crowdfunding. Thus, we do not explore entrepreneurial decisions or venture success. In addition, we will not focus on financial differences in amount invested, hence limiting the scope to other aspects of decision-making. Further, we want to limit the scope of this thesis to individual investors, that is to say, private individuals. As the gender investment gap both refers to a skewed gender distribution in private investments, but also includes too few female decision-makers in institutional investing, this is an important restriction to our study.

### **Outline**

In the next chapter, we will provide relevant background information on the current state of our research context. From this, we take the reader through hypotheses development in chapter 3. We will here present a theoretical view on investment decisions, together with relevant studies of gender-related differences, which sequentially result in three hypotheses chosen to explore our research question. We then present our data and our choice of methodology used to test the hypotheses in chapter 4 and 5. As we have chosen both quantitative and qualitative methods, our analysis results will be given for each of these separately in chapter 6 and 7. Our findings will lastly be discussed thoroughly, before we sum up by highlighting the limitations and implications of our research in chapter 8. We conclude with answering our research question and suggest avenues for further research.

## 2 Background

This chapter provides contextual topics to our defined research question and will therefore form the foundation for this thesis. First, we will present the gender investment gap and its closing potential. As our research focus is on entrepreneurial funding, characteristics of the early-stage ecosystem will then be provided. We will from this elaborate on the gender funding gap and its relevance for our study, as few female investors are amongst several explanatory factors for a disproportional allocation of funding. Potentially fostering a more diverse investing environment, crowdfunding as an emerging risk capital investment platform will then lastly be presented.

### 2.1 The gender investment gap

Despite an overall increase in female labour participation, wage rates and equal societal opportunities, women still consequently earn and invest (thus own) less than men (Fidelity International, 2019)(DNB, 2019). The reason for a low share of female investors, thus the gender investment gap, is complex. The most immediate reason is a lower amount of female wealth and capital to engage in investment activities. Even for countries with a relatively narrow wage gap, males still have more capital income than their female counterparts. As presented in the introduction, this is the case for Norway, and highlights the distinction between salary and income from return on investments (DNB, 2019). Literature further points to a lack of knowledge, financial interest and confidence (Fidelity International, 2019). Looking at traditional characteristics of investment firms and communities, it can also be argued that females cannot get access to the so-called “boys clubs”, and thus miss out on good investment cases as opportunities to grow their wealth. Lastly, research suggests that women in general tend to exhibit higher levels of risk aversion, and as a result undertake fewer investments (Croson & Gneezy, 2009)(Barber & Odean, 2001).

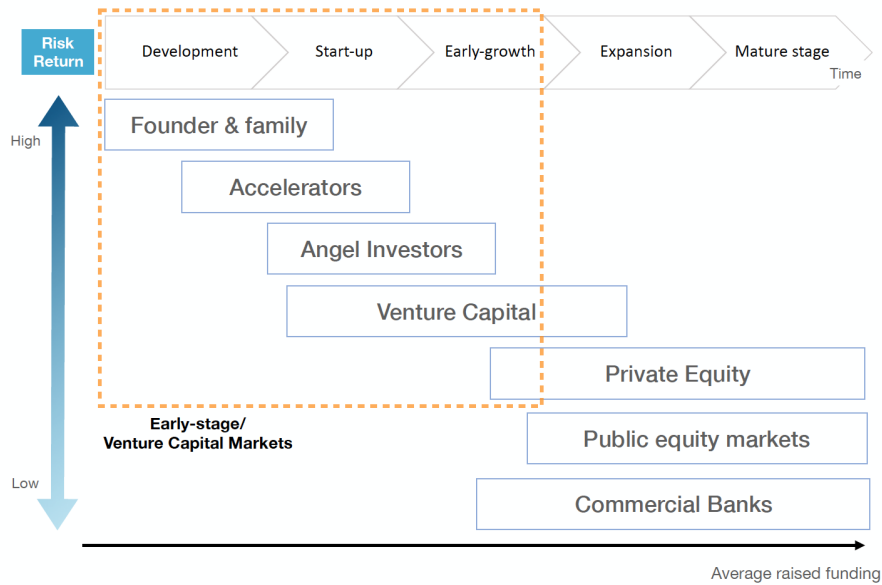
The first step towards improvement can said to be awareness. As highlighted in the introduction, campaigns providing information about the gender investment gap, and status quo has resulted in an all-time high of new female investors on the Oslo Stock Exchange, showing a promising trend going forward (Telle, 2020). Furthermore, traditional boundaries have been pushed by technological advancements as they make cases more

accessible and the investment process easier (Vassallo, 2016). One can see this as a sequence where digitalisation offers a more commercialised funding process, which subsequently enforces a more diverse investor pool (D. J. Cumming et al., 2019), and evidently increase female presence on the funding side (Pompian, 2016)(Gafni et al., 2019). As an example, Kickstarter, a European reward-based crowdfunding platform, reported a female share of 44 % on the backer side for 2015, which stands as a vast contrast to other female participation rates in financial settings. Thus, use of online platforms is said to “democratise the investment process” (Mollick & Robb, 2016), and therefore has the potential to benefit underrepresented investors such as females (Vassallo, 2016).

## 2.2 The early stage ecosystem

As our research examines investing in entrepreneurial ventures, we want to define the early-stage ecosystem as a common basis. From the company life cycle, the early stages refer to the development, start-up and early growth phase. In these early stages, the entrepreneur often struggles to get loans from banks or later-stage private equity investors, because of lack of credit history and uncertainty of future cash flows. Therefore, these phases require different sources of financing, often notated as “early-stage investments” or “venture capital funding”. The investors providing such funding agree to take a higher risk than institutional players, in return for an ownership share/stake in the targeted company (Caselli, 2020)(Lehner et al., 2015). As shown from figure 2.1, investors can be a range of sources: informal investors such as friends and family, professionals at venture capital (VC) firms, seed funds and angel investors (Fackelmann et al., 2020). The emergence of alternative funding sources, such as crowdfunding and syndicates enabled by technology platforms, further makes individual non-professionals an additional investor type, who is not displayed in figure 2.1.

Because early-stage investments are based on investors’ own judgement of the entrepreneurial team and their idea, challenges of human decision biases arise. Research on discrimination in funding addresses how these have consequences, in particular as access to capital can be seen as the most important component for enabling innovation to accelerate its impact (Lerner, 2010)(Malmström et al., 2017)(Unconventional Ventures, 2019). Therefore, investment decisions and dynamics in this context serve as a relevant field of study to improve early-stage funding mechanisms.



**Figure 2.1:** Funding sources of an entrepreneurial firm (Caselli, 2020)(Malde, 2016)

## 2.3 Females receives less funding

A report mapping Nordic start-up funding from Unconventional Ventures, reveals that of the total risk capital (2.3 BnEUR) invested in 2019, only 1.4 % was invested in female-only entrepreneurial teams. Mixed entrepreneurial teams received an average of 6 % of the total funding, which leaves male-only entrepreneur teams with almost 93 % (Unconventional Ventures, 2020). Even though 85 % of the start-ups for this period were indeed male-only teams, women still get smaller average tickets - consequently  $\frac{1}{3}$  -  $\frac{2}{3}$  of the funding that male or mixed teams receive (Unconventional Ventures, 2020). This is supported by the fact that women teams landed 7 % of all deals in the Nordics from 2016 to 2020, but only 2,5 % of the capital as a Nordic average. The numbers are even more significant looking outside the Nordic region, where 20 % of all start-ups are founded by women, who respectively get 19 % of the deal count, but only 3 % of the amount of capital invested (Abouzahr et al., 2018). This phenomenon shows a disproportional allocation of funding to female entrepreneurs, which is referred to as the gender funding gap (Fackelmann et al., 2020).

Considering that female founders, or their presence in a mixed team, are shown to deliver better financial results per dollar raised (Unconventional Ventures, 2020)(Abouzahr et al., 2018), the economic rationale is eliminated as a possible explanatory factor for the existing funding gap. Research on behalf of the European Investment Bank and the European Commission suggests that “a combination of risk aversion, gender investment bias, and lack of female representation among investors and founders creates a vicious circle that is difficult to break” (Fackelmann et al., 2020).

Humans have a tendency to choose people based on shared characteristics (Greenberg & Mollick, 2017), and recent research has put an emphasis on the lack of female investors as a constraint for female entrepreneurs (Unconventional Ventures, 2020). Oranburg and Geiger (2019) found that female angel investors support female-led ventures to a greater extent than male investors, even when controlling for other factors such as industry group and firm characteristics. The low number of female investors can also be a barrier for female entrepreneurs to apply for external equity, as research points to the fact that women entrepreneurs were significantly more likely to apply for funding from angel networks having a higher proportion of women investors (Becker-Blease & Sohl, 2007).

Furthermore, statistics show that alternative funding sources, such as crowdfunding (sources that are not traditional corporate/PEVC funding) account for a higher percentage of total capital raised for women-led ventures than for men and mixed teams (Unconventional Ventures, 2020). This can be interpreted as that female entrepreneurs indeed can benefit from access to a wider audience, and a chance to enter the funding process with fewer biases or prejudices from a homogeneous investor group (Gafni et al., 2019)(Malmström et al., 2017).

## **2.4 A shift in the investing landscape: Crowdfunding**

The concept of crowdfunding started as sporadic independent fundraising initiatives of small amounts aimed at large audiences, as an alternative to raising large sums from a small group of sophisticated investors (Belleflamme et al., 2014)(Shneor et al., 2020). As entrepreneurs and early-stage companies faced difficulties in accessing capital after the 2008 financial crisis, crowdfunding emerged mainly as a funding method providing early-stage funding (Malde, 2016). In recent years, the phenomenon of crowdfunding

has been widely enabled by new technology and digital platforms to create a market for both fundraisers and funders which is highly accessible and without standard financial intermediaries (Mollick & Nanda, 2016)(Vassallo, 2016). Crowdfunding offers a “win-win” to all three parties involved; the fundraiser, the backers and the platform facilitator. Categorized within “new, alternative financing”, this global industry financing volume reached USD 371 billion in 2017 (Ziegler et al., 2019)(Shneor et al., 2020).

Crowdfunding is an umbrella term for a variety of fundraising models, where the distinction is from its underlying logic of either facilitating investments or non-investment financing (Shneor et al., 2020). The investment types of models are predominantly based on equity crowdfunding and crowd-lending, whereas the non-investment models are mainly reward and donation crowdfunding. The different models are aimed at different types of backers, whereas the investing models’ participants are to a greater extent motivated by financial returns than, for example, social motivation or solidarity (Vismara, 2016). For the purpose of our research, we will further limit our focus to investments, more specifically the equity crowdfunding model.

### **2.4.1 Equity crowdfunding**

In equity crowdfunding, the fundraisers are entrepreneurs, the backers are equity investors, and the platform facilitator is often a knowledgeable player offering quality and trustworthiness of the fundraising via their platform. The crowdfunding platform enables entrepreneurs to seek an undefined large number of potential investors, exceeding, but also simplifying, their existing fundraising from family and friends, and potential angel investors or VC firms (Gafni et al., 2019). The investor receives an equity share in the venture in return for the capital invested (Malde, 2016), and has a rather long-time horizon (Shneor et al., 2020).

The equity crowdfunding investors can be a diverse group in terms of background and motivation for investing, whereas studies point to financial returns as the main motivation (Baeck et al., 2014)(Cholakova & Clarysse, 2015). The accessibility results in a range of experience levels, from individuals who have no professional affiliation with investing, to professional angel investors and VC firms (Lukkarinen, 2020).

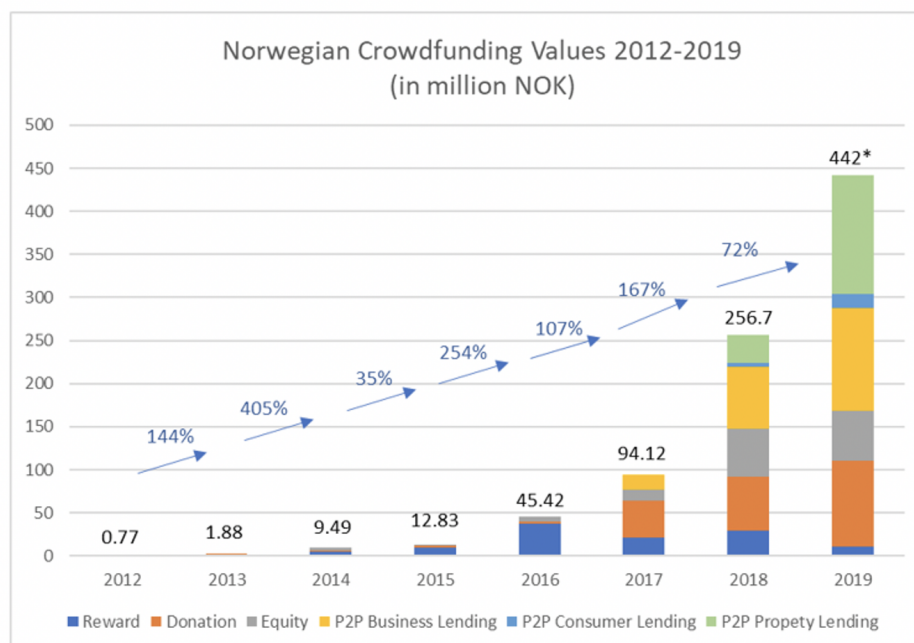
Disregarding motivation or experience, a denominator to highlight is the high-risk profile which characterises early-stage investors in general, and in particular equity crowdfunding. Investing equity relative to grant loans in these early company stages ensures the highest risk possible (Shneor et al., 2020). Due to this, equity crowdfunding platforms employ filtering procedures to ensure quality of projects published (Hornuf & Schwienbacher, 2017). As a result, equity models present some of the highest success rates among campaigns approved for publication across all crowdfunding models and also the highest levels of funds raised per ticket (Shneor et al., 2020).

#### **2.4.2 Crowdfunding market potential**

As leading crowdfunding markets such as the USA, UK and Canada have experienced sharp growth rates, immature markets still represent huge potential growth opportunities in achieving the same amounts invested. In the Nordic market, this is in particular true for Norway as a “late-mover” relative to mature peer markets such as Sweden and Finland. The Nordic region invested 450 MEUR through crowdfunding in 2018 (Weldeghebriel, 2019), mainly in Sweden and Finland, but the growth rates represented in figure 2.2 give reasons to be optimistic regarding the potential also in Norway.

The figure 2.2 shows a 10x increase in capital raised through crowdfunding in Norway from 2016 to 2019. Correspondingly to the global statistics, equity crowdfunding is a small portion of the Norwegian market, but platforms such as Dealflow and Folkinvest are experiencing substantial growth. Figures for 2020 show that the market will overshoot a 100 % growth from 2019 equity volumes, which suggests an promising outlook for this funding source (Dealflow, 2020).





**Figure 2.2:** Norwegian Crowdfunding values  
(Shneor, 2020)

An accelerating growth in combination with the impact previously highlighted in this chapter represents a great potential for equity crowdfunding. Given that the democratisation of the investment process is a fact, the emergence of funding sources such as crowdfunding may therefore foster a higher participation of females (Gafni et al., 2019) on both the investor and entrepreneurship side going forward (Vassallo, 2016).

### 3 Hypotheses development

In this chapter, we will present our hypotheses formulation. To analyse gender-related differences aligned with our research topic, it is first necessary to review relevant theory and empirical literature on investment decisions. This will therefore be provided, followed by perspectives on differences between genders within our context. We will sequentially through the chapter present our three hypotheses chosen to explore our research question.

#### 3.1 Investment decisions in crowdfunding

Decision-making is a complicated multi-step process of choosing a particular alternative from other available options. In financial markets, the decision-makers are investors who need to consider personal, technical, and situational factors depending on their particular investment environment and the market psychology (Shunmugathangam, 2017). Emotions and cognitive errors affect decision-making processes and perception of risk, addressing the need to understand how investors' decisions are influenced by behavioural and psychological theory (Kumar & Goyal, 2015)(Pillai & Achuthan, 2015).

Baron (1998) suggests that decision-making in an environment with a high level of uncertainty and time constraints, places a strain on information-processing capabilities, and therefore involves high levels of emotion (Oaksford et al., 1996). Such an environment is consistent with the venture capital markets, highlighted in our presentation of the early-stage ecosystem. Thus investors in these environments are prone to behavioural deviations, such as overconfidence and loss aversion, and cognitive biases related to information-processing and herding behaviour (Pompian, 2016). Moreover, characteristics in a crowdfunding environment will make the decision process extra prone to specific uncertainty components.

As explained in the previous chapter, limited financial metrics and company track record in early-stage investing causes the investor to face a high risk, as he/she makes decisions based on a subjective and not fully informed judgement. A crowdfunding setting will potentially aggravate this information asymmetry between the entrepreneur and the investor. First of all, the entrepreneur often suggests his/her own valuation to the crowdfunding platform, which potentially could cause higher valuations from natural

incentives (Cooper et al., 1988)(Busenitz & Barney, 1997). Secondly, aforementioned subjective biases can potentially be exacerbated for individual investors on crowdfunding platforms, as they most likely on average have limited experience, time and resources to perform any proper due diligence (Mohammadi & Shafi, 2018). In addition, Hon-Snir et al. (2012) found that more proficient investors are less affected by behaviour biases. It is therefore natural to assume that biases will influence individual investors who are present on crowdfunding platforms, as they often are non-professionals.

## **3.2 Gender-related differences in investment decisions**

Previous research on gender differences in investment decisions, suggest that females tend to be more risk-averse and have less confidence than males (Barber & Odean, 2001)(Croson & Gneezy, 2009). Drawing on the logic from Mohammadi and Shafi (2018), we have therefore chosen to explore risk and herding behaviour as components that may distinguish female and male investors in investment decisions. Further, due to the characteristics of investment decisions in the early-stage environment presented in the previous chapter, we have chosen to explore the influence of homophily. The funding gap for female entrepreneurs motivates us to examine how the gender of the investor affects investment decisions within this context.

### **3.2.1 Female risk-aversion**

Research tends to show different investment patterns for female and male investors, with a particular emphasis on the explanation that females in general tend to be more risk averse (Byrnes et al., 1999)(Hinz et al., 1997)(Croson & Gneezy, 2009). Explanations for a difference in general risk preferences between genders are often made from a biological point of view (Felton et al., 2003)(Zuckerman, 1994).

While the vast majority of research on women in financial settings reports that women are more risk averse than men, there are a few that has demonstrated that the differences are smaller than popularly assumed (Kaplan & Walley, 2016). They suggest that when examining the presence of female risk aversion, and how it materialises in investing, variables that have been typical for females, such as lower wealth, confidence, educational levels and financial knowledge, affect decision-making to indicate risk aversion (Harikanth

& Pragathi, 2013)(Nelson, 2015)(Nelson, 2014). Dwyer et al. (2002) found that one cannot observe a significant negative relation between risk-taking in investments and females when including control for investment knowledge. Supporting this, Hibbert et al. (2008) found evidence that women are indeed no more risk averse than men when controlling for education and financial knowledge. On the other hand, their research further states that gender difference in risk aversion is more significant for portfolios with high risk (Hibbert et al., 2008). Supporting traditional knowledge, several studies report a consistent risk aversion for females even when controlling for age, income and other control variables, and find no correlation between risk taking in investing and knowledge or education (Olsen & Cox, 2001)(Jianakoplos & Bernasek, 1998)(Agnew et al., 2003).

Research results have emerged from different contexts such as experiments with lotteries, empirical studies with personal wealth and pension savings, indicating that the specific context may be an important boundary condition (Kaplan & Walley, 2016). Some studies are completed in an equity crowdfunding context, even though research on investment crowdfunding is limited due to its recent emergence. Hervé et al. (2019) use data from both equity crowdfunding and crowd-lending, and their results show that women invest less in the riskiest equity investments. They argue that the difference between the genders comes from female risk aversion. Research from Mohammadi and Shafi (2018) found that females are less likely to invest in younger firms, technology firms as well as ventures having a higher percentage of equity offered. Their results support the idea that female investors are more risk averse than males in an equity crowdfunding setting.

To sum up, accumulated research on gender risk-taking in investment decisions both favours the theory that females are more risk averse than males, but also suggests that it is caused by other factors than gender. As we examine a high-risk environment, and recent research from equity crowdfunding supports female risk aversion, our first hypothesis is therefore:

*H1: In equity crowdfunding, we expect to observe that female investors are more risk averse than males*

### 3.2.2 Herding

Research from Croson and Gneezy (2009) supports the view that women are more risk-averse investors than men, but also points to the fact that psychological biases such as overconfidence may influence female and male investors differently. Overconfidence causes people to be too confident about their skills and knowledge, which may lower the perception of risk (Busenitz & Barney, 1997)(Palich & Bagby, 1995). Croson and Gneezy (2009)'s findings suggests that this bias for male investors could drive the observed differences in risk attitudes between men and women. In addition, they state that male investors tend to be even more overconfident in uncertain situations (Hervé et al., 2019).

Lin (2012) proposes that the level of confidence will have an impact on herding behaviour through the effect of risk tolerance. In the financial market, herding can be defined as mutual imitation causing a convergence of actions (Hirshleifer & Hong Teoh, 2003). Investors have a tendency to follow the investment decision taken by the majority, and therefore imitate the judgment of others (Alrabadi et al., 2018)(Kumar & Goyal, 2016). According to Liñán et al. (2011), investors are more prone to mimic the action of others, or groups, in situations where there is a higher degree of uncertainty and sequentiality in information production. Both of these conditions are strongly represented in crowdfunding (Mohammadi & Shafi, 2018), and herding is cited as a prominent feature within this context (Colombo et al., 2015)(Vismara, 2016)(Hornuf & Schwienbacher, 2015).

As herding is defined as following decisions taken by others, a confident investor who has a higher risk tolerance is therefore less likely to form herding bias (Lin, 2012). Furthermore, literature also suggests that women are in general less confident than men (Barber & Odean, 2001).

According to the theoretical perspectives presented, this should subsequently cause males to follow the actions of others, to a smaller extent than females. Thus, it is natural to assume that females are more susceptible to herding biases, which led us to formulate our second hypothesis:

*H2: In equity crowdfunding, we expect to observe a higher level of female herding behaviour*

### 3.2.3 Homophily

Considerable attention has been devoted to understanding how between-individual similarity, namely homophily, has an influence on decision-making. Research indicates that decision-makers tend to rate people that resemble themselves more positively (Knockaert et al., 2010). Characteristics such as physical appearance (Feingold, 1988), personality (Byrne et al., 1967), demographics (Tsui et al., 1992), and values (Meglino & Ravlin, 1998) can influence the decision-making process in early-stage funding by favouring individuals similar to the investor (Murnieks et al., 2011).

As already presented in chapter 2, highlighting the funding gap for female entrepreneurs, female investors are more likely to invest in female-led startups and female CEOs (Oranburg & Geiger, 2019). This is a tendency for both genders, further proven by Horvat and Papamarkou (2018), where it was found that investors and entrepreneurs of opposite gender were significantly less likely to connect.

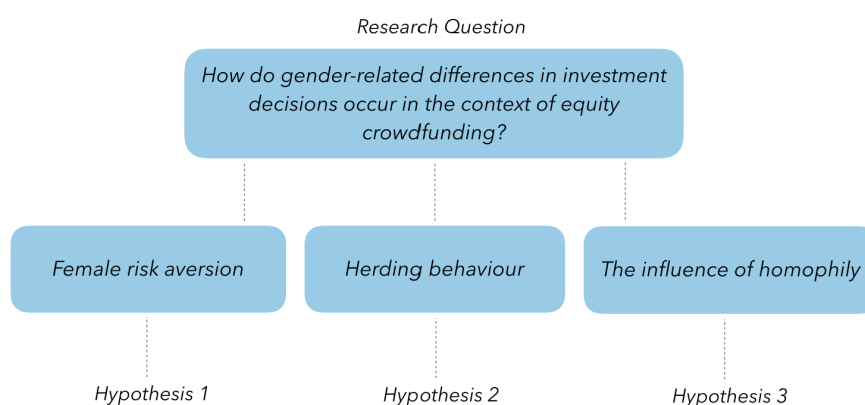
Moreover, studies from Brush et al. (2014) found that VC firms with women partners were twice as likely to invest in companies with a woman on the management team (34 % vs. 13 %), and three times more likely to invest in companies with women CEOs (58 % vs 14 %). Unconventional Ventures (2020) reported similar tendencies within the Nordic VC ecosystem. According to Gafni et al. (2019), there is also evidence of gender related homophily within reward-based crowdfunding, and that the tendency increases along with the increased share of females on the founder team. To our knowledge, the relationship has yet to be confirmed in an equity crowdfunding setting.

From this, it is natural to expect that homophily may influence investment decisions within our empirical setting, and we lastly present our third and final hypothesis:

*H3: Female investors in equity crowdfunding are expected to be more likely to invest in female-led start-ups than males*

### 3.3 Hypotheses

To summarise, the combination of the increased focus on female investing and the emergence of crowdfunding as a democratising funding source motivates us to contribute to increased knowledge about female investors with this research. Through our three hypotheses about female investment decisions, we will examine our research question. Our hypotheses relate to the research question in the following way:



**Figure 3.1:** Hypotheses

Figure 3.1 shows how our research will be structured in the following, and how our analyses examining our research question are divided in a systematic way.

## 4 Data

This chapter presents the data set used in the quantitative analysis. The first two sections include a presentation of the empirical setting of the data source, followed by the sample selection. The third section provides a variable description, followed by a presentation of the final sample through descriptive statistics.

### 4.1 Data source

This paper uses data collected from Dealflow, an independent equity crowdfunding platform based in Norway (Dealflow, 2020). The data set consists of investments in early-stage unlisted ventures in exchange for equity share in the business (Vulkan et al., 2016). Dealflow launched in 2017, when crowdfunding was still an immature market in Norway, as seen from the graph presented in the crowdfunding chapter. In a rising market, Dealflow aims to be the country's most effective platform for ventures in need of financing, and individuals looking to invest in exciting growth companies. With 8000 investors and a market share of 75 %, it is "the largest equity crowdfunding platform in Norway", followed by Folkeinvest (Dealflow, 2020). By early 2020, it had facilitated equity investments of 116 MNOK for 42 companies, with an average ticket size of 35.000 NOK per campaign. The investors have constituted of 40 % holding companies and a female share ranging from 15-30 %. Dealflow is hence a representative platform to use to gather data for statistical models and is well suited to our research question.

As an intermediary between companies and investors, Dealflow provides the means for transactions, through the pre-selection of ventures, the legal groundwork and the ability to process financial transactions (Ahlers et al., 2015). Investors are given information about the ventures which includes the entrepreneurial team, the business model and financial statements. In addition, information concerning minimum and maximum goals, pre-money value, % equity for sale, minimum investment amount per investor and price per share is presented for each campaign.

Dealflow has an "all or nothing" policy, meaning that the ventures rely on a successful campaign to receive equity. A campaign is considered successful when the minimum goal is reached; if it is not, the entrepreneurs will not receive the amount invested during the



time period of the campaign. The funds redeemed on the platform can be higher than the minimum but must be below the maximum goal set by the entrepreneurs.

#### 4.1.1 Data Sample

Our initial data consists of 60 equity crowdfunding campaigns with 3659 individual investments in the period 2018 to mid 2020. For each campaign, the raw data includes information about the date the campaign started, the declared minimum and maximum investment target, pre-money value, %-equity for sale, and the value of each investment ticket received. Furthermore, each investment is matched to the specific investor, giving us information on the exact date and time, gender, age, experience and knowledge. The dimension of knowledge and experience is from prior mappings done internally by Dealflow. This enables us to analyse both individual campaigns and the behaviour of individual investors.

To enrich our research range, we have added additional dimensions to our campaign data. On a company level, information, including industry, the date of establishment, and gender of CEO, CFO and founders, has been collected from Dealflow's website, Campaign Memorandums, Samfunns- og næringslivsforskning AS (SNF) and the Brønnøysund Register Centre. The companies are grouped based on SSB's Standard Industrial Classification. SIC2007 is used in classifying business establishments and other statistical units by the type of economic activity in which they are engaged (SSB, 2016). SIC has five levels; section, division, group, class and subclass. In our thesis we will divide the companies into overall industry groups by using the highest level "section".

In order to obtain a suitable sample for our research question, we further excluded observations that are not representative. To avoid bias in our estimates, we exclude investment amounts over 1 900 000 MNOK. In conversations with Dealflow, we concluded that these few observations are internal transactions, and thus do not represent external funding. From the investor birth dates, we further excluded observations for individuals that were younger than Dealflow's age limit, in addition to observations that seemed unusual due to very old age. We further remove observations where investment date is prior to campaign date, as this may reflect an internal transaction. In addition, campaigns that only received one or two investments are removed from the final sample. Due to odd

characteristics, we believe that these campaigns may not give representative insight to our analyses. Finally, we exclude investments done by holding companies. This is due to the fact that we want to analyse individual investors and gender differences within investment decisions. As holding companies might consist of several individuals which could include both females and males, it was natural to exclude these observations. To sum up, the final sample includes 47 campaigns with 2189 unique investments. Since some firms have done multiple campaigns, the data set consists of 45 unique Norwegian ventures.

## 4.2 Variable description and summary statistics

In the following, a detailed description of the variables used in the analyses are presented, in addition to a remark on the relevance of the chosen variables. First, the dependent variables are presented, followed by the independent and control variables.

### 4.2.1 Dependent variables

#### 4.2.1.1 Risk level

There are several observed characteristics of firms that can influence investors in the decision-making process related to the risk of future cash flows. One variable of risk is equity offered by the venture, meaning the maximum amount of shares the entrepreneur is willing to sell during the campaign. This is a calculated ratio from the equity offered over the total valuation of the venture.

According to Leland and Pyle (1977), the entrepreneur's willingness to invest in his own project can serve as a signal of project quality. They point to a high level of information asymmetry between entrepreneurs and investors, where firm owners possess more information about their projects compared to external investors. If the entrepreneurs are optimistic about the future cash flow of their venture, then they will try to retain a large amount of the equity shares (Vismara, 2016). This suggests that the value of the firm thus increases with the share of the firm held by the entrepreneur. Given this, investors might perceive high equity offerings as a negative signal. In addition, a higher equity offering can have a negative effect on the entrepreneurs' incentive to commit to their company (Mohammadi & Shafi, 2018). Taking these elements into consideration, it is likely that more equity offered signals higher risk to the investors.

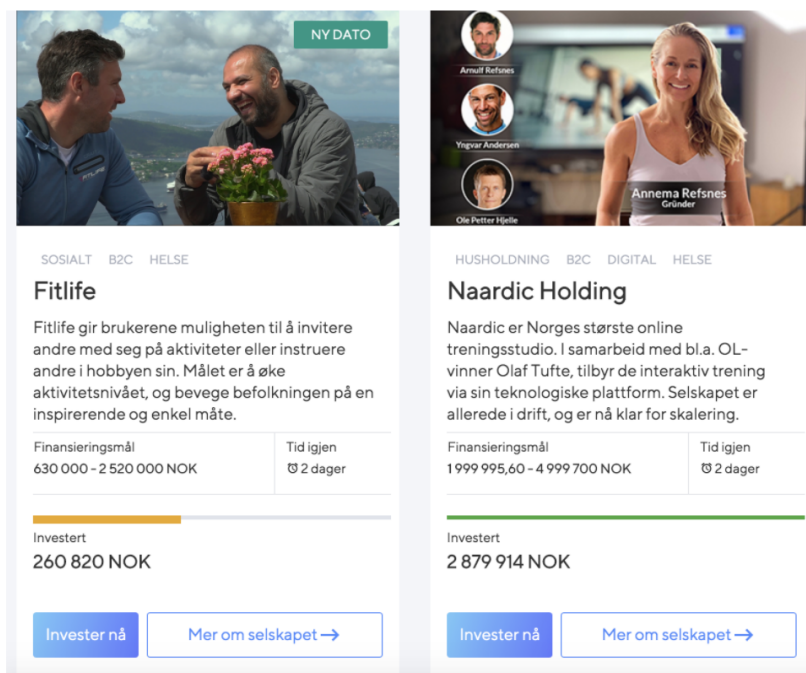
Other common variables of risk could be financial ratios, which are used by investors to evaluate the financial health of a firm (Martani et al., 2009). As stated, representative financial statements are available to a limited extent for an early-stage company. From this, and the investor's limited ability, time and resources to do financial due diligence, we do not include financial ratios as a proxy for risk in our analysis.

To summarise, the dependent variable of our first analysis to investigate the choice of risk in investment decisions, namely H1, will be the level of equity offered by the venture. It is important to note that the dependent variable will be the *choice taken by the investor* to invest in a specific campaign, with a given level of equity offered, already decided by the entrepreneur.

#### **4.2.1.2 Herding behaviour**

For our hypothesis H2, we want to explore whether we can observe gender-related tendencies within the phenomenon of herding. One could argue that the number of prior investors is a good indicator of the so-called "herding effect" (Jiang et al., 2018). However, investors using Dealflow do not get access to this information. They instead observe the amount invested per campaign and how far it is from its minimum goal, and thus success. This proportion is visualised by a bar as shown by figure 4.1, and easily accessible for the investors.

We therefore define a herding measure based on the ratio of cumulative amount invested as a proportion of the campaign target. Investors can easily observe this information as it is displayed for each campaign, and one can argue that it reflects prior investors' collective traction of a certain campaign. It is reasonable that investors demonstrate herding behaviour if the cumulative amount invested, compared to the campaign target, has a positive effect on the decision to invest in the campaign. Thus, herding will exist if individuals have a tendency to invest in campaigns with a higher ratio of cumulative amount invested to the campaign target. This because they are relying on the judgment of others.



**Figure 4.1:** Illustration of proportion invested of campaign target

#### 4.2.1.3 Homophily

The dependent variable in our third analysis is a dummy variable equal to 1 if a venture is female-led. First, we identify a venture as female-led based on the condition that the CEO is female, due to the fact that this is the key individual behind the proposed campaign. We then expand the indication of female-led start-ups to include that a) at least one of the main managers of the firm is female (CEO and CFO), and b) at least one of the founders is female. This enables us to explore how likely it is that investments are made between individuals of the same gender, given the share of female- and male-led start-ups and investors.

#### 4.2.2 Independent variables

To be able to analyse gender-related differences, we use investor gender as the independent variable in all analyses. Female investor is a binary variable with the assigned value equal to 1 for investors that are females and otherwise 0.

### 4.2.3 Control variables

When testing hypotheses, one has to control for different factors that may affect investment behaviour other than gender. The control variables are divided into two main categories: campaign/firm level and investor level.

#### 4.2.3.1 Firm level control variables

There are several observed characteristics of the individual firm that can influence investors in the decision-making process. We include the natural logarithm of pre-money value in Norwegian kroner (NOK), later referred to as valuation. Pre-money value is a common measure to include when evaluating start-ups, and it is an estimated or notional value of a firm prior to investment round (Köhn, 2018)(Callow & Larsen, 2003).

Due to the fact that some companies may lack quantifiable data such as operating statistics and performance indicators, there is a high level of uncertainty concerning pre-money value. However, it can, to some degree, signal project quality due to the fact that many factors have been assessed when evaluating the different firms. A higher pre-money value can therefore attract investors, and Hervé et al. (2019) found that the pre-money valuation was significantly and positively associated with ticket size. In contrast, a high pre-money valuation may also indicate an overvalued company, and investors could be hesitant to invest if they perceive the valuation of the firm to be overestimated (Messica, 2006).

We further control for industry effects to account for unobserved heterogeneity between campaigns. Previous research has provided support to the fact that industry membership has an influence on firm profitability and start-up valuation (McGahan & Porter, 1997)(D. Cumming & Dai, 2011). By controlling for industry, we also isolate gender differences as it is likely that this will have an effect on the decision-making. In addition to industry effects, we include year fixed effects. Since the sample consists of investments over three years, it is likely that there could be some variation in the degree of platform legitimacy, or other factors that may change over time that could influence the investment decisions.

For the analysis of herding behaviour, we include the share of days passed for each campaign. The variable indicates the number of days passed since the campaign started over the planned duration. The variable can provide information concerning the percentage

of funding, and it is natural there is a positive relationship between proportion of campaign target invested and share of days passed (Mohammadi & Shafi, 2018). Furthermore, we include investment frequency for the analyses of risk level and homophily. Investment frequency is based on the number of prior investors divided by days that have passed since the campaign started. The values indicate the traction of the different campaigns, which may affect the investors' assessment related to attractiveness of the investment (Mohammadi & Shafi, 2018).

We use the dependent variable in each analysis as a control variable for the respective other. As stated in chapters 2 and 3, female investors might be more likely to invest in female-led campaigns, and we therefore control for female CEO in first two analyses. Risk level will most likely affect any investment, and we therefore include level of equity offered as a control in last two analyses.

#### **4.2.3.2 Investor level control variables**

For investor characteristics, we include several demographic factors as control variables. We control for investors' age, as the investment preferences may vary between investors of different ages. As older investors are closer to retirement, they may invest in less risky assets (Hervé et al., 2019). It is therefore natural to think that the age of the investor will have a negative relationship with the equity offering and lead to more herding behaviour. Thus, we control for investors' birth date to eliminate such potential effects on investment decisions.

Furthermore, as some studies, highlighted in chapter 3, suggest that female risk aversion might be influenced by certain factors, we include variables for experience and knowledge. The variables are estimated, based on previous questionnaires done by Dealflow. The questions aimed to assess both their knowledge of investing and previous experience, and each individual is given a score within the two categories. The questions within knowledge are fact based, while the experience questions ask whether they have invested in unlisted companies before and if they have a related profession/education. We have therefore made a total possible score of 5 and 3, respectively, for experience and knowledge. It is reasonable to think that investors with experience and knowledge will look at certain criteria to make their assessment of target companies. Thus, this may subsequently result

in different investments. The choice of separating the two categories is based on an assumption that practical experience may affect investment decisions in different ways than theoretical knowledge.

#### 4.2.4 Descriptive statistics

This section presents descriptive statistics of the data used in our analyses. We describe the campaigns and an overview of the included industries, in addition to statistics for the complete sample and for each gender. Finally, we present data concerning the distribution of investors across gender of the CEO and entrepreneurial team.

##### 4.2.4.1 Campaigns

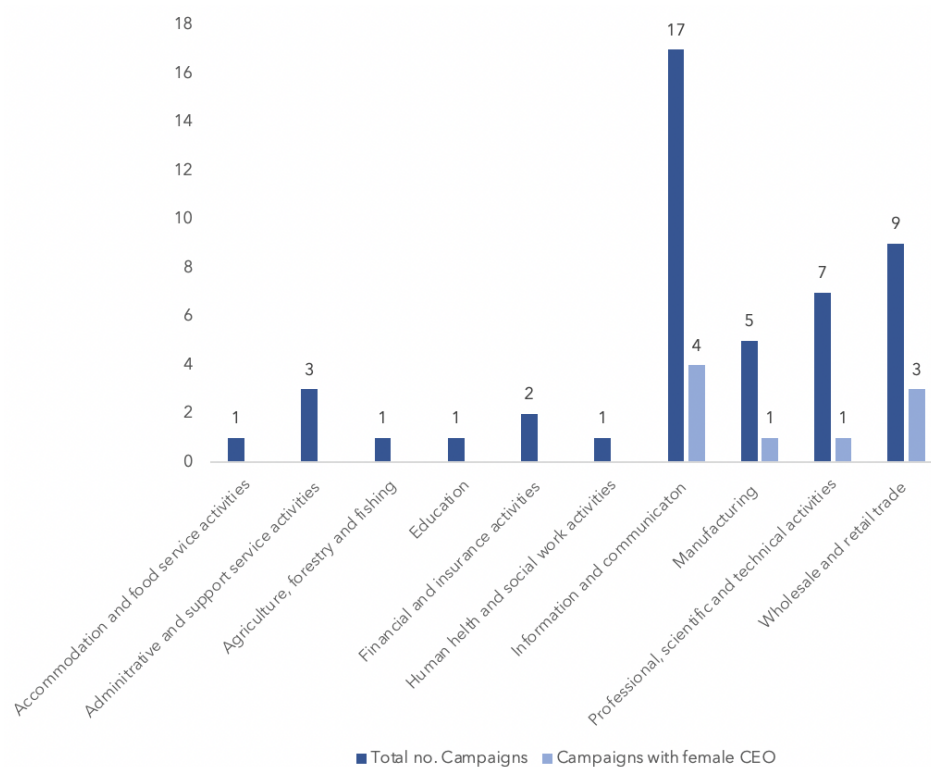
As mentioned above, the sample consists of 47 campaigns with 2189 investments. Of the 47 campaigns, as many as 87 % were successful, meaning that the campaign reached its campaign target. Table 4.1 shows statistics at the campaign-level calculated based on one observation per campaign, leading to 47 observations. As mentioned, 45 of the campaigns in the data sample are unique companies. However, the key variables such as equity offering and campaign target are different for each campaign even though it is the same company.

**Table 4.1:** Campaign statistics N=47

Statistic	Mean	St. Dev.	Min	Max
Equity offering (%)	17.77	9.94	4.83	45.880
Firm age	4.23	5.00	0	22
Valuation	32,167,687	25,717,938	3,000,000	118,274,000
Campaign target	1,757,403	2,377,799	200,000	15,000,000
Max funding target	4,947,975	4,555,670	800,000	25,000,000

Further, the data sample consists of campaigns within 10 industries. From graph 4.2, we can observe that information and communication is a heavily represented industry in the data sample. This is natural due to digitalisation and the increased focus on technology across industries. The information and communication sector includes start-ups in software development, web portals, data processing and other information technology. Thus, a broad definition of this subsection explains why a majority of the campaigns are in this industry. In addition, there are several sectors which only include one campaign, which

leads to an uneven distribution of observations across industries. Finally, we see that campaigns with a female CEO are only present in four of the 10 industries.



**Figure 4.2:** Industry overview

#### 4.2.4.2 Individuals

Table 4.2 provides descriptive statistics of the dependent variables for the first two analyses; equity offered, proportion invested of campaign target, and all the control variables. Comparing the table to the descriptive statistics for the campaign level, one can observe a change. This is because the individual campaigns do not receive the same amount of funding and therefore the number of investments will vary. This implies that the data is unbalanced, where some campaigns consist of 490 investments while others only consist of around five. There is a strong difference between median and mean ticket size, indicating that the distribution of investment amount is negatively skewed.



**Table 4.2:** Summary statistics N= 2,189

Statistic	Mean	St. Dev.	Median	Min	Max
Equity offering (%)	15.970	7.317	16.67	4.830	45.880
Proportion inv. of campaign target	1.666	1.416	1.321	0.001	6.495
Investor age	39.935	12.345	38	18	99
Knowledge	4.432	0.813	5	1	5
Experience	1.567	1.002	2	0	3
Firm age	3.694	3.996	2.54	0.455	22.611
Ticket size	20,746	61,762	7,500	1,000	1,499,995
Valuation	43,320,057	26,175,481	45,000,000	3,000,000	118,274,000
Campaign target	1,846,417	1,475,782	1,497,600	200,000	15,000,000
Share of days passed	0.496	0.326	0.4815	0	1
Investment frequency	24.391	40.922	3.462	0	176

In table 4.3, we can observe the descriptive statistics of the same variables in table 4.2 when splitting the data sample into male and female investors. From the table, we observe that females account for fewer observations, as 20 % of the investments are done by female investors. Within our sample, females have invested in ventures with a higher mean of equity offering than males. However, the t-test does not show a significant difference. On the other hand, looking at the proportion invested of campaign targets, females have a lower ratio than males and the difference is significant. The male investors are slightly more experienced, possess more knowledge and are on average younger than females in our sample. Furthermore we see that females have a tendency to invest smaller amounts compared to males, in addition to investing in campaigns with lower valuation and campaign target. By only looking at the descriptive statistics, we therefore confirm that there exist gender-related differences in investment decisions, and already observe certain tendencies within our sample. This fosters an interesting basis for our analyses to investigate what may drive these differences.

**Table 4.3:** Summary statistics and t-test across gender

Statistic	Male N=1745		Female N=444		t-test	
	Mean	St.Dev	Mean	St.Dev	t-value	p-value
Investor age	39.32	12.34	42.35	12.10	-4.6364	3.754e-06
Knowledge	4.46	0.80	4.33	0.84	3.0062	0.002676
Experience	1.68	0.98	1.12	0.97	10.878	2.2e-16
Firm age	3.81	4.17	3.25	3.17	2.6221,	0.008799
Ticket size	22,652	67,605	13,255	27,874	2.8672	0.004181
Valuation	45,359,207	26,136,925	35,305,830	24,776,821	7.3119	3.677e-13
Campaign target	1,919,242	1,514,415	1,560,198	1,274,785	4.5981	4.506e-06
Proportion inv. of campaign target	1.75	1.45	1.35	1.21	5.2349	1.808e-07
Equity offering (%)	15.84	7.35	16.46	7.18	-1.5845	0.1132
Share of days passed	0.51	0.32	0.45	0.33	2.9876	0.002843
Investment frequency	25.83	41.86	18.75	36.50	3.2591	0.001135

Table 4.4 shows the distribution of the number of investments across the gender of investor

and CEO, which is the dependent variable for the third analysis. In our sample, 78.7 % of the startups were run by male CEOs, and, when looking at the 1745 male investors, only 13.5 % invested in start-ups with a female CEO. Furthermore, we see that females have a higher tendency than males to invest in female CEOs. Of the 444 investments done by females, 33.1 % were invested in startups with female CEOs.

**Table 4.4:** Association between investor and CEO gender

	Male CEO	Female CEO	Total
Male investor	1509	236	1745
Female investor	297	147	444
Total	1806	383	2189

Table 4.5 presents the association between the gender of the investor and the entrepreneurial team. In our sample, 72.3 % of the campaign consisted of male-led startups, meaning that the CEO, CFO and founders were all males. We observe that a larger proportion of male investors invested in female-led teams compared to female CEOs, with an increase from 13.5 to 19.4 %. The same tendency is present in female investors, where the proportion that invested in female-led startups increased from 33.1 to 43.2 %.

**Table 4.5:** Association between investor gender and entrepreneurial team

	Male-led	Female-led	Total
Male investor	1407	338	1745
Female investor	252	192	444
Total	1659	530	2189

## 5 Methodology

The purpose of the following chapter is to present the methodology applied to test our hypotheses. We will first introduce the structure of our data, before presenting the methods used for the quantitative main analysis. Lastly, we will present the qualitative method, and motivations for including this as a supplement to the quantitative analysis investigating our research question further.

### 5.1 Quantitative method

#### 5.1.1 Data structure

There are generally three ways of structuring data when performing an empirical analysis; cross-sectional data, time-series data, or panel data (Wooldridge, 2016). Our data sample consists of 1501 unique investors, meaning that 68% only invested once during the time period from 2018 to 2020. As we thus do not have the same individuals repeatedly over the same period of time, we are not able to conduct panel data analysis when testing the hypotheses. Due to the information provided by the data set, we will treat the sample as cross-section individual-level data. Furthermore, the campaign level allows us to include a time dimension when looking at individual investments relative to the campaign time frames.

#### 5.1.2 Ordinary least squares method

For our first two analyses, we estimate how gender differences affect risk assessment and herding behaviour, using ordinary least square (OLS) regressions. The method estimates unknown parameters by minimising the sum of squared residuals, between the observations in the data set and the model prediction (Wooldridge, 2016). For linear regressions with multiple independent variables, the basic equation is as followed:

$$\hat{Y} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_i X_i \quad (5.1)$$

### 5.1.2.1 Heteroscedasticity

The OLS method provides the best linear unbiased (BLUE) estimator as long as certain conditions are met. The assumption of homoscedasticity requires that the variation in the residuals, given any value of the independent variables, is the same (Wooldridge, 2016). In the case of heteroscedasticity, the standard errors are both biased and inconsistent. This results in reduction or inflation in statistical power, and inaccuracy in the estimation of lower and upper bounds on confidence intervals (Hayes & Cai, 2007). To check for heteroscedasticity, we use the Breusch pagan test for each model, where a p-value below 5% will lead to a rejection of the null hypothesis of homoscedasticity. To overcome the problem with heteroscedasticity, we calculate robust standard errors. In addition, due to structure of the data, it is natural to assume that there will be some correlation for observations within the same campaign. This will cause within-cluster error correlation, which may result in very misleadingly small standard errors (Cameron & Miller, 2015). To account for this in our sample, we further use clustered robust standard errors, where the investments are grouped into clusters based on the campaign level.

### 5.1.3 Logistic regression model

Linear regression models are inappropriate when testing the third hypothesis. This is because the dependent variable is not measured on a ratio scale and the error terms are not normally distributed (Czepiel, 2002). Thus, we use logistic regression when looking more closely into the relationship between investors and the entrepreneurial team in terms of gender. The method consists of statistical models which evaluate the relationship between a dependent qualitative, dichotomic variable, or variable with more than two values, and one or more independent explanatory variables (Domínguez-Almendros et al., 2011). Logistic regressions or so-called logit models take the natural logarithm of the odds that some event will occur. This is necessary to create a linear relationship between a categorical outcome variable and its predictor(s) (Peng et al., 2002). The simple logistic model with logit transformation is as follows:

$$\text{logit}(Y) = \ln \frac{p}{(1-p)} = \beta_0 + \beta X_1 + \epsilon \quad (5.2)$$

The goal of logistic regression is to estimate the unknown parameters  $\beta$  for the equation. Least squares estimation is not able to produce minimum variance unbiased estimators for logistic regressions (Czepiel, 2002). Thus, the method uses maximum likelihood estimation which is designed to maximise the likelihood of reproducing the data given the estimated parameters (Peng et al., 2002).

As explained in the data chapter, the dependent variable for the third analysis is a binary variable, with the value 1 if the CEO of the company is female and otherwise 0. The independent variable will be the binary variable indicating the gender of the investor. By using a logistic regression, we will, in the presence of homophily, expect that female investors are more likely to choose campaigns with a female CEO compared to male investors. Thus, a female investor should increase the probability that the campaign invested in has a female CEO. When further expanding the analysis to female-led startups, we expect to observe the same tendency.

### 5.1.3.1 Interpretation of coefficients

Compared to a linear regression, the interpretation of the impact size of a coefficient is not as simple for logistic models. The coefficient and its value say something about the direction of the relationship between the independent variable and the logit of the dependent variable (Peng et al., 2002). Thus a  $\beta$  larger than zero will imply a larger logit of  $Y$ . However, we cannot observe the absolute change in probability of an outcome by only looking at the coefficients. To obtain a more meaningful and intuitive interpretation beyond just the direction of the effect, marginal effects are often reported. The marginal or incremental effect shows the effect of an independent variable on the probability that the dependent variable is equal to one (Norton & Dowd, 2018). Marginal effects thus indicate an absolute change in the probability of an event while holding all other variables constant.

## 5.2 Qualitative method

We use a qualitative method to gain further insight into the characteristics of the investors, in order to better understand investment choices within our sample. The main motivation for the qualitative analysis is to capture aspects that may not be represented by the quantitative main data. The insight will be used as a supplement to the discussion for the quantitative analysis, to enable a richer interpretation of our findings. In addition, as equity crowdfunding is a rather immature market, the qualitative insight enables us to better understand the empirical implications of our research.

The data for this analysis is gathered through an online survey, including nine questions, forwarded to Dealflow's investor pool<sup>1</sup>. The questions were defined both from formal guidelines on survey design, and input from Dealflow. Furthermore, the survey was specifically designed to gain insight into certain judgements in advance of an investment, their interpretation of information on the platform and the main motivation for investing. A strategic choice of adding a comment option in several questions further helped us to get a deeper understanding of some individual preferences. In addition, basic demographic questions made it possible to explore gender-related patterns and distinctions within the answers compiled. The data basis for the qualitative analysis consists of 157 responses, whereby 14% were women, which we see as a representative sample seen from our data set. It is, however, important to keep in mind the low number of respondents relative to the number of individual investors in our data set, and also the limited in-depth knowledge an online questionnaire provides.

In addition to the survey, we conducted a semi-structured interview with Professor Rotem Shneor, which is leading the Nordic Crowdfunding Alliance and serves as a researcher at the Cambridge University Centre for Alternative Finance. In the very initial phases of our research, we also conducted a series of similar informal interviews with other industry experts. This, along with a tight collaboration with our contacts from Dealflow, has resulted in a better understanding of the research context. Similar to the survey, the insight provided through interviews will be used as a supplement to the discussions, in addition to assumptions made throughout.

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<sup>1</sup>An overview of the questions included in the survey, in addition to the results, can be found in the appendix

## 6 Analysis

This chapter presents the results of our quantitative analysis, which is organised in three separate parts for the different aspects of our research question. In the first two analyses, we will present the findings of gender-related differences in risk preference and herding behaviour. We will further present our results from the third analysis, investigating whether female investors are more likely to choose campaigns with female CEOs or that are female-led. Finally, a robustness test is presented to check whether the results are consistent when looking at only unique investors.

### 6.1 Results seen from the choice of risk level

The investors' choice of investing in campaigns with a certain level of risk, seen as equity offered, is the dependent variable for this first sub-analysis. As this determinant is presented earlier as a proxy of perceived risk while investing in early-stage ventures, we want to explore whether females are more risk averse. Female investor is chosen as our independent dummy variable, and from our H1 we expect a significant negative relationship which will imply that females choose ventures with lower levels of equity offering. Table 6.1 presents the results, and the effect of controlling for investor, campaign and firm specific variables, in addition to industry and year effects.

Column (A) reports a simple specification including only the dummy variable for female investors. The coefficient is positive but not significant, indicating that there is no difference between females and males in risk preference measured through equity offering. Columns (B) and (C) show how the coefficient changes when adjusting for our chosen investor specific control variables and the investment frequency, presented in the data chapter. The results reported in the two columns show the same tendency as in column (A). The specification is further expanded in column (D) to include firm specific control variables, and we can observe a great increase in  $R^2$ . By examining the drivers behind this, we find that valuation alone increases  $R^2$  by 0.30. This is natural, considering that equity offering is calculated from maximum funding target over valuation. When adding all the control variables together in Column (D), the coefficient at 0.029 is positive and still not significant.

**Table 6.1:** Analysis of choice of risk level

	<i>Dependent variable:</i>				
	Risk level <sup>a</sup>				
	Base	Individual level controls	Campaign level controls	Firm level controls	Complete
	(A)	(B)	(C)	(D)	(E)
Female investor	0.045 (0.067)	0.039 (0.072)	0.080 (0.059)	0.029 (0.034)	0.026 (0.029)
Investor age		-0.001 (0.003)	0.001 (0.002)	0.0002 (0.001)	0.001 (0.001)
Knowledge		-0.034 (0.024)	-0.024 (0.019)	-0.013 (0.014)	0.001 (0.012)
Experience		-0.007 (0.035)	0.015 (0.023)	0.015 (0.017)	-0.009 (0.011)
Investment frequency			0.004 (0.005)	0.007* (0.004)	0.007** (0.004)
Female CEO				-0.347* (0.181)	-0.354** (0.178)
Valuation <sup>a</sup>				-0.472*** (0.094)	-0.365*** (0.106)
Constant	2.731*** (0.121)	2.926*** (0.319)	2.610*** (0.124)	10.774*** (1.619)	9.231*** (1.810)
Industry effects	No	No	No	No	Yes
Year effects	No	No	No	No	Yes
Robust SE	Yes	Yes	Yes	Yes	Yes
Observations	2,189	2,189	2,189	2,189	2,189
R <sup>2</sup>	0.002	0.007	0.110	0.458	0.665
Adjusted R <sup>2</sup>	0.001	0.005	0.108	0.456	0.662
F Statistic	3.741* (df = 1; 2187)	3.767*** (df = 4; 2184)	53.895*** (df = 5; 2183)	263.165*** (df = 7; 2181)	238.996*** (df = 18; 2170)

<sup>a</sup>This variable is logged

*Note:* The table provides the estimates of the analysis concerning chosen risk level, with the use of ordinary least squares. Robust standard errors (clustered at the campaign level) are reported in the parentheses correcting for heteroscedasticity. There is no indication of multicollinearity within the regressions <sup>2</sup>. The dependent variable is log-transformed, which makes the coefficient for female investor a semi-elasticity. A semi-elasticity gives the relative change in the risk level given that the investor is female. Three stars, two stars, and one star represent statistical significance at 1 %, 5 %, and 10 %-level, respectively. The chosen level of significance for this analysis is set to 5 %.

Lastly, when adding industry and year effects, our coefficient decreases in Column (E). The coefficient shows a positive relationship between risk level and female investors, suggesting that females tend to choose ventures with a slightly higher equity offering relative to male investors, keeping all other variables equal. However, the result is not statistically significant, and thus we cannot state that there is a difference between males and females. Our final OLS model estimates therefore imply, surprisingly relative to existing knowledge,

<sup>2</sup>Correlation matrix and vif-test can be found in the appendix



that there is no statistically significant difference in the choice of risk level for female investors compared to their male counterparts. Thus, the result favours a rejection of our first hypothesis H1.

## 6.2 Results seen from herding behaviour

In our second sub-analysis, the dependent variable is cumulative amount already invested as a proportion of the campaign target. The dummy female investor is again chosen as our independent variable. From H2, we expect to observe female herding behaviour from a positively significant coefficient, as the proportion who have already invested relative to the campaign target is higher. Table 6.2 presents the results, and the effects of controlling for individual, firm and campaign specific variables, in addition to industry and year effects.

Column (A) reports a simple specification only including investor gender, hence we have not controlled for effects that may influence an investor's decision other than gender. The coefficient is negative, suggesting that females tend to invest earlier in campaigns within our sample. However, the difference is not statistically significant.

The coefficient increases (in terms of difference) in Column (B), when we control for individual control variables. In addition, it becomes significant at the 5 % level, indicating a statistical difference between male and female investors. The interpretation of the coefficient is that females invest in ventures with a 16.4 % lower proportion who have already invested relative to the campaign target than males. Column (C) shows how the coefficient changes when adjusting for our chosen firm specific control variables. The coefficient decreases (in terms of difference), indicating a smaller numerical difference between the investor gender when we control for other factors influencing the investment decision. When controlling for share of days passed in column (D), we observe an increase in  $R^2$ . This is naturally due to the fact that the cumulative amount invested in campaigns tends to increase along with days passed.

Finally, the specification in column (E) is further expanded to show our final model, including year and industry effects together with all the control variables. We see that the coefficient is still negative at -0.114, and not significant. This suggests that females tend to invest when the venture has 11.4 % less cumulative invested amount relative to

campaign target than male investors, keeping all other variables equal. However, due to the fact that the coefficient is not significant, the results demonstrate that there is no significant difference between male and female investors. Our final estimates from our OLS model therefore shows, also surprisingly relative to existing knowledge, that female investors do not exhibit herding behaviour to a larger extent than males. The result supports a rejection of our second hypothesis H2.

**Table 6.2:** Analysis of herding behaviour

	<i>Dependent variable:</i>				
	Proportion inv. of campaign target <sup>a</sup>				
	Base	Individual level controls	Firm level controls	Campaign level controls	Complete
	(A)	(B)	(C)	(D)	(E)
Female investor	-0.135* (0.080)	-0.164** (0.081)	-0.110* (0.061)	-0.071 (0.052)	-0.114 (0.070)
Investor age		-0.006** (0.003)	-0.005** (0.003)	-0.004* (0.002)	-0.005* (0.003)
Knowledge		0.009 (0.028)	0.001 (0.025)	0.008 (0.022)	0.0005 (0.040)
Experience		-0.086** (0.040)	-0.090** (0.042)	-0.079** (0.036)	-0.092** (0.040)
Female CEO			-0.278 (0.240)	-0.220 (0.210)	-0.028 (0.330)
Equity offering			-0.008 (0.012)	-0.008 (0.011)	0.0003 (0.029)
Share of days passed				0.892*** (0.092)	2.083*** (0.132)
Constant	0.873*** (0.146)	1.215*** (0.361)	1.389*** (0.309)	0.844*** (0.251)	-3.042*** (0.890)
Industry effects	No	No	No	No	Yes
Year effects	No	No	No	No	Yes
Robust SE	Yes	Yes	Yes	Yes	Yes
Observations	2,189	2,189	2,189	2,189	2,189
R <sup>2</sup>	0.011	0.056	0.106	0.415	0.593
Adjusted R <sup>2</sup>	0.010	0.054	0.103	0.413	0.589
F Statistic	23.960*** (df = 1; 2187)	32.449*** (df = 4; 2184)	42.978*** (df = 6; 2182)	221.006*** (df = 7; 2181)	175.472*** (df = 18; 2170)

*Note:* The table provides the estimates of the analysis concerning herding behavior, with the use of ordinary least squares. Robust standard errors (clustered at the campaign level) are reported in the parentheses correcting for heteroscedasticity. There is no indication of multicollinearity within the regressions. The dependent variable is log-transformed, which makes the coefficient for female investor a semi-elasticity. A semi-elasticity gives the relative change in the proportion invested of the campaign target given that the investor is female. Three stars, two stars, and one star represent statistical significance at 1 %, 5 %, and 10 %-level, respectively. The chosen level of significance for this analysis is set to 5 %.

### 6.3 Homophily in investment decisions

Our third sub-analysis investigates whether female investors are more likely to choose campaigns with female CEOs or female leads. A dummy notating whether a venture has a female CEO or is female-led is the dependent variable. The dummy female investor is again chosen as our independent variable, and we expected to observe a positive significant relationship between female entrepreneurs and female investors. This will imply that there is a gender-related difference in the choice of investing depending on the entrepreneurial team, thus confirming the presence of homophily. Table 6.3 presents the results, and the effects of controlling for company and investor specific variables, and further industry and year effects that additionally may influence investment decisions.

Since our model is designed as a logit regression with a dummy on the left-hand side, the interpretation of the coefficients is not as straight forward as in the two previous analyses. Column (A) includes female investor as an explanatory variable and shows a positive coefficient at a 1 % significance level. This suggests that there is a positive correlation between female CEOs and female investors within our sample. However, we have not controlled for other factors affecting the investment decision.

Columns (B) and (C) report how the coefficient changes when adding investor and firm specific variables to our regression models. We see that the coefficient keeps its significance level at 1 % but converging towards 0. Furthermore, we see that the marginal effect decreases, which implies that the difference between female and male investors diminishes when controlling for other variables, all other things being equal. When adding year and industry effects in Column (D), our OLS estimates show a positive coefficient and a significance level of 1 %. By interpreting the marginal effect, our results suggest that female investors are 6 % more likely than males to choose ventures with a female CEO, all other things being equal.

In Column (E), we expand the definition of the dependent variable and investigate whether female investors are more likely to invest in campaigns that are female-led, meaning that the CEO, CFO or founder(s) is female. Similar to column (D), the coefficient of female investor is significant at the 1 % level, suggesting a highly positive correlation. When looking at the marginal effect, female investors are 7 % more likely than males to invest

in campaigns that are female-led, all other things being equal. The results from both columns (D) and (E) provide strong supporting evidence in favour of H3.

**Table 6.3:** Analysis of homophily

	<i>Dependent variable:</i>				
	Female CEO			Female-led	
	Base	Individual level controls	Firm level controls	Complete	Complete
	(A)	(B)	(C)	(D)	(E)
Female investor	1.152*** (0.123) 0.196	1.020*** (0.128) 0.166	0.791*** (0.171) 0.074	0.838*** (0.196) 0.060	0.754*** (0.178) 0.070
Investor age		0.023*** (0.004)	0.017*** (0.006)	0.020*** (0.007)	0.025*** (0.006)
Knowledge		-0.077 (0.071)	-0.117 (0.091)	-0.086 (0.105)	-0.113 (0.091)
Experience		-0.129** (0.061)	-0.160** (0.077)	-0.202** (0.091)	-0.220*** (0.077)
Investment frequency			-0.005 (0.008)	-0.008 (0.010)	-0.089*** (0.019)
Valuation <sup>a</sup>			-3.060*** (0.176)	-2.972*** (0.193)	-1.252*** (0.142)
Equity offering			-0.183*** (0.015)	-0.178*** (0.018)	-0.034** (0.014)
Constant	-1.855*** (0.070)	-2.244*** (0.369)	53.181*** (3.144)	15.579 (4,093.385)	0.249 (3,752.778)
Industry effects	No	No	No	Yes	Yes
Year effects	No	No	No	Yes	Yes
Observations	2,189	2,189	2,189	2,189	2,189
Log Likelihood	-973.343	-956.281	-600.392	-477.423	-590.196
Akaike Inf. Crit.	1,950.686	1,922.562	1,216.784	992.845	1,218.392

*Note: The table provides the estimates of the analysis concerning homophily, with the use of maximum likelihood estimation. Compared to linear regression, logistic regression offers the advantage of not having to satisfy the condition of homoscedasticity of the residuals (Domínguez-Almendros et al., 2011). We therefore do not include robust standard errors clustered at the campaign level. However, when using robust standard errors the result do not change. Further there is no indication of multicollinearity within the regressions, and the third number for female investor is the marginal effect. Three stars, two stars, and one star represent statistical significance at 1 %, 5 %, and 10 %-level, respectively. The chosen level of significance for this analysis is set to 5 %.*

## 6.4 Robustness test

We want to address the possible worry that our results may be driven by individuals that invest several times. Our sample consist of 1501 unique individuals conducting 2189 investments, and thus some investors are represented more than others. Hence, we want to investigate whether our findings change when we restrict the sample to unique investors. We observe that females have a higher share of unique individuals, where 78 % only made one investment. Thus, we get a slight increase in the share of females when restricting the sample to unique investors.

In column (A) table 6.4, we present the findings from the robustness test for the first sub-analysis. We see that even though the sample is reduced substantially, the effect still remains the same as in our initial result. The robustness test therefore suggests that there is no gender difference in risk preferences when restricting the sample to unique investors. Column (B) presents the second sub-analysis, and we observe a change in the results compared to our initial findings. A negative coefficient at the 10 % significance level suggests that unique female investors are less likely to herd compared to males. Comparing the results of the robustness test with the main analysis, the difference in herding behaviour between males and females is more evident when looking at unique investors. However, the difference is still not statistically significant at a 5 % level.

In columns (C) and (D), we can observe the findings from the robustness test of our last sub-analysis. When comparing the results to our initial findings, we do not observe any change. Similar to the main findings, female investors are 6 and 7 % more likely to invest in female CEOs and female-led ventures.

**Table 6.4:** Robustness test

	<i>Dependent variable:</i>			
	% Equity offering	propotion inv. of campaign target	Female CEO	Female-led
	<i>OLS</i> Complete	<i>OLS</i> Complete	<i>Logistic</i> Complete	<i>Logistic</i> Complete
	(A)	(B)	(C)	(D)
Female investor	0.043 (0.036)	-0.136* (0.071)	0.858*** (0.279) 0.060	0.652*** (0.221) 0.070
Investor age	0.001 (0.001)	-0.006* (0.003)	0.019** (0.009)	0.024*** (0.007)
Knowledge	-0.001 (0.012)	0.004 (0.036)	-0.226 (0.150)	-0.219* (0.114)
Experience	-0.014 (0.013)	-0.032 (0.034)	-0.278** (0.138)	-0.275*** (0.104)
Investment frequency	0.007* (0.004)		-0.006 (0.014)	-0.121*** (0.026)
Share of days passed		2.015*** (0.122)		
Female CEO	-0.479** (0.214)	0.045 (0.305)		
Valuation <sup>a</sup>	-0.402*** (0.122)		-3.764*** (0.295)	-1.764*** (0.201)
Equity offering		-0.003 (0.027)	-0.226*** (0.024)	-0.033* (0.018)
Constant	9.955*** (2.069)	-4.567*** (0.890)	36.625 (2,581.285)	10.214 (1,502.603)
Industry effects	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes
Robust SE	Yes	Yes	No	No
Observations	1,501	1,501	1,501	1,501
R <sup>2</sup>	0.644	0.611		
Adjusted R <sup>2</sup>	0.640	0.607		
Log Likelihood			-226.465	-351.206
Akaike Inf. Crit.			488.931	738.412
Residual Std. Error	0.271	0.798		
F Statistic (df = 17; 1483)	157.610***	137.276***		

*Note:* This table provides the estimates of the robustness test, only including unique investors. For the OLS regressions we include robust standard errors clustered at the campaign level. For the logistic regressions we do not include robust standard errors, however the results do not change when using robust standard errors clustered at the campaign level. The third number for the logistic regression is the marginal effect. Three stars, two stars, and one star represent statistical significance at 1 %, 5 %, and 10 %-level, respectively. The chosen level of significance for this analysis is set to 5 %.

## 7 Insight from the investor sample

In this chapter we will present the main findings from the qualitative analysis, looking more closely into secondary questionnaire data. From the survey, we gain insight into investor characteristics, their interpretation of information on the platform and the main motivation for investing. We will thus present our qualitative results, both in general and taking into account the respondents' gender, to enable a richer discussion in the next chapter.

### 7.1 Investor characteristics and motivation

The motivation for investing is an important component for interpretation and further discussion of our results. Even though equity crowdfunding investors are mainly financially motivated (Baeck et al., 2014)(Cholakova & Clarysse, 2015), we want to confirm this, due to the immature market in Norway. If the majority of the investors in our sample choose campaigns based on intrinsic motivations such as wanting to support a local cause, or a friend/family member, our results cannot solely be seen as “investment decisions”, and will thus influence further interpretation.

Around 70 % of our 157 respondents answered that a positive return on invested capital was their main motivation for investing via Dealflow, together with the wish to invest capital in Norwegian start-up ventures. Only a small minority, answered that their main motivation was to support a local firm or that they know the entrepreneur/team. This is consistent when filtering for female respondents. Further, the majority (83 %) answered that they pursue a thorough reading of the memorandum before an assessment of the investment target. Together with a ticket mean of 20 670 NOK, this indicates a financial purpose on the part of the majority of the Dealflow investors. This evidence supports the relevance of our study of *investment decisions*, and further viability of our findings in an investor context.

Furthermore, we see that the female respondents report slightly less experience than males. Based on objective criteria, the majority of male investors indicated that they are relatively experienced. We see that a higher number of female investors answered that they have little or no experience of investing from the past. Because of our low (but

representative) number of female respondents, we confirm this finding from the experience score in our data sample. A simple t-test, shown in the descriptive data section, confirms that the mean of female investor experience is lower than the mean of male investors, with a significance level at 1 %. In addition, when asked about how many times they have invested through Dealflow or another crowdfunding platform, we see a tendency that a higher percentage of females have invested “only once”, compared to males. This is also consistent with the female share in our sample, when filtering for unique investors in the robustness test.

## 7.2 Risk assessment and investment choice

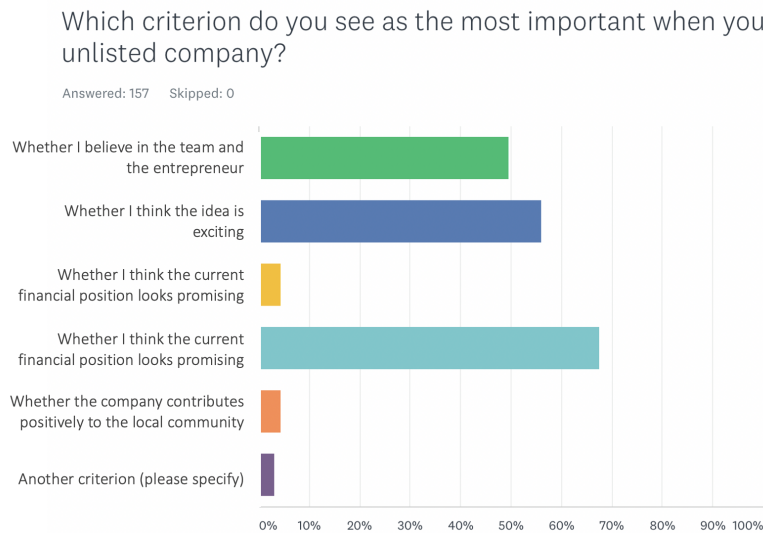
When asked whether they agree with the statement “A high % equity offering affects my assessment of the investment in a positive way”, around 30 % of the investors support our assumption from the theoretical background and earlier research evidence, stating that they perceive the equity offered variable as a component of risk. Within this group, approximately half and half see a high equity offered either negative or positive, depending on what risk profile they see themselves aiming for. However, 53 % answered that they do not think the variable “ % equity offered” necessarily is a component signalling risk. 16 % answered that they have paid no attention to this information while investing.

Filtering our answers on gender, our results show a small tendency towards more female respondents answering that they do not know or have not seen this information. This may support the fact that they are more inexperienced. However, because of our limited respondent basis, we cannot state that this is a clear trend. To sum up, the results from this question indicate that a proportion of our investor sample has not necessarily evaluated equity offering as a risk component when deciding to invest, which we should bear in mind when interpreting the results from the analysis of risk level.

When asking what criterion was most important for the investors in their prior investment(s) decisions at the Dealflow platform, the vast majority stated that it was whether they believed the venture could generate a positive return on invested capital. As they could choose two criteria at this question, their belief in the entrepreneur/team and idea was the second most important. This may indicate that even though they do not pursue an investment based on quantitative information, the financial dimension is still the most



important. The tendencies point in the same direction filtering for female respondents. Seeing these three dominant criteria together, illustrated by figure 7.1, we can interpret that the investors mainly look at the idea itself and the team/entrepreneur, to determine which ventures will give them a positive return on invested capital, and choose thereafter.



**Figure 7.1:** Result from survey question 4

It is also important to mention that the criterion of idea, in particular product/service, is also highlighted in open-ended options throughout the questionnaire. For instance, this was not included as an option when asking about motivation, and respondents stated:

*"I liked the product/service, and could imagine buying this myself. That's the most important reason (for investing)."*

*"I wanted to invest in something I believe in."*

*"I believe in the product based on my subjective assessment of market potential."*

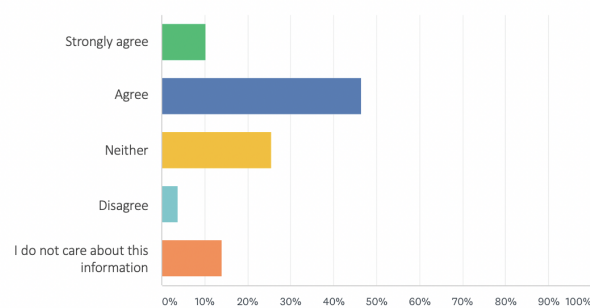
This implies that a subjective interest in the product and idea itself is important and, from our results, it is worth mentioning that product preference may vary between genders.

## 7.3 Herding behaviour

The respondents were asked about the effect of prior investors on their decision making, by indicating to what extent they agree that “My eagerness to invest in a campaign increases when I see that others have invested before me”. While keeping in mind biases that may occur while answering such questions, we see that the majority admitted to agreeing to the fact that prior investors have a positive effect on their investment decisions.

To what extent do you agree with the statement "My eagerness to invest in a campaign increases when I see that others have invested before me"?

Answered: 157 Skipped: 0



**Figure 7.2:** Result from survey question 6

Against this, 40 % of the respondents indicated that they are indifferent about whether there are prior investors or they do not care about this information. However, herding is not “a bias” for nothing, and literature suggests that individuals often unconsciously adopt the behaviour of others without explicitly recognising why they chase the similar trends as everybody else (Fenzl & Pelzmann, 2012). It is thus hard to know whether the investors are answering based on a wish for rationality, or actual empirical truth. We do not see a change in tendency when filtering on investor gender.

## 8 Discussion

This chapter will discuss our analyses' results in relation to both insight from our investor sample and contextual background knowledge. First, we will discuss our first two results partly in relation to each other, before discussing the third analysis' results. Next, we will present our overall research limitations. Lastly, thoughts on the implications of our findings for Dealflow and other practitioners will be provided.

### 8.1 Gender-related differences in risk and herding behaviour

From the first analysis the results show surprisingly that there is no statistical evidence that female investors choose companies with lower levels of risk, compared to males. We expected females to be more risk averse than men, but the results are contradictory and reject our hypothesis. The quantitative findings therefore suggest a neutralised gender difference in risk-taking within our context. Our second results show, also surprisingly, that there is no statistical evidence that female investors exhibit herding behaviour to a greater extent than males. Rather, our results show a slight tendency that female investors on average tend to invest in a campaign earlier, yet not with a significant difference. As we assumed that less confident and risk-averse females would, to a greater extent, lean on the decisions of others, we reject this hypothesis as well. Thus, female risk-aversion is also absent when measuring risk-taking with the effect of herding.

Even though whether to interpret herding behaviour as an action of risk aversion or an expression for other conditions can be discussed, we see that a difference between genders is neutralised. It is therefore safe to say there is no evidence from our quantitative results that women take less risks than men in investment decisions within our context. As both our findings are the opposite from the majority of previous research, it is important to discuss plausible explanations behind our results. We will therefore first discuss these two results related to female risk aversion, and then lastly examine the results of herding behaviour more closely.

### 8.1.1 Female risk aversion in a gender equal society

As stated in chapter 3, previous studies show that when adjusting for potential drivers that could foster gender differences in the first place, female risk aversion is actually not so evident (Harikanth & Pragathi, 2013)(Nelson, 2015)(Dwyer et al., 2002)(Hibbert et al., 2008). As we have had the opportunity to control for factors such as investor experience, financial knowledge etc., a first explanation for gender neutralisation could be that there simply is no gender difference in risk aversion within our sample. This may also be the reason why we observe results which contradicts those of Hervé et al. (2019), who suggests female risk aversion in a similar crowdfunding environment, as they has neither controlled for financial knowledge nor investor experience.

Moreover, as we are examining a sample from a population with a gender-equal societal structure, our findings can be explained by the fact that gender-related differences in risk are present to a lesser extent than we are taught from a biological point of view (Kaplan & Walley, 2016). Indeed, research that has investigated gender differences in risk-taking related to social and cultural structures suggests that society systematically shapes different risk preferences between genders (Felton et al., 2003)(Slovic, 1966)(Byrnes et al., 1999). Furthermore, research suggest that gender differences in risk are responsive to social change and indicates that, for example, the feminist movement in the 1970s led to substantial increases in the number of female entrepreneurs (Masters & Meier, 1988). Struewing and Jirjahn (2019) supports this view of gender risk-difference with a new study. Their findings indicate that more gender-equal societal structures in East Germany compared to West Germany have resulted in smaller gender differences in risk taking (Struewing & Jirjahn, 2019)(The Economist, 2020). As Norway is relatively gender equal in comparison with other countries in terms of labour participation rates, overall wealth, culture and political structure (OECD, 2018), we could expect similar results within our sample when able to control for differences caused by the lack of financial experience and knowledge. From this, it can be inferred that recent studies in more gender-equal countries will show that women do not necessarily have an inherent risk aversion in comparison to men, and that women would take more risk if they had more knowledge, experience and wealth.

If the case was that a gender-equal culture has come to neutralise gender differences in risk tolerance, one could assume that this would also be the case for our Nordic neighbours. With this said, Mohammadi and Shafi (2018) still finds evidence of female risk aversion, even when taking experience into account. Their findings suggest that female investors in Swedish equity crowdfunding have a tendency to choose campaigns with a lower risk level. However, their control for experience may not be sufficient as their proxy is based on previous investments on the particular platform used. Thus, they may not have been able to control for *actual* investor experience, neither previous financial knowledge. Furthermore, we have limited insight into their specific data sample from a platform with slightly different characteristics to Dealflow's. The Swedish crowdfunding market is also, as mentioned, more mature compared to the Norwegian one, which can cause different characteristics in the market. Thus, we cannot compare it directly.

### 8.1.2 The influence of investor characteristics and less female experience

Our results could also potentially be explained by the investor sample in general, and how they interpret information components given on the platform. We have already stressed in chapter 2 that early-stage investing relies more on qualitative components, and that crowdfunding investors have limited resources and time to do a thorough due diligence. Even though earlier research and literature has stated that a high % equity offered implies risk (Leland & Pyle, 1977)(Mohammadi & Shafi, 2018), an uncertainty as to whether Dealflow's investor pool interprets this information in that specific way can be raised. From our investor insight, we get an indication that an ambiguous interpretation might be the case, as half of our respondents answered that they do not necessarily look at "equity offered" as a signal of risk. Even though a proportion of 40 % actually answered that they interpret it as a risk component, supporting our findings' validity, we have to take this into further consideration.

Going further with the interpretation of campaign components, an unexpected risk neutralisation between genders could be related to experience, as we cannot know for sure how an inexperienced investor actually views specific information relatively to others. We have confirmed from the quantitative data and qualitative analysis that females have a slightly lower experience level than males, which can affect their behaviour and investment decisions. From a discussion with Professor Rotem Shneor and PhD candidate Priscilla

Serwaah (2020), a question to be highlighted is how inexperience may influence female investors' choices in a way as yet unaccounted for. Our assumption underpinning the first hypothesis was that females would exhibit risk-averse behaviour from choosing more "secure firms" with lower equity offering. However, this does not necessarily have to be how we observe risk averse females, as inexperience in these kinds of investment decisions can influence the interpretation of information. For instance, inexperienced investors may believe that a high equity offered is a sign of quality, and thus that the venture is less risky.

## 8.2 Females do not necessarily follow the crowd

Interpretations of quantitative information are relevant issues to discuss regarding analysing the equity offered component, but do not serve as a sufficient explanatory option for the results in herding behaviour. In chapter 3, we presented the theory that early movers tend to be more confident in their own judgements and thus less risk averse, and that we expect female investors to enter campaigns relatively later than males. We observe similar herding behaviour between genders, which is contradicting to literature, thus our findings suggest more confident females than first anticipated. We therefore should explore plausible reasons for an investment behaviour which suggests similar confidence to males.

A possible explanation that we cannot observe directly from our quantitative results is why and how women choose investment targets on such a crowdfunding platform. A greater share of female investors could potentially enter this platform for a one-investment only, motivated by investing in a specific firm or entrepreneur. Thus, they have less need for time to assess information, or to observe whether others invest or not. Our data sample restricted to unique investor individuals shows that 80 % of females only carry out one investment, compared to 66 % males, also supported by the insight from investor. This confirms that our findings can be explained by tendencies that a greater proportion of females have entered the platform for one particular investment, relative to males in our sample. As our insight from investors does not imply that this is the result of supporting "causes" such as local firms or a network, a pre-determined investment could more likely be motivated by, for instance, a commercial, as Dealflow do targeted marketing. In addition, entrepreneurs may contact potential investors directly before the campaign date, which could lead to a pre-determined investment choice. This explanation

is supported by Dealflow, pointing out that female entrepreneurs, to a larger extent, reach out to their existing network in advance of a funding campaign (Tonning & Grindheim, 2020).

Lastly, the neutralised herding behaviour can also be explained by relatively experienced male investors. Our hypothesis is underpinned by the assumption that female investors have less confidence and will therefore wait to observe the crowd. However, it is not necessarily a bad idea to wait and see if the campaign gets traction, as it could be time-consuming to not invest in a campaign that most likely will not reach its campaign target. Inexperienced investors may rush too soon into an investment. Nevertheless, this remains speculation, as literature points to that less confident investors are more prone to herding behaviour, and confident investors enter an investment earlier (Busenitz & Barney, 1997)(Palich & Bagby, 1995). In addition, literature also points to that less proficient investors are more prone to biases, and therefore supports that the less experienced females should follow the crowd to a larger extent (Hon-Snir et al., 2012). However, the literature also takes the basis that females are consistently more risk-averse, so this might not necessarily be true within our context.

### **8.3 The influence of homophily in investment decisions**

Our last analysis provides significant statistical evidence that confirms a positive correlation between female investors and ventures with female entrepreneurs. From our descriptive statistics, we presented that campaigns with a female CEO on average received 38.4 % of their total investment counts from female investors, even though female investors only make up 20.3 % of our sample. We can therefore state that the gender difference within these figures can be partly explained by the homophily effect. As seen from literature and findings from similar studies, a positive relationship is not surprising, and supports our initial assumptions.

When controlling for potential gender-related preferences for certain industries and potential female investor correlated characteristics (Oranburg & Geiger, 2019), we aim to measure the isolated effect of gender-related homophily. Moreover, we notice that the marginal effect decreases from 19 % in column (A) to 6 % in column (D) when adding control variables step by step in table 6.3, implying that correlating effects other than the

entrepreneur gender itself might cause the majority of the first apparent differences. With this in mind, it is further important to address the fact that other systematic tendency differences between genders might surpass our chosen controls, and the level of homophily could be affected by other unobserved determinants than gender.

First, several respondents from our investor insight explicitly stated that they invest in ideas and products they believe in and could have use of themselves. It could be assumed that the specific product or service the venture offers appeals to certain gender-related preferences, or simply recognition. Research confirms this, suggesting that a majority of investors do not value ideas they do not see a personal need for, even when evidence indicates that it is good business (Mollick & Robb, 2016). When examining the female investor share for campaigns within our data sample, the ones highest ranked are campaigns such as LOKAL, Lokalmatportalen, VILLOID and Boldbooks. These are ventures that offers products that can be assumed to appeal to females such as healthy organic food, baby clothing and book publishing. In addition, all these ventures have either a female CEO or a female lead. In contrast, Tuckify, have attracted one of the highest shares of female investors at 50 % with their children's clothing subscription, but do not have a female lead. From this, it can be assumed that gender differences in preferences for product therefore could have an impact on investment decisions, and our results should be viewed with this in mind.

Second, a few respondents also addressed the motivation for choosing ventures based on their greater purpose, such as their potential to offer sustainable solutions. As literature suggests that these might be venture characteristics that attract female investors (Oranburg & Geiger, 2019), this is also a factor that could impact genders differently in choosing investments.

Even though it will be nuances within the presence of homophily that we cannot capture, our findings provide evidence confirming the presence of this phenomenon within our research context. As elaborated in sections 2 and 3, equity crowdfunding has a major potential for facilitating increased female participation on both sides of the innovation sector by overcoming challenges traditionally faced in venture capital funding (Wang et al., 2019). Moreover, our results emphasize the value of crowdfunding platforms in the ongoing work towards closing: 1. the gender funding gap and 2. gender investment gap,



through an increased share of female investors. Female entrepreneurs benefit from an increased pool of potential investors disregarding geographical location, investor network and social capital, and female investors benefit from a convenient process and access to an open platform with investment cases. Thus, as the share of female investors increases, in general and potentially in particular in equity crowdfunding, the presence of homophily will benefit female entrepreneurs and hopefully result in narrowing the funding gap for female-led ventures.

## **8.4 Limitations**

There are several limitations in our research that we should keep in mind when interpreting the results. In the following, we will discuss limitations related to the quality of the data on which we base our analyses, before further discussing limitations related to the methodology.

### **8.4.1 Data quality**

In order to provide precise and valid results, it is important to have a sufficient data sample. Due to the rather immature market of Norwegian equity crowdfunding, the data sample is restricted to one up-and-coming platform. Furthermore, we observe varying quality in the data, as observations in the first campaigns have certain limited characteristics due to platform legitimacy. A limitation for the analyses could therefore be the availability and newness of data, which can constrict the quality of the results. However, we should mention that the sample consists of 2189 observations which, for research purposes, is considered to be a sufficient size.

### **8.4.2 Limitations related to research design**

Our research is limited in that the variables chosen might capture other aspects relevant to female decision-making than risk assessment, herding behaviour and the influence of homophily. With this shortcoming, it is therefore interesting to complement our study with research further exploring investors' choice within similar contexts. For example, we do not take social and networking factors into consideration. Hervé et al. (2019) provide notable results on this subject, showing that social interactions have a strong influence on investors' choices. They highlight a tendency that social interactions counteract the uncertainty

surroundings of equity crowdfunding, where the more sociable investors invest higher ticket sizes in risky securities. To offer insights into the domain of equity crowdfunding, future research could therefore benefit from applying other decision-making and judgment theories.

Furthermore, the specific measures used in this study may not have fully captured the desired element we sought to explore. This is especially relevant for the analysis using the risk proxy of equity offering. Our study only includes one proxy for risk, which raises the concern that within our context, the finding may therefore reflect a spurious correlation. To detect this potential issue, one should investigate whether the finding is consistent across several measurements of risk. In addition, it is important to keep in mind that our study aims to explore human decisions. Quantifying and choosing representative measures of evaluation done by the human brain will often be influenced by complex situational factors, and must be taken into account as a limitation.

Lastly, there are limitations to the generalisability of the results outside of our context. Our research is based on investments within one country, only representing one platform. It is possible that institutional conditions of the Norwegian market, or the platform, might influence the results of our study. Norway is considered to be one of the most gender-equal countries in the world, in addition to our status as a high-income country. The findings may therefore not be representative for countries with different political and legal systems. Given the young market of equity crowdfunding, these limitations also occur for the platform on which we base our study. There seem to be large differences in platforms and their business models across countries (Mohammadi & Shafi, 2018), and care must be taken when generalising the findings across both time and location.

## **8.5 Implications for Dealflow and equity crowdfunding practitioners**

Our findings contributes with increased knowledge about female investment decisions related to crowdfunding in entrepreneurial finance. While most elements of our results might be outside the control of equity crowdfunding campaigners and facilitators, increased insights about investors' decision-making could be altered in their favour. Assuming that there is a collective strive for a more gender equal investor pool, as well as more funding

allocated to female entrepreneurs - our research therefore has potential implications at a managerial level for Dealflow and other practitioners within this specific context.

From an investor perspective, platforms can reduce biases and improve investment decisions by providing more information. This could be done by, for instance, introducing an independent third party that can provide a professional opinion about the valuation and risk related to a company. They could also expand their business model to offer this as an extra service to inexperienced investors who want to take a more informed decision. As inexperience or lack of resources might be a constraint for individual investors in equity crowdfunding in general, this could be a helpful measure to improve and professionalise decisions. Moreover, if females are hesitant to start investing due to relative inexperience, providing a professional evaluation or additional service might attract more female investors to the platform.

Crowdfunding platforms can also further improve funding processes and campaigns, for both female and male entrepreneurs. By communicating more accurate information regarding investor decisions, the platforms can provide an option to target specific segments based on product type or other characteristics of the venture. Moreover, our findings may suggest that females to a greater extent make a pre-determined investment decision and/or are more confident than earlier anticipated. This information can be of importance when designing the commercial process and launching a campaign, and further used as a measure to attract more female investors.

Furthermore, stereotypes of female investors is still highly present in funding settings (Kaplan & Walley, 2016), which could have an impact on the specific audience the entrepreneur wants to target. In that sense, the platforms facilitating the funding process can be said to have a responsible role and should strive to provide accurate and unbiased information for improvement. With increased knowledge about female investors in equity crowdfunding, actors such as Dealflow therefore are positioned to potentially bring about change in inherent biases from stereotyping.

From a broader perspective, insight provided from our research to crowdfunding practitioners, can also have specific value for female presence in entrepreneurial finance. As mentioned, the presence of homophily in combination with the potential to democratising investing through crowdfunding, could result in more funding to female entrepreneurs

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in the coming years. Dealflow reports a growth for 2020 that already has doubled its 2019 figures, and the interest from females is not to be faulted. Regarding this, it is important to highlight that the logic of homophily is indeed a two-way street. Dealflow and other facilitators need to retain female entrepreneurs, so that they also can attract more investors with female-represented investment cases. In the long run, this self-reinforcing effect could result in increased successful female ventures, as they potentially can receive a larger proportion of the start-up capital invested and improve the gender funding gap going forward.

## 9 Conclusion

By examining investors in the context of Norwegian equity crowdfunding, this research has provided insight within aspects regarding gender-related differences in investment decisions. Initially, we recognised that there exist differences looking at investments from a gender perspective, and our analyses aim to add insight on what actually might distinguish female investors from males. Through quantitative analyses we have used data from Dealflow to examine how female and male investors differs in investment decisions related to risk, herding behavior and homophily. The insight from our particular investor sample has impelled a better understanding of our quantitative results, as well as fostered thoughts about contextual limitations and implications.

In our first two analyses we found that there is no evident difference in the choice of venture risk level, as well as no significant difference in herding behavior between female and male investors. The tendencies rather suggests more risk taking and confident female investors than first assumed. Our findings rejects the first two hypotheses and are contrary to previous research, which motivates a discussion of potential explanations in relation to our investor sample insight. Through our last analysis we investigate the presence of homophily in female investment decisions, and find that female investors are more likely to choose ventures with female entrepreneurs compared to males. This confirms our third hypothesis, and we further discuss nuances within our results based on insight from the investor sample as well. In particular, this discussion highlights the potential impact for female entrepreneurs seeking equity crowdfunding.

Explicitly answering our research question, our findings suggest that assumed differences of risk aversion and herding behavior between female and male investors are naturalised in equity crowdfunding. We provide evidence for that differences in investment-decisions rather are influence by the effect of homophily between investor and the entrepreneur. It is important to keep in mind limitations and constraints with our findings. However, we hope that our results can be utilised by practitioners within the field of entrepreneurial finance, in particular crowdfunding facilitators, in the strive for a more gender-equal investing environment.

## 9.1 Research implications

Increased knowledge is highly relevant going forward in closing the gender investment gap. Our contribution to existing knowledge about female investors could be used by various players, to tailor and pivot products to better suit females. Suggesting that female and male investors are *similar* in risk taking - both in terms of the choice of ventures, but also when following the crowd's decisions - our findings are contrary to stereotypes typically assigned to females. In financial settings this constitutes a key implication, and it might be important to recognise that there are certain contexts where genders do not necessarily differ in risk taking. As stated in our limitations, the results might not be generalised to investment decisions in other financial contexts, but still give an important contribution to existing figures.

Even though our results are context specific, we would like to carefully add that the discussion of whether a gender-egalitarian society neutralises risk differences can also serve as food for thought outside the scope of this thesis. Stereotypical picturing of females as generally more risk averse and less confident could cause inherent unfavourable biases in several societal settings. Thus, our findings can be insightful for other countries, striving for a more gender equal society going forward.

## 9.2 Further research

The discussion of our findings and potential implications opens up avenues for future research. We suggest research to continue to explore nuances of risk preferences between genders in financial settings in gender equal societies. An important factor is to be able to control for initial drivers for differences in investment decisions, to isolate the actual risk preference. In investment settings this will preferably be financial knowledge and previous experience. It could be interesting to examine more professional individual decision-making of females in the early-stage ecosystem, and female risk preference when controlling for, for example, years of experience and confidence in financial decisions. The high-risk component within our setting has also not been examined in particular, and further research could compare our results with other low-risk contexts to reveal differences between investing environments.

From an evidently explosive growth of crowdfunding platforms, it will be interesting to follow the further development of alternative financing sources. Moreover, it will be for time to tell whether the democratisation potential we have highlighted, in combination with the presence of homophily, actually fosters an increased share of females on both the entrepreneurship and investor side in equity crowdfunding.

This being said, we would lastly like to highlight the potential of examining similar samples of rich data to get increased knowledge about female investment decisions. Investing enabled by technology-based platforms offers the advantage to retrieve multiple variables and explore new aspects of how individuals make decisions in a non-professional setting. As crowdfunding and tech-enabled platforms grow their female user-base, we see that new opportunities for insightful research arise.

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# Appendix

## A1 No perfect collinearity

In the following we will touch upon the assumption of no multicollinearity for the models in our analyses. The assumption address no perfect correlation between the independent variables (Wooldridge, 2016). In table A1.1, A1.3 and A1.5 we present the Pearson correlation coefficients between the variables. The tables suggest that most variables are correlated, however, multicollinearity is not a problem since an absolute correlation coefficient above 0.8 indicates the presence of multicollinearity (Kumari, 2008).

Further we use the variance inflation factor (VIF) to measure the severity of multicollinearity in the regression analyses. The higher VIF statistics, the higher the correlation is between the variables. The threshold is often sat to 5 or 10, and by examining the VIF statistics reported for the analyses, there is thus no sign of multicollonarity (Neter et al., 1985).

**Table A1.1:** Pearson correlation matrix sub-analysis 1

	Female inv.	Age inv.	Knowledge	Female CEO	Experience	Valuation	Inv. frequency
Female inv.	1	0.099	-0.064	0.207	-0.227	-0.154	-0.070
Age inv	0.099	1	-0.023	0.131	-0.028	-0.103	-0.132
Knowledge	-0.064	-0.023	1	-0.051	0.251	0.017	-0.097
Female CEO	0.207	0.131	-0.051	1	-0.099	-0.415	-0.231
Experience	-0.227	-0.028	0.251	-0.099	1	0.018	-0.142
Valuation	0.154	0.103	0.017	-0.415	0.018	1	0.427
Inv. frequency	0.070	0.132	0.097	0.231	0.142	0.427	1

**Table A1.2:** VIF-test sub-analysis 1

	GVIF	Df	GVIF <sup>1/(2*Df)</sup>
Female inv.	1.122	1	1.059
Age inv.	1.069	1	1.034
Knowledge	1.084	1	1.041
Experience	1.210	1	1.100
Inv. frequency	1.735	1	1.317
Female CEO	1.742	1	1.320
Valuation	2.936	1	1.713
Industrial classification	3.966	9	1.080
Year	1.451	2	1.098

**Table A1.3:** Pearson correlation matrix sub-analysis 2

	Equity off.	Female inv.	Age inv.	Knowledge	Female CEO	Experience	Share of days passed
Equity off.	1	0.034	-0.000	-0.057	-0.059	-0.011	-0.004
Female inv.	0.034	1	0.099	-0.064	0.207	-0.227	-0.064
Age inv.	-0.000	0.099	1	-0.023	0.131	-0.028	-0.049
Knowledge	-0.057	-0.064	-0.023	1	-0.051	0.251	-0.019
Female CEO	-0.059	0.207	0.131	-0.051	1	-0.099	-0.087
Experience	-0.011	-0.227	-0.028	0.251	-0.099	1	-0.022
Share of days passed	-0.004	-0.064	-0.049	-0.019	-0.087	-0.022	1

**Table A1.4:** VIF-test sub-analysis 2

	GVIF	Df	GVIF <sup>1/(2*Df)</sup>
Female inv.	1.127	1	1.062
Age inv.	1.060	1	1.029
Knowledge	1.078	1	1.038
Experience	1.195	1	1.093
Share of days passed	1.056	1	1.027
Female CEO	1.411	1	1.188
Equity off.	1.706	1	1.306
Industrial classification	2.545	9	1.053
Year	1.498	2	1.106

**Table A1.5:** Pearson correlation matrix sub-analysis 3

	Female inv.	Age Inv.	Knowledge	Experience	Valuation	Equity off.	Inv. frequency
Female inv.	1.00	0.10	-0.06	-0.23	-0.16	0.03	-0.07
Age inv.	0.10	1.00	-0.02	-0.03	-0.12	-0.00	-0.13
Knowledge	-0.06	-0.02	1.00	0.25	0.01	-0.06	-0.10
Experience	-0.23	-0.03	0.25	1.00	0.01	-0.01	-0.14
Valuation	-0.16	-0.12	0.01	0.01	1.00	-0.34	0.44
Equity off.	0.03	-0.00	-0.06	-0.01	-0.34	1.00	0.24
Inv. frequency	-0.07	-0.13	-0.10	-0.14	0.44	0.24	1.00

**Table A1.6:** VIF-test sub-analysis 3 (Female CEO)

	GVIF	Df	GVIF <sup>1/(2*Df)</sup>
Female inv.	1.12	1.00	1.06
Age inv.	1.05	1.00	1.03
Knowledge	1.06	1.00	1.03
Experience	1.26	1.00	1.12
Inv. frequency	1.12	1.00	1.06
Valuation	1.94	1.00	1.39
Equity off.	1.99	1.00	1.41
Industrial classification	1.51	9.00	1.02
Year	1.33	2.00	1.07

**Table A1.7:** VIF-test sub-analysis 3 (Female-led)

	GVIF	Df	$GVIF \sim (1/(2 \cdot Df))$
Female inv.	1.09	1.00	1.05
Age inv.	1.04	1.00	1.02
Knowledge	1.05	1.00	1.03
Experience	1.16	1.00	1.08
Inv. frequency	1.20	1.00	1.10
Valuation	1.40	1.00	1.18
Equity off.	1.53	1.00	1.24
Industrial classification	1.48	9.00	1.02
Year	1.55	2.00	1.12

## A2 Homoscedasticity

To test for heteroskedasticity we use the Breusch pagan test for the models in analyses 1 and 2. A p-value below 5% will indicate that the assumption of homoscedasticity do not hold (Breusch & Pagan, 1979). A2.1 shows that the null hypothesis of homoscedasticity is rejected for both models, and we therefore have a problem with heteroskedasticity. As mentioned we use clustered robust errors to account for this problem.

**Table A2.1:** Breusch pagan test

	Risk taking analysis	Herding behavior analysis
BP	519.376	251.821
p.value	8.76e-99	3.47e-43



### A3 Analysis 3 with robust standard errors

We further include the third analysis including that robust standard errors clustered at the campaign level. This illustrate that the results are consistent and do not change.

**Table A3.1:** Analysis of homophily with robust standard errors

	<i>Dependent variable:</i>				
	Female CEO			Female-led	
	Base	Individual level controls	Firm level controls	Complete	Complete
	(A)	(B)	(C)	(D)	(E)
Female investor	1.152*** (0.138)	1.020*** (0.147)	0.791*** (0.078)	0.838*** (0.069)	0.754*** (0.082)
Investor age		0.023*** (0.005)	0.017*** (0.003)	0.020*** (0.002)	0.025*** (0.003)
Knowledge		-0.077 (0.050)	-0.117*** (0.028)	-0.086*** (0.026)	-0.113*** (0.031)
Experience		-0.129* (0.072)	-0.160*** (0.034)	-0.202*** (0.026)	-0.220*** (0.031)
Investment frequency			-0.005 (0.007)	-0.008 (0.007)	-0.089*** (0.009)
Valuation			-3.060*** (0.201)	-2.972*** (0.235)	-1.252*** (0.287)
Equity offering			-0.183*** (0.018)	-0.178*** (0.024)	-0.034 (0.030)
Constant	-1.855*** (0.249)	-2.244*** (0.652)	53.181*** (3.601)	15.579*** (4.346)	0.249 (5.314)
Industry effects	No	No	No	Yes	Yes
Year effects	No	No	No	Yes	Yes
Robust SE	Yes	Yes	Yes	Yes	Yes
Observations	2,189	2,189	2,189	2,189	2,189
Log Likelihood	-973.343	-956.281	-600.392	-477.423	-590.196
Akaike Inf. Crit.	1,950.686	1,922.562	1,216.784	992.845	1,218.392

Significance levels

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

### A4 Survey

Table A4.1 presents an overview of the questions included in the survey, in addition to the distribution across the options for the whole sample, female and male investors. Keep in mind that for question 2 and 4, respondents were able to choose two options at once.

Table A4.1: Overview of survey and answers

Questions	Options	All	Males	Females
1. How many times have you invested through Dealflow or other crowdfunding platforms?	Only once	39.49%	37.31%	54.55%
	2-3 times	28.03%	29.10%	22.73%
	Several times	32.48%	33.58%	22.73%
2. What has been/is your main motivation to invest in unlisted companies? Select a maximum of alternatives.	I wish to support a firm because I know the entrepreneur/ team	10.19%	11.19%	4.55%
	I wish to support a local firm	5.10%	4.48%	9.09%
	I wish to invest in securities with higher risk and a potential higher return than funds/shares	65.61%	67.16%	54.55%
	I wish to invest in capital in Norwegian start-up ventures	68.15%	66.42%	77.27%
	Other (please specify)	13.38%	14.18%	9.09%
3. To what extent have you done an informed assessment prior to the investment(s) through Dealflow?	I have only glanced over the memorandum, but have been in contact with the entrepreneur/company	10.83%	9,70%	18.18%
	I have read the memorandum quite thoroughly and conducted an qualitative assessment based on this information	62.42%	62.69%	63.64%
	I have read the memorandum very thoroughly and invested based on both qualitative and quantitative assessments	19.75%	21.64%	4.55%
	I have not read the memorandum, but know the entrepreneur/ company form before	7.01%	5.97%	13.64%
4. Which criterion do you see as the most important when you invest in an unlisted company? Select a maximum of two options.	Whether I believe in the team and the entrepreneur	49.68%	50.00%	50.00%
	Whether I think the idea is exciting	56.05%	53.73%	68.18%
	Whether I think the current financial position looks promising	4.46%	5.22%	0%
	Whether I think the investment can lead to a positive return in the long run	67.52%	69.40%	54.55%
	Whether the company contributes positively to the local community	4.46%	4.48%	4.55%
	Another criterion (please specify)	3.18%	2.99%	4.55%
5. When you are considering to invest in an unlisted company, to what extent do you agree with the following statement: "A high %-equity offered has a positive effect on my investment assessment"?	Agree, I wish to maximise the risk and thus a high %-equity offered counts positively in my assessment	11.46%	11.19%	13.64%
	Agree, I wish to minimize the risk and thus a high %-equity offered counts positively in my assessment	3.82%	3.73%	4.55%
	Disagree, I wish to minimize the risk and thus a high %-equity offered counts negatively in my assessment	16.56%	16.42%	18.18%
	I do not necessarily associate this information with risk	52.23%	55.22%	31.82%
	I do not know, I did not look at this information before investing	15.92%	13.43%	31.82%
6.To what extent do you agree with the statement "My eagerness to invest in a campaign increases when I see that others have invested before me"?	Strongly agree	10.19%	8.96%	18.18%
	Agree	46.50%	50.00%	27.27%
	Neither	25.48%	24.63%	27.27%
	Disagree	3.82%	3.73%	4.55%
7. To what extent are you familiar with investments from before?	I do not care about this information	14.01%	12.69%	22.73%
	Quite experienced, I work in a finance related profession / I am an investor	24.84%	26.12%	18.18%
	Relatively experienced, I have invested in funds/shares in my spare time and am interested in the topic	41.40%	44.03%	22.73%
	Somewhat experienced, I have invested in stocks/funds in my spare time	24.20%	20.90%	45.45%
8. Please state your gender	Not very, I am relatively inexperienced	9.55%	8.96%	13.64%
	Female	14.01%	0%	100%
	Male	85.35%	100%	0
	I prefer not to answer	0.64%		
9. Please state your age	20-35 years	22.29%	21.64%	27.27%
	36-50 years	42.68%	41.04%	54.55%
	50+ years	35.03%	37.31%	18.18%