

Gender in Venture Capital Funding and Finance

By

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Abstract

This thesis explores biases in the finance industry, the impact of gender on venture capital investment, and finance student and faculty representation across Canadian universities. Venture capital investment and finance are areas where women have traditionally been underrepresented. In this study, I conducted a systematic review of the literature on gender and venture capital investment to understand why female founders receive so little investment. I also conducted an environmental scan of the gender distribution of finance students and faculty, to see if there are fewer women entering the field of finance, and determine if this may influence gender biases within the field of finance as a whole. The findings revealed gender biases within the venture capital industry, with fewer women receiving funding, and that while the proportion of male and female students in finance is almost equal, the percentage of women holding higher positions within universities is very low.

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Chapter 1

INTRODUCTION

1.1 Background and Purpose

For many years conductors believed that women did not belong in symphony orchestras, especially playing ‘masculine’ instruments like the trombone (Gladwell, 2005). There was the assumption that women were not strong enough, their lungs were too weak, or they couldn’t hold the instruments properly (Gladwell, 2005). People accepted that men were simply better than women in this area, and it did not need to be challenged. Things started to change thirty years ago, when symphony orchestras began conducting blind auditions, and women started to get hired, now representing almost 50% of top symphony orchestras (Gladwell, 2005, p. 274). In a blind audition the musician plays behind a screen so that the hiring committee cannot see who is playing (Gladwell, 2005). This helps to limit the hiring committee’s automatic biases, particularly when it comes to the gender of the musician (Gladwell, 2005). In *Blink* (2005), Malcolm Gladwell shows how our snap judgements and biases can be powerful, and dangerous. He discusses rapid cognition, and why it is important to understand its impacts and influence on our judgements and decision-making across contexts (Gladwell, 2005).

1.1.1 Automatic Association & Biases

Daniel Kahneman (2011) is another author who explores the impact of rapid cognition and biases in his book *Thinking, Fast and Slow*. In it, Kahneman (2011) discusses our two systems of thinking - System 1, which is fast, automatic and prone to biases, and System 2, which is slow, conscious and more reliable. While the first system of rapid cognition is

useful if you need to jump out of the way of a speeding car as you cross the street, it often contributes to perpetuating biases and stereotypes within our society (Kahneman, 2011). Kahneman (2011) discusses the importance of slowing down and using our more conscious system of thinking to make decisions and avoid making false judgements. He also mentions the impact of frequent repetition, noting that the more we see something, the more we believe it to be true, even if it is incorrect (Kahneman, 2011). This is very relevant to the lack of women present in leadership positions around the world today – we have a positive association between men and leadership, which contributes to societal biases that women are not effective leaders (Bohnet, 2016). If people don't correct for these frequent exposure biases in hiring or investing, they will likely make decisions based on their environmental conditioning, which is heavily influenced by stereotypes and biases (Kahneman, 2011). As Iris Bohnet notes, "System 1 has a need for internal consistency and confirmation of previously held beliefs, and thus finds it hard to update and incorporate new information" (Bohnet, 2016, p. 35). When making important decisions, Kahneman (2011) suggests pausing and asking yourself "is this the best option, or just the option I've been frequently exposed to?" This is an important thing to note and remember, especially when it comes to hiring, promoting, and investing in women in areas that have traditionally been male dominated.

Most of us have an automatic association between men and leadership, so much so that we often disregard other qualifications and assume that the man is the best candidate for the job (Gladwell, 2005; Kahneman, 2011). This stereotype has been holding women back for years, and while some areas are improving (such as healthcare), there are still many that are disproportionately male-dominated (World Economic Forum, 2016). In *What Works*, Iris

Bohnet (2016) discusses the unintentional impact that knowing the gender of an individual has on our behavior and decision-making. “When we learn the sex of a person, gender biases are automatically activated, leading to unintentional and implicit discrimination” (Bohnet, 2016, p. 7). Bohnet (2016) also discusses the impact and importance of role models, which I will explore more in Chapter 3 of this paper.

1.1.2 Purpose

The purpose of this study is to look at gender diversity, and explore systematic biases about women in leadership, in an area where women have traditionally been underrepresented – the finance industry. A study by Catalyst (2019) found that while women make up almost half of the employees in the financial services industry globally, only 12% of CFOs are women. A similar trend can be found in securities trading, where only 12 to 15 percent of stock traders on Wall Street are

women (Reuters, 2018). A study by McKinsey & Company found that less than one in five C-suite positions in the finance industry are held by women (Chin, Krickovich, and Nadeau, 2018). Figure 1 shows the representation of employees at different leadership levels in the finance industry (Chin et al., 2018). It shows that in higher

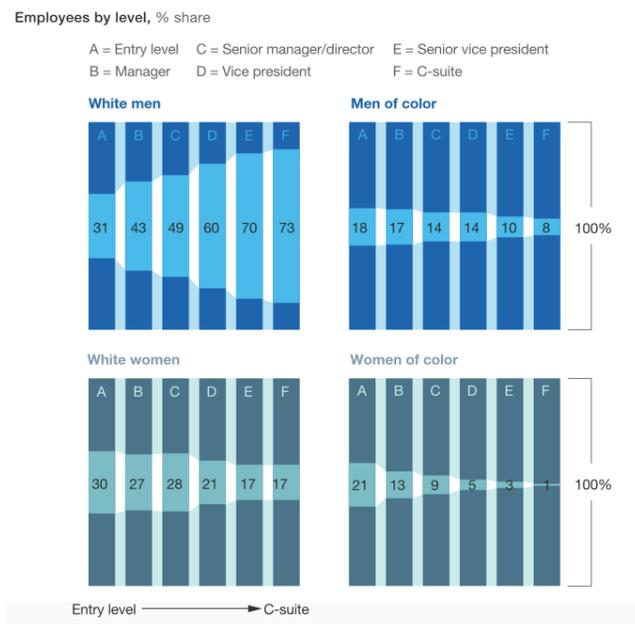


Figure 1 – Financial Sector Employee Representation (Chin et al., 2018)

levels of management, leadership positions are disproportionately held by white men, while

white women, and men and women of colour are highly underrepresented (Chin et al., 2018). These statistics show that the finance industry and financial institutions are heavily male-dominated in top leadership positions, which may lead to a positive bias toward men in this field (Chin et al., 2018). This relates to Kahneman's research about frequency of exposure – if the finance industry has always had men in top leadership, those making decisions may believe that this is the best option, and continue to perpetuate these leadership and gender biases (Kahneman, 2011).

For this thesis I looked at two specific areas of finance - venture capital investment and university finance programs. In venture capital, female founders only receive 4% of all investment in the private sector, and there are many societal and investor biases that inhibit their success (Robinson, 2019). In this study, I explore how these biases come through in the investment process, as well as where they come from. Are these biases a result of societal perceptions of women? Or are they ingrained in the field of finance as a whole? To explore these ideas, I will look at issues related to the distribution of venture capital investment in the North American market. Next, I will look at the gender distribution of finance faculty and students across Canadian universities, to determine if there is a gap in the number of men and women going into the field of finance. According to Arnold and Loughlin (2019), who explore gender and leadership stereotypes in their paper *Continuing the Conversation: Questioning the Who, What, and When of Leaning in*, “there is a fundamental mismatch between the female gender stereotype and the leader stereotype” (Arnold & Loughlin, 2019, p. 6). They say that leadership stereotypes are “resistant to change,” which could be why there are still few women in leadership positions in the financial industry (Arnold & Loughlin, 2019, p. 6). They also discuss social gender norms,

and the fact that women are viewed as “communal,” while men are viewed as “dominant” (Arnold & Loughlin, 2019, p. 6). When women go against these “prescriptive female gender stereotypes,” and pursue positions or industries that have traditionally been male dominated, they are often penalized for it (Arnold & Loughlin, 2019, pp. 6-7).

As Malcolm Gladwell (2005) states “most of us, in ways that we are not entirely aware of, automatically associate leadership ability with imposing physical stature. We have a sense of what a leader is supposed to look like, and that stereotype is so powerful that when someone fits it, we simply become blind to other considerations” (Gladwell, 2005, p. 88). We need to work to inhibit this automatic association, and find ways of hiring, promoting, and investing that take gender out of the equation, and create proportional opportunity for women.

1.2 Methodology

For this research I conducted two separate studies – a systematic review of the literature on gender and venture capital, as well as an environmental scan of the gender distribution of finance students and faculty at Canadian universities.

A systematic review adopts a “replicable, scientific and transparent process,” and “aims to minimize bias through exhaustive literature search of published and unpublished studies and by providing an audit trail of the reviewers decisions, procedures and conclusions” (Tranfield et al., 2003, p. 209). For this research, I created clear criteria for the literature review, developed a set of search terms, and conducted the search using four databases – EBSCO Business Source Premier, ABI/INFORM Global, Web of Science, and Google

Scholar. I then coded the data for analysis, which can be found in the Findings & Results section of Chapter 2.

For the environmental scan of finance faculty and students I created a process that can be found in the Methodology section of Chapter 3. I scanned twenty-five Canadian universities to see the gender distribution of master's and PhD students, as well as that of full-time, tenured finance professors. This data can be found in the Findings & Results section of Chapter 3, as well as the appendix.

1.3 Findings & Results

In order to gain a better understanding of the two studies, I split up the Findings & Results into separate sections. The findings and results of the systematic review can be found in Chapter 2, and have been coded as shown in the appendix. The findings and results of the environmental scan can be found in Chapter 3, and have also been included in various tables in the appendix.

1.4 Reflections & Recommendations

A discussion of the findings can be found in Chapter 4, which will also have the reflections and limitations of this thesis. I will also provide recommendations, and opportunities for future research based on my findings.

Chapter 2

LITERATURE REVIEW ON VENTURE CAPITAL FUNDING

2.1 Introduction

Venture capital is an industry that is heavily male-dominated (Robinson, 2019). In Canada women account for just 15% of venture capital firm partners, and about 17% of angel investors, and it is estimated that it could take up to 30 years to reach parity (Robinson, 2019). In 2018, 84% of the funds that were invested “went to funds without any women general partners” (Robinson, 2019). This is a real issue for female representation within firms and could have an impact on the female entrepreneurs seeking venture capital funding.

In Canada, female founders receive 4% of venture capital, and it is even less in the United States, where women received 2.2% of VC funds in 2018 (Robinson, 2019). With female-founded firms making up “40% of all privately held companies in the United States” this data is surprising to say the least (Kanze, Huang, and Conley, 2018, p. 586). I was unable to find information regarding the percentage of female entrepreneurs who applied for funding versus the number of male entrepreneurs who applied for funding. That being said, there were a number of studies that found that when the numbers were held constant, and often the content of the pitches was the same, there was a clear bias for investors to favour male entrepreneurs (Tinkler et al., 2014; Kaplan, 2015; Swartz et al., 2016; Hernandez et al., 2019; Kanze et al., 2018; Edelman et al., 2018; Coleman et al., 2019). I will discuss this more in-depth later in the research, but I believe that this shows that there is a strong

gender bias in venture capital investment that leads to unequal funding opportunities for female entrepreneurs.

According to Dr. Ellen Farrell (2019), “not only do female founders receive fewer financings (rounds of investments), but when they do receive financing, the amounts are significantly lower than their male equivalents” (Farrell, 2019, p. 4). Farrell also found that female founded start-ups were more profitable than their male counterparts, making 78 cents in revenue for every dollar invested compared to 31 cents for male founded start-ups (Farrell, 2019, p. 4). If female founded companies have a better return, why are they getting so much less venture capital investment?

The first part of this equation may relate to implicit bias, and the fact that women face more barriers than men, especially when it comes to start-up funding. A study of 100 start-up pitches at a live competition found that men were 60% more likely to be funded than women (Kaplan, 2015). Some may argue that female founded companies are less technical or of lower quality (Kaplan, 2015). However, an online experiment demonstrated that when the same pitch was presented in a male voice, it was twice as likely to receive funding than if it was narrated by a female voice (Kaplan, 2015).

Another study conducted by Kanze, Huang, & Conley (2018), found that the key discrepancy in the funding gap appears to arise from the question period between the entrepreneur and the investors, in the study, they found that investors ask two types of questions: promotion-focused or prevention-focused (Kanze et al., 2018). Promotion-focused questions are those that emphasize growth and opportunity, while prevention-focused questions are about preventing loss, and avoiding failure (Kanze et al., 2018). The study found that female founders are more likely to be asked prevention-focused questions,

which elicit a prevention-focused answer, while male entrepreneurs are more likely to be asked a promotion-focused question, to elicit a promotion-focused response (Kanze et al., 2018).

Figure 2 shows the conceptual framework of how investor bias in the question period creates a cycle of more bias for entrepreneurs (Kanze et al., 2018, p.587). While this may not seem like an issue, this implicit bias in the types of questions being asked is detrimental to female founders.

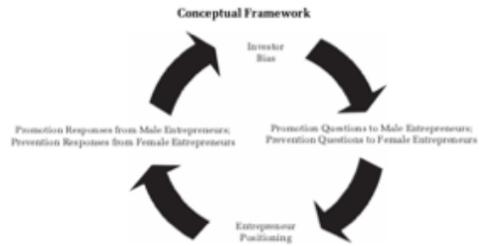


Figure 2 – VC Question Period Conceptual Framework

(Kanze et al., 2018)

While many investors may not be aware of their biases, they greatly impact female founders nonetheless. Entrepreneurs who received mostly promotion-focused questions received an average 7.21 times more than those who were asked mostly prevention-focused questions (Kanze et al., 2018, p. 598). It was also found that for each additional prevention question asked, the entrepreneur raised \$3.8M less (Kanze et al., 2018, p. 598). This means that women are missing out on millions, if not billions, of dollars in venture capital investment because of investor biases. While it was found that entrepreneurs can switch the focus of their prevention question with a promotion response (Kanze et al., 2018, p. 598), this puts the onus on the entrepreneur, rather than working to fix the systematic bias within the venture capital industry.

Some may argue that having more female investors would combat this, however this is not necessarily the case. While having more female investors may have a positive effect in other ways, it cannot be the only measure to get more investment for female founders

because “both male and female VCs display implicit bias” (Kanze et al., 2018, p. 603). With the knowledge that these biases exist and are holding back female founders, it is hopeful that the industry will change. In the words of Arlene Dickinson (2019) “to get funded, you should need a killer idea and a bulletproof plan. You shouldn’t need to be a man.”

To better understand these issues, and the challenges faced by female entrepreneurs, I conducted a systematic review of the literature related to venture capital investment and gender. The purpose of this study is to explore the current literature on gender and venture capital investment in order to understand how investor bias impacts women in the investment process, as well as from where these biases may arise. I hope to discover why female entrepreneurs receive so much less funding than male entrepreneurs, identify some gaps in this area of research, and provide recommendations based on these findings.

2.2 Methodology

The management literature has often been plagued with biased narrative literature reviews, that lack credibility because they have not considered all the material on the subject at hand, and do not make their biases explicit (Tranfield, Denyer, & Smart, 2003). For this reason I have taken an approach that is the norm in scientific and medical research (Tranfield et al., 2003) - that is, I have conducted an evidence-based systematic review on gender diversity within venture capital funding.

A systematic review adopts a “replicable, scientific and transparent process,” and “aims to minimize bias through exhaustive literature search of published and unpublished studies and by providing an audit trail of the reviewers decisions, procedures and conclusions”

(Tranfield et al., 2003, p. 209). I have conducted a systematic review on literature for gender diversity in venture capital financing, with the objective of better understanding why there is such a wide gap in the amount of venture capital funding received by men and women (Robinson, 2019), why it is important to change this, and ideas on how to do so. As mentioned previously, systematic reviews are typically expected within medical science field research for example, however they have not been adopted as often in management research (Tranfield et. al., 2003). Tranfield et. al (2003), mention the importance of conducting systematic reviews in the area of management in order to make the reviews more legitimate, and to provide “a reliable basis to formulate decisions and take actions” within an organization, and within certain groups (Tranfield et al., 2003, p.208). Systematic reviews often include a meta-analysis (Tranfield et al., 2003), however because of the limited amount of previous studies on this topic, and the scope of this project, I will conduct an “evidence-based summary” of the literature at hand.

I will use these processes in order to make my review as transparent, clear, replicable, and unbiased as possible. I seek to go beyond the narrative reviews that are so often found in management literature (Tranfield et al., 2003), and explore an area where little previous research has been conducted. I have worked to adapt a methodology where biases are explicit to minimize influence on the outcomes of this study.

For this systematic review, I have adopted a process similar to that of Gimenez and Calabro (2018); in their research they explore gender in entrepreneurship, and show how to effectively conduct a systematic review in the field of management. It was one of the only systematic reviews in the literature related to gender and entrepreneurship, consequently I

have modelled some of my processes, as well as some of my table formatting, after their study.

2.2.1 Literature Selection Criteria

Prior to conducting this systematic review, I established a set of criteria for the literature that would be included in this study.

During my preliminary literature review on the topic, I compiled a list of search terms; from previous research I know that there is a gender gap when it comes to entrepreneurship funding (Robinson, 2019), so I used the terms “gender gap” and “gender bias” to search for and compile the most relevant material on the topic. I then used a combination of search terms so that I could get the most accurate, and widespread information available in the literature. Using the advanced search function in the databases I searched for the relevant literature on the topic.

1) The search terms used were:

(women OR woman OR gender or female)

AND

(bias OR gap OR discrimination OR exclusion)

AND

(entrepreneur* OR startup OR start-up OR seed)

AND

(venture capital)

AND

(fund*)

2) These terms were then searched in the following four databases:

- EBSCO Business Source Premier
- Web of Science
- ABI/INFORM Global
- Google Scholar

I chose these databases because they are reputable, and they are the most relevant to my field of research. EBSCO Business Source Premier, ABI/INFORM Global, and Web of Science are all available through the Saint Mary's University Library website. I chose to also use Google Scholar to broaden my search on the topic. I also consulted a university librarian at Saint Mary's University, to ensure that these

four databases would be appropriate to conduct a systematic review in this area (H. Sanderson, personal communication, December 2019).

3) When conducting the review I used the identified databases to search for English language articles from developed countries, which were published and/or contained primarily data from between 2000 – 2020. The literature had to be scholarly, peer-reviewed articles that contained information related to the gender of founders and/or investors, and entrepreneurs' access to venture capital investment. I excluded articles that primarily contained data from, and/or were written prior to 2000 to reflect changing gender norms, those that looked at entrepreneurship in developing countries given different cultural norms, those that did not contain the appropriate search terms, and those that were not scholarly, or peer-reviewed articles.

I also developed four research questions to guide the study.

Research Questions

1. How much venture capital financing goes to female entrepreneurs in developed countries?
2. What factors contribute to this difference in the amount of funding received by men and women? Is this related to the culture of the venture capital industry, societal biases and stereotypes toward women, or biases within the finance industry as a whole?
3. How do women contribute to the entrepreneurial ecosystem? Are there differences in the performance of male and female founded companies?

4. How can we create more equal opportunity for male and female entrepreneurs with respect to access to venture capital funding?

The literature selected for the systematic review are included in their own table in the appendix, as well as the data extraction forms. The following tables outline the results of the searches from the four databases (Table 1), and the distribution of the articles by journal (Table 2) – both of which are comparable to those in the research conducted by Gimenez and Calabro (2018).

Table 1 – Database Search Results

| Screening steps/Databases | EBSCO Business Source Premier | Web of Science | ABI/ INFORM Global | Google Scholar | Total |
|--|--|---------------------------|-----------------------------------|---------------------------|--------------|
| Articles with selected keywords | 8 | 14 | 9 | 1,200 | 1,231 |
| After merging results from different databases and deleting duplicates | | | | | 1,221 |
| After eliminating substantively irrelevant articles | | | | | 641 |
| After eliminating irrelevant abstract | | | | | 105 |
| After reading the entire article | | | | | 16 |
| Final sample | | | | | 16 |

Table 2 - Distribution of Articles by Journal

| Source Title | Number of Articles |
|---|---------------------------|
| <i>Entrepreneurship Theory and Practice</i> | 3 |
| Venture Capital | 2 |
| <i>Academy of Management Journal</i> | 1 |
| <u>International Journal of Entrepreneurship Behaviour & Research</u> | 1 |
| <u>International Journal of Gender and Entrepreneurship</u> | 1 |
| <i>Journal of Business Venturing</i> | 1 |
| Journal of Cleaner Production | 1 |
| Journal of Developmental Entrepreneurship | 1 |
| Journal of Small Business Management | 1 |
| <i>Sloan Management Review</i> | 1 |
| Research Policy | 1 |
| Small Business Economics | 1 |
| Social Science Research | 1 |
| Total | 16 |

Journals that are in the top 40 Financial Times are italicized, and those without an impact factor are underlined (Gimenez and Calabro, 2018).

2.2.2 Data Coding of Academic Literature

According to Elliott (2018) “coding is an almost universal process in qualitative research” and allows researchers to “break down their data to make something new” (Elliott, 2018, p. 2850). The process of coding is important because it gives an overview of data found within literature that is often dense, and helps to pull out the key themes within the literature (Elliott, 2018). Coding also helps readers understand the connections between these themes, how they relate to each other and the topic as a whole (Elliott, 2018).

For this research each article is categorized by author, title, year of publication, journal, and description, as found in the appendix in the table titled “Literature used in Systematic Review.” I created seven codes to categorize the research and explore the topic of gender in venture capital investment. I then categorized them into three key codes, which are: the current status of women in entrepreneurship and venture capital investment, gender bias within venture capital, and the need for change. To analyze this data I created a coding table, similar to that of Gimenez and Calabro (2018), which can be found in the appendix.

2.3 Findings & Themes

Much of the literature notes different reasons that female-founded businesses receive less venture capital investment - from women being too risk averse, to the idea that venture capitalists are not interested in the type of industries that female founders build businesses in (Edelman, Donnelly & Manolova, 2018). According to Guzman and Kacperczyk (2018), there are gaps in the growth orientation of female founded and male founded startups. However, the literature also suggests that there is more at play. Entrepreneurship and venture capital have both historically been viewed as more masculine and male-dominated industries (Edelman et al., 2018). The findings of this systematic review reveal why this may not be the only reason for the disproportionate allocation of venture capital funding that we see today, and that biases within this industry may be a result of stereotypes and biases in the finance industry as a whole.

2.3.1 Current Status of Women in Entrepreneurship

Access to Funding

In terms of the statistics surrounding female founders access to venture capital, and female participation in the venture capital industry, there was a general consensus throughout the literature. In the United States female founders make up approximately 35% (Frid, Wyman, Gartner, & Hechavarria, 2016; Brush, Greene, & Balachandra, 2018) to 40% (Kanze et al., 2018; Coleman, Henry, Orser, Foss, & Welter, 2019) of privately held companies. These numbers were cited in six of the articles out of sixteen. In contrast, female founded companies receive between 1.3% (Johnson, Stevenson, & Letwin, 2018) to 5% (Edelman, 2018) of venture capital investment in the United States. It was also found that 86% of venture capitalists are men (Tinkler, Whittington, Ku, & Davies, 2014), and that 74% of venture capital firms in the United States have no female investors (Hernandez, Raveendhran, Weingarten, & Barnett, 2019). Very few women are making the decisions when it comes to venture capital investment, which could be a contributing factor to the lack of funding female founders receive.

Founder Differences

Much of the literature mentioned the tendency for studies in the past to suggest that these are specific differences between men and women that would make female entrepreneurs less likely to excel, however this does not seem to be the case. According to Alsos, Isaksen, and Ljuenggren (2006), “there seem to be more similarities than difference between the genders when it comes to motivation, risk aversions, start-up activities, and so forth” (p. 667). Marlow and Patton (2005) echo a similar sentiment, stating that there are very few

differences between men and women that would impact their performance as entrepreneurs. Alsos et al. (2006) even notes that female founders are likely more educated than their male counterparts, as 41% of women have attended university or college, while only 26% of men have attended higher education (Alsos et al., 2006, p. 674).

Bias in Venture Capital

We still find that venture capitalists prefer pitches and businesses plans that are presented by men rather than those presented by women (Tinkler et al., 2014). At least five of the articles, out of sixteen, found that investors prefer pitches presented by men, even when the content of the pitches is the same as those presented by women (Swartz et al., 2016; Hernandez et al., 2019; Kanze et al., 2018; Edelman et al., 2018; Coleman et al., 2019). This shows that when the content of pitches are controlled, venture capitalists have a clear bias favoring male entrepreneurs over female entrepreneurs. Edelman et al. (2018) looked at examples from a pitch competition in the United States and found that “investors overwhelmingly prefer pitches presented by male entrepreneurs, even when the content of the pitch is the same” (p153). This implicit bias may be similar to that of symphony orchestras, as discussed previously, where it was believed that women were just not as good as men, until they started to conduct blind auditions (Gladwell, 2005).

2.3.2 Gender Bias within Venture Capital

Women are asked different questions

One theme that was mentioned several times throughout the literature is that once the pitch is completed, male and female entrepreneurs are asked different types of questions, which ultimately impacts the amount of funding they raise (Kanze et al., 2018). This was

mentioned in three different articles, out of sixteen (Kanze et al., 2018; Hernandez et al., 2019; Coleman et al., 2019). However, they were all citing the primary research that was done by Kanze et al. (2018). In *We ask men to win and women not to lose: closing the gender gap in start-up funding*, Kanze et al. (2018) find that male and female entrepreneurs are asked different types of questions, which in turn determine how much venture capital investment they raise. In the paper, they studied a startup pitch competition, and found that in the question and answer period following the pitches, female founders received primarily prevention-focused questions, while male founders received promotion-focused questions (Kanze et al., 2018). Promotion focused questions are those that emphasize growth potential, and goals, while prevention focused questions are those that focus on non-losses or preventing damages (Kanze et al., 2018). They also found that the gender of the investor does not change this, stating “these finding imply that both male and female investors are likely to address male entrepreneurs with promotion-focused questions and female entrepreneurs with prevention-focused questions (Kanze et al., 2018, p.12). The type of questions asked to entrepreneurs has a significant impact on the amount of funding they receive as well (Kanze et al., 2018). According to Kanze et al. (2018), when asked promotion questions, entrepreneurs raised an average of \$16.8M, while those who were asked prevention focused questions raised \$2.3M. They also found that for every addition prevention focused question asked, the entrepreneur raise \$3.8M less (Kanze et al., 2018). While this is the only study of its kind so far, it suggests that there is a serious, and unwarranted gender bias within entrepreneurship funding.

Homophily

Another common theme mentioned throughout the literature is the idea of homophily among venture capitalists. Homophily is the concept that people like to work with, and promote people who are like themselves, and in the area of venture capital investment, this means male venture capitalists are investing in mainly male entrepreneurs (Tinkler & Ljuggren, 2014). This idea was brought up multiple times in at least five of the sixteen articles (Alsos et al., 2017; Tinkler et al., 2014; Gicheva et al., 2011; Swatz et al., 2016; Coleman et al., 2019). This idea plays into the notion of venture capital being an “old boys club.” Alsos & Ljuggren (2017) put it well, stating that “Moreover, venture capitalists have been found to favour entrepreneurial teams with members who have characteristics similar to their own. This tendency toward homophily may lead male investors to disfavor female entrepreneurs. Consequently, women face stronger needs to signal their own and their ventures’ legitimacy to compensate for structural barriers and stereotypical ascriptions” (p. 573). It is argued that investing in someone similar to yourself limits uncertainty, which is a very big part of venture capital investment (Tinkler et al., 2014). While Coleman et al. (2019) suggests that homophily would lead to female investors investing in more female entrepreneurs, there is some uncertainty in the literature of whether this is the case. According to Kanze et al. (2018), “The fact that both male and female VCs display implicit bias, holding men and women to different standards, implies that the funding disparity cannot be corrected by merely ensuring that more female VCs are in a position to evaluate investment opportunities. This observation challenges the ‘industry representation’ contention that more female VCs will clear the path for more funded female entrepreneurs” (p. 603). Tinkler et al. (2014) suggests that because of the homophilic nature of

entrepreneurship, “increasing the proportion of women in the venture capital world may help women entrepreneurs build strategic connections” (p. 13), and ultimately lead to more women receiving venture capital investment. There is no consensus on this issue in the literature that I found, which suggests that there is a need for greater research on the topic.

Signal Interpretation

In *The Role of Gender in Entrepreneur-Investor Relationships: A signaling Theory Approach*, Alsos and Ljuggren (2017) discuss how entrepreneurs send signals to potential investors, and how those signals can be interpreted differently based on the gender of the entrepreneur. In their study, Alsos and Ljuggren (2017) study four cases of entrepreneurs pitching to investors, two male and two female, and discussed how the investors feedback differed between the cases. They found that “in both the two female cases, decision documents specifically note that the entrepreneurs lack entrepreneurial experience. However in Case C, in which the male entrepreneurs do not report entrepreneurial experience, this deficit is not mentioned” (Alsos & Ljuggren, 2017, p. 582). This shows that having no prior experience as a female entrepreneur can be detrimental to gaining access to venture capital, while having no experience as a male entrepreneur can be overlooked. In one of the cases, the male entrepreneur only had experience in the sector as a customer, however “it [was] regarded as a positive that he understands the market and the customers” (Alsos & Ljuggren, 2017, p. 582). This was different from how the case of the female entrepreneurs was interpreted by the investors, where both entrepreneurs had experience working in the public health sector, which would undoubtedly give them important insights into the industry and their customers, however this was not noted as a positive attribute of the entrepreneurs in the investors documents (Alsos & Ljuggren, 2017).

This was not only the case for evaluating the entrepreneurs themselves, but also the market potential, and the opportunity for entry. In one of the female cases it was noted that there was strong competition already within the market, however for one of the male cases, this was discussed as a positive opportunity to show that the market already exists (Alsos & Ljuggren, 2017). This difference in the interpretation of signals sent by male and female entrepreneurs was found throughout the literature, and was mentioned in at least four of the articles out of sixteen (Alsos & Ljuggren, 2017; Tinkler et al., 2014; Hernandez et al., 2019; Edelman et al., 2018). Alsos and Ljuggren (2017), found that “similar characteristics are interpreted differently depending on gender,” and that “gendered expectations related to entrepreneurs are found to influence the demands made and thus the evaluation of a venture’s prospects” (p. 584). This shows that even when women send the right signals, often the same as their male counterparts, they are interpreted differently by the investors. “We found that similar lack of experience, such as entrepreneurial experience, was interpreted differently for male and female entrepreneurs. Correspondingly, a similar signaling of experience was interpreted as a positive signal in one of the male cases but was not valued in one of the female cases” (Alsos & Ljuggren, 2017, p. 585).

Relationships with Men

One thing that was interesting, but perhaps not surprising, was the idea that a woman can improve her legitimacy to investors through her relationships with a man (Alsos & Ljuggren, 2017). In one of the female cases studied by Alsos and Ljuggren (2017), an investor noted that the entrepreneur was married to a physician, which contributed positively to her legitimacy. They also noted the positive attributes of the male chairs on their boards as an important indicator of the potential success of the venture. Edelman et

al. (2018) found that “investors are more likely to make a positive comment about the management team surrounding the entrepreneur if the entrepreneur is female” (p. 145), which shows that having strong ties to men influences the investors perceived legitimacy of a female founded venture.

2.3.3 The Need for Change

So why is it important to look at gender inequality in venture capital funding? Throughout the literature, along with the clear biases against female entrepreneurs, I also found that in most of the articles they noted the importance of improving gender diversity in this area (Kanze et al., 2018; Brush et al., 2018; Tinkler et al., 2014; Hernandez et al., 2019; Edelman et al. 2018; O’Gorman & Terjesen, 2006). Kanze et al. (2018), found that having women in top management leads to “improved firm profitability metrics, managerial task performance, chance of survival, and various stakeholder wealth measures” (Kanze et al., 2018, p. 5). Tinkler et al. (2014) mentions the importance of improving diversity, not just for the firm and investors, but the economy as a whole - “if entrepreneurship is disproportionately stifled for women, this is detrimental not just for individual careers, but for the general economy as well” (Tinkler et al., 2014, p. 13). Women owned and operated businesses are growing at a rate much quicker than the national average (Edelman et al., 2018, p. 135), which is a good sign, but it shows the need for a proportional increase in the funding of these businesses. O’Gorman and Terjesen (2006) found that female owned and founded companies are huge contributors to the world economy, “employing 19.1 million people and generating \$2.5 trillion in sales” in the United States (p. 70). These findings show that improving diversity and investing in more women is good for business.

2.4 Conclusion

To conclude I will discuss the research questions mentioned in the Methodology section of this paper. For Question 1: “How much venture capital financing goes to female entrepreneurs in developed countries?” the consensus, in the United States, throughout the literature was between 1-5% (Kanze et al., 2018; Brush et al., 2018; Tinkler et al., 2014; Hernandez et al., 2019; Edelman et al., 2018; Coleman et al., 2019). While the literature did not present statistics related to the gender of founders specifically for firms that were seeking venture capital, they did find that “40% of all privately held companies in the United States” are started by women, so the proportion of female founded firms is not that far off from their male counterparts (Kanze, Huang, and Conley, 2018, p. 586). While there was some discussion of venture capital investment in Europe, most of the articles were focused on the United States. To answer Question 2: "What factors contribute to this difference in the amount of funding received by men and women?" I found a few answers. Kanze et al. (2018) found that in pitches for venture capital investment, female and male entrepreneurs are asked different types of questions, which contribute to female entrepreneurs receiving less investment. There was also discussion throughout the literature about the idea of homophily, which meant that investors are more likely to invest in those who are similar to them, meaning mostly male entrepreneurs (Coleman et al., 2019). There was some uncertainty whether having more female venture capitalists would lead to more female entrepreneurs receiving investment, as both male and female investors “show a preference for funding male rather than female entrepreneurs” (Coleman et al., 2019). The last major theme that was found throughout the literature is that the signals sent by male and female entrepreneurs are interpreted differently by investors depending on the gender

of the entrepreneur in question (Edelman et al., 2018). Edelman et al. (2018) argue that “the signals about the quality of the new venture will be evaluated differently depending on the gender of the entrepreneur” (Edelman et al., 2018, p. 140). Overall, it seems that there are systematic biases and stereotypes within the venture capital and entrepreneurship industry, which greatly impacts the investment opportunities for female entrepreneurs. The next research question proposed is about how women contribute to the entrepreneurial ecosystem, and if there are differences in male and female founded companies. Alsos et al. (2006), found that “there seem to be more similarities than differences between the genders when it comes to motivation, risk aversions, start-up activities, and so forth” (p. 667), and many of the articles found that having greater gender diversity within firms and top management contributed positively to firm performance (Tinkler et al., 2014). The final question is “How can we create more equal opportunity for male and female entrepreneurs?” It will be discussed in the Recommendations section of this thesis, and may be an area where further research is required.

In order to better understand where some of these biases in venture capital investment may come from, I will look at research on biases related to women in leadership, and how these stereotypes translate into the finance industry, as well as the impact and importance of role models to increase representation. In Chapter 4, I will explore an area of finance where women have generally been underrepresented in business, that is university finance departments.

Chapter 3

LEADERSHIP BIASES & STEREOTYPES

3.1 Introduction

In the introduction of this paper I discussed research related to gender biases within society, and the impact that biases about leadership have on women (Gladwell, 2005; Kahneman, 2011; Bohnet, 2016). In this section I will explore the impact of role models (Bohnet, 2016), dive deeper into research about women in leadership (Bohnet, 2016), and discuss biases in academia that are further holding women back (Criado Perez, 2019). I hope to use the theory related to societal gender biases and biases in leadership to link my systematic review on biases in venture capital funding, and my environmental scan (found in Chapter 4) about gender distribution in university finance departments.

3.2 Impact of Role Models

A topic that is very relevant to this research is the importance of role models. One example of the impact of role models comes from India, where the government created legislation called the Panchayati Raj Act, which required one-third of village leaders to be women (Bohnet, 2016). This legislation allowed them to increase the representation of women “in local government from 5 percent in 1993 to 40 percent by 2005” (Bohnet, 2016, p. 205). Seeing women in leadership positions in their villages had profound impacts on all members of the community (Bohnet, 2016). For women, “seeing women leaders changed perceptions,” causing other women to speak up more in village meetings and seek out more leadership positions within their communities (Bohnet, 2016, p. 206). It also had an impact on parents, and their perceptions of future opportunities for their daughters - “girls exposed

to female village chiefs spent less time on household activities and wanted to marry later. The quota system had created role models for the girls and their parents, enabling both to imagine and see the value of a different future” (Bohnet, 2016, p. 207). They found that seeing more female leaders made villagers believe that women could be effective leaders, however it did not translate into them being viewed as more likeable (Bohnet, 2016).

It is important to challenge the perception of what a leader looks like, because “if people are biased against female leaders and never see a woman in a leadership position, they can never update their beliefs” (Bohnet, 2016, p. 208). This is especially important in the finance industry - “Because we don’t have many females in the C-suite, young women don’t see role models or potential paths towards executive-level leadership and are more likely to deselect themselves out of higher-level leadership roles” (Chin et al., 2018). Not only does a lack of role models contribute to systematic biases about women in leadership, it also contributes to internal biases that effect a woman’s belief about herself and her place within society (Bohnet, 2016). Based on this research, it is evident that role models are an integral part of achieving more proportional representation in areas where women are underrepresented (Bohnet, 2016).

According to Bohnet (2016), “the act of seeing women lead increased women’s self-confidence and their willingness to compete in male-dominated domains, and it changed men’s and women’s beliefs about what an effective leader looked like” (Bohnet, 2016, pp. 207-208). This is incredibly important for representation in the finance industry as a whole, and specifically in the areas of venture capital investment, and university finance departments. We need to change the number of women in top leadership in order to change gender biases in the finance industry (Arnold & Loughlin, 2019). If people do not believe

that women are effective leaders, and these beliefs are never challenged, biases about women in leadership will persist (Bohnet, 2016).

3.3 More on Women in Leadership

In the introduction I briefly discussed gender biases within society, however I want to dive deeper into it with research done by Iris Bohnet in her book *What Works* (Bohnet, 2016). In her book, Bohnet (2016) looks at unconscious biases, and how they impact gender equality within society. She discusses the case of Heidi and Howard - entrepreneurs and venture capitalists in Silicon Valley (Bohnet, 2016). Business school students were asked to evaluate the performance of the two entrepreneurs, and they found that Howard was considered to be competent and highly effective, as well as likeable, and easy to work with (Bohnet, 2016). While students found that Heidi was equally as competent and effective as Howard, they did not like her, and were not willing to work with her (Bohnet, 2016). The interesting thing is that Howard does not exist, and when students were given Heidi's credentials with a male name attached to it, they were found to favour Howard over Heidi because "the prototypical leader in their minds [was] male" (Bohnet, 2016, p. 22).

Bohnet's work shows us that in leadership, men and women are not on an equal playing field, because of societal biases and stereotypes (Bohnet, 2016). In this case, "what is celebrated as entrepreneurship, self-confidence, and vision in a man is perceived as arrogance and self-promotion in a woman" (Bohnet, 2016, p. 22). When women go against these societal biases, that men belong in leadership and women belong in the home, they are often not successful (Bohnet, 2016). Women are forced to choose between being competent or being likeable, and Bohnet found that "women in stereotypically male domains encounter backlash at every juncture: when getting hired, compensated, and

promoted” (Bohnet, 2016, p. 22). “Psychologists believe that these negative reactions are due to a clash between our stereotypical perceptions of what women are or should be like (their gender roles), and the qualities we think are necessary to perform a typically male job” (Bohnet, 2016, p. 22). Bohnet’s work shows many examples about the influence of gender norms and biases, however one thing that is constant throughout is that women, especially in leadership or male-dominated fields, are held back because of these biases (Bohnet, 2016).

Bohnet’s work also found that when performance is held equal, evaluators rate men more highly than women (Bohnet, 2016). One example from the field of STEM found that when evaluating a man and a woman with the same qualifications, for a laboratory manager position, the faculty doing the hiring found the male candidate to be more competent, and were more likely to hire him (Bohnet, 2016). In a test for the position, where the male and female candidates performed equally well, the male candidate was twice as likely to be hired as the female candidate (Bohnet, 2016). This information shows us that even when men and women have the same qualifications for the job, and are equally as competent, male candidates are more likely to be hired. According to Bohnet (2016), “because of our biases, we tend to react to successful women much like we react to dishonest men: we do not like them and do not want to work with them” (p. 26). Bohnet (2016) did find that the gap in entry level positions is closing, however for women in leadership “there is no closure of the gender gap at the top in sight” (p. 28).

In Bohnet’s book, she discusses work done by two Stanford economists, who found that the bias against women in leadership is all in our heads - “even if the beliefs are completely groundless, no disconfirming evidence ever is generated because women never get a chance

to prove the beliefs wrong. Thus, the baseless beliefs survive, and with them, the unjustified discrimination” (Bohnet, 2016, p. 30).

Along with these systematic biases that hold women back, there are also internal biases and stereotypes that we are often not aware of (Bohnet, 2016). In *What Works*, Bohnet (2016) looks at results of the Implicit Association Test (IAT), which is used to measure implicit bias, and see how people make connections between different groups and categories. People, in general, were more likely to associate a woman’s name with reading and writing, and a man's name with science or math (Bohnet, 2016). They also found that women themselves “instinctively associate careers with men and family with women” (Bohnet, 2016, p. 40). These unknown biases could lead to women holding themselves back in their careers without even being aware of it (Bohnet, 2016).

3.4 Biases in Academia

In her book *Invisible Women*, Caroline Criado Perez discusses the myth of meritocracy, and how female professors (and students) are held back because of intrinsic biases in academia (Criado Perez, 2019). Criado Perez states that “numerous studies from around the world have found that female students and academics are significantly less likely than comparable male candidates to receive funding, be granted meetings with professors, be offered mentoring, or even get the job” (Criado Perez, 2019. p. 95).

One thing that is incredibly important for career progression in academia is getting published in peer-reviewed articles, and this can often be impacted by the gender of the researcher (Criado Perez, 2019). “A number of studies have found that female-authored papers are accepted more often, or rated higher under double-blind review (when neither

the author nor reviewer are identifiable” (Criado Perez, 2019, p. 96). This means that papers written by women do better if the reader does not know that it is written by a woman (Criado Perez, 2019). If journals were to adopt the approach of double-blind reviews, it would help to limit biases, and would likely lead to more women getting published, however publishers have still not taken up this practice (Criado Perez, 2019).

When women in academia do get published, their work also tends to be cited less, which leads to a citation gap (Criado Perez, 2019, p. 96). This is because women are often cited as men, which is ten times more likely to happen than a man being cited as a woman (Criado Perez, 2019). This creates a vicious cycle of gender bias - “fewer women getting published leads to a citations gap, which in turn means fewer women progress as they should in their careers, and around again we go” (Criado Perez, 2019, p. 96). Another part of academia where women are negatively affected is in student evaluations. Criado Perez (2019) found that “less effective male professors routinely receive higher student evaluations than more effective female teachers” (p. 99). For female professors, it is a difficult and conflicting situation:

Female professors are penalized if they aren’t deemed sufficiently warm and accessible. But if they are warm and accessible they can be penalized for not appearing authoritative or professional. On the other hand, appearing authoritative and knowledgeable as a woman can result in student disapproval, because this violates gendered expectations. Meanwhile men are rewarded if they are accessible at a level that is simply expected in women and therefore only noticed if it’s absent.

(Criado Perez, 2019, p. 99)

These findings in academia relate to Bohnet's findings about women in leadership that women can either be viewed as competent or likeable, they cannot be viewed as both (Bohnet, 2016).

A study conducted by RateMyProfessor.com "found that female professors are more likely to be 'mean,' 'harsh,' 'unfair,' 'strict,' and 'annoying,'" whereas male professors were "more likely to be described as 'brilliant,' 'intelligent,' 'smart,' and a 'genius'." (Criado Perez, 2019, pp. 99-100). Criado Perez (2019) states that this is a result of a "brilliance bias," which finds that as a society, and especially in academia, we strongly associate brilliance with men because so many brilliant women have been written out of history.

In the next chapter I looked at the representation of female finance students and faculty, to determine if there is a gap in the number of women pursuing finance degrees, and the number of women obtaining leadership positions in finance at Canadian universities. While universities assess for hiring and promotions as if academia is meritocratic, often it is not (Criado Perez, 2019). Criado Perez (2019), found that in performance reviews women receive criticism about their personality, while men do not. "Several studies of performance-related bonuses or salary increases have found that white men are rewarded at a higher rate than equally performing women and ethnic minorities, with one study of a financial corporation uncovering a 25% difference in performance based bonuses between women and men in the same job" (Criado Perez, 2019, pp. 93-94). It was found that just the belief in meritocracy can contribute to greater biases within an organization (Criado Perez, 2019). Criado Perez (2019), found that "men (women were not often found to exhibit this bias) who believe that they are objective in hiring decisions are more likely to hire a male applicant than an identically described female applicant. And in organizations which

are explicitly presented as meritocratic, managers favour male employees over equally qualified female employees” (p. 94). This shows that those making hiring decisions can be highly prone to biases, and in an industry like finance where men hold most of the leadership positions, this is a serious issue for the representation and career progression of women in that field.

3.5 Link Between Venture Capital and University Finance Programs

In this paper I have looked at gender biases in the venture capital investment industry, and will be exploring the gender representation of students and faculty in Canadian university finance departments in Chapter 4. While venture capital and university finance departments are different in many ways, the findings suggest that they are both impacted by implicit gender biases within society that contribute to gender biases in the field of finance at large. Our societal biases are built up, and enforced by our environmental influences, and the part of our brain that makes snap judgements (Gladwell, 2005; Kahneman, 2011). These stereotypes in our society contribute to our beliefs about what a leader should look like (Gladwell, 2005; Bohnet, 2016), and influence biases in the finance industry, where men predominately hold top level positions (Chin et al., 2018). Together, these biases lead to fewer women in leadership position in the finance industry, and reinforce the stereotype that women do not belong in finance (Chin et al., 2018). The implicit biases that impact women seeking venture capital funding, which I discussed in Chapter 2, are likely a result of the societal biases about women in leadership and finance. In venture capital, societal gender biases lead to (mostly male) venture capitalists investing far less money into female founded ventures (Robinson, 2019). This leads to a vicious cycle, where women are not represented in finance, and so the belief that women do not belong in finance persists (Chin

et al., 2018). It is problematic to have so few women at top leadership levels, because when women are able to reach leadership positions, they have been found to be effective leaders (Criado Perez, 2019).

As mentioned in a previous section, role models are an integral part of improving gender diversity in all areas, and especially in the field of finance; research by Iris Bohnet (2016) found that “seeing women leaders change[s] perceptions” (p. 206). In management there is often an emphasis put on individual mentorship to provide guidance and inspiration for individuals as they progress in their careers, however it seems that role models could have a greater impact on changing the culture of organizations (Bohnet, 2016). A role model is defined as “a person who serves as an example of the values, attitudes, and behaviours associated with a role,” and someone whose “success is or can be emulated by others” (Dictionary.com, 2020); while a mentor is “a person who gives a younger or less experienced person help and advice over a period of time” (Cambridge Dictionary, 2020). While individual mentors provide important support and contribute to the success of individuals in their career, role models seen by all are more visible, and may be able to impact more individuals, and change perceptions about women in leadership for the entire culture of an organization. According to Iris Bohnet (2016), “people need to see counterstereotypical role models for beliefs to change,” and that “seeing female professors in a classroom decrease[s] women’s stereotypical beliefs about themselves” (p. 201). She found that having more female role models changes both men and women’s perceptions about gender roles and women in leadership (Bohnet, 2016). Her research also found that a lack of female role models can promote gender inequality (Bohnet, 2016). Role models influence perceptions and behaviour (Bohnet, 2016), and could be an important tool in

addressing the gender inequality that is present in leadership positions within the finance industry. For entrepreneurship funding, having more female venture capitalists, and successful female entrepreneurs could have a positive impact on all women seeking funding for their ventures. It would likely help change the cultural perceptions of what a successful entrepreneur looks like, for both men and women, and could lead to more female entrepreneurs gaining access to funding in the future. At universities, professors are subject matter experts and can be positive role models for many students. Having more female finance professors at the front of the classroom would not only change female students' perceptions about themselves and potential career paths, but it would impact all students, and their beliefs about women in leadership. These beliefs go with them as they continue their careers into the field of finance, and can be powerful in shaping that culture. Having more women in leadership in the field of finance would not only impact individuals, but it would change perceptions about women in leadership, and contribute to more equal opportunity in the industry.

So why is it important that women are associated with finance, and leadership as a whole? According to a study by a Business school in Norway, which measured the five most important traits of an effective leader, women are “better suited for leadership than men” (Criado Perez, 2019, p. 171). The key leadership skills they measured for were “emotional stability, extraversion, openness to new experiences, agreeableness and conscientiousness” of which women scored higher than men in four of these five skills (Criado Perez, 2019, p. 171). It is important that we fix this gender gap in leadership, because “studies have repeatedly found that the more diverse a company’s leadership is, the more innovative they are” (Criado Perez, 2019, pp. 171-172). Having more women in top leadership positions in

the finance industry would be beneficial for the companies, and would likely contribute to higher performing firms (Bohnet, 2016). It would also likely attract more women into the field because, as mentioned before, when women have role models to look up to, they are more likely to envision themselves in those roles, and pursue careers in industries that they might not have previously considered (Bohnet, 2016). This is especially relevant to the next chapter of this paper, where I conducted an environmental scan of finance departments at Canadian universities. Female representation in top leadership is also important because without it, organizations are missing out on the unique perspectives of 50% of the population, which could have a positive impact on the firms, their employees, and all stakeholders involved (Bohnet, 2016). Without women at the top, things are missed – take the example of Sheryl Sandberg at Facebook. It wasn't until Sandberg got pregnant while working at Facebook that she realized the need for priority parking for their pregnant employees (Criado Perez, 2019). Without a pregnant senior woman in leadership, this problem was not even considered, and it shows the importance of bringing unique perspectives and experiences to leadership (Criado Perez, 2019).

Chapter 4

ENVIRONMENTAL SCAN ON FINANCE STUDENTS & FACULTY

4.1 Introduction

The field of finance is one that has traditionally been male-dominated. Many finance professionals believe that women just aren't interested in finance, some citing the long working hours and masculine culture as a potential barrier to women in the industry (King, Ortenbald, & Ladge, 2018). The Chartered Financial Analyst (CFA) Program has realized that this is a problem, and is working to get more women involved in finance.

Chartered Financial Analyst (CFA)

According to the CFA Institute Research Foundation (2016), less than 20% of CFA charter holders are women. When you consider that women outnumber men as university graduates, and are mostly equal in areas such as accounting, medicine and law, this low number in finance is somewhat surprising (CFA Institute Research Foundation, 2016). The CFA notes the importance of closing this gender gap with the belief that more diverse firms lead to improved outcomes (CFA Institute Research Foundation, 2016). The CEO and president of the CFA Institute states "our profession has a diversity problem. If we are to change, we must change our demographic... As the largest global association of investment professionals, we are in a powerful and unique position to bring awareness to this issue" (CFA Institute, 2016, p. 2). The report on the Women in Investment Management Initiative notes the importance of gender diversity within teams because "diverse teams can deliver better results" and found that teams with greater gender diversity can have "a 41% higher return on equity than the companies with no women" (CFA Institute, 2016, p. 2). While

many Asian countries are closing the gap for more women with CFA membership, no country has reached equality, and most countries fall below 20% (CFA Institute Research Foundation, 2016, p. 3). With less than one in five CFA members being female (CFA Institute Research Foundation, 2016, p. 2), it is important that they are working to attract and retain more women. More diverse groups bring different perspectives, and allow for better problem-solving and collaboration (CFA Institute Research Foundation, 2016, p. 2). Reaching gender equality should be especially important in the financial sector, and the CFA Institute is starting to make efforts to do this. As most individuals make career decision during or after university, the CFA Institute Research Foundation suggests outreach to university students, so that more women can see finance as a potential career path, and see that there is flexibility in the sector (CFA Institute Research Foundation, 2016, p. 2). It is also important to ensure that firms are aware of the importance of diversifying their teams, and creating a more open and attractive work environment for all employees (CFA Institute Research Foundation, 2016, p. 2).

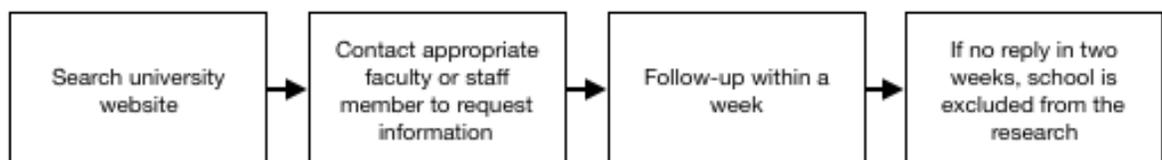
In my preliminary literature review on this topic I found that at a number of Canadian universities there is only one female finance professor for approximately ten or so male finance professors (e.g. John Molson School of Business, 2020), and in some cases there are none (e.g. Sauder School of Business, 2020). I believed that these numbers warranted further research, so I conducted an environmental scan for the gender distribution of finance professors and students across Canadian Universities. The purpose of the scan is to determine if there is a gap in the gender distribution of finance faculty, and if this gap also exists for finance students at the master's, and PhD level. If there are far fewer women going on to study finance at the master's and PhD level, this would suggest that it is a

“pipeline” problem that has led to so few female professors in the area of finance. Once I determine if this gap exists, I hope to determine why, and offer some suggestions for change. Based on a preliminary literature review, there are no previous studies on the gender diversity for finance faculty in Canada, so I hope this research will help fill a gap, and provide tools for universities to better diversify their hiring processes and reach underrepresented groups in the field of finance.

4.2 Methodology

An environmental scan is “the internal communication of external information about issues that may influence an organization’s decision-making process” and it can identify “emerging issues, situations, and potential pitfalls that may affect an organization’s future” (Albright, 2004, p. 39). I conducted an environmental scan to determine the gender distribution of finance faculty and students at the master’s, and PhD level across Canadian universities in order to understand if there is a discrepancy in the number of women and men working in finance, and to determine if this is a pipeline problem. I also hoped to understand if the gender biases uncovered in venture capital are characteristic of the finance industry as a whole.

Figure 3: Environmental Scan Process



To begin, I looked at the gender distribution of finance students at Canadian Universities at the master’s and PhD level. I focused on comprehensive Canadian universities (Mclean’s, 2019), as well as the top Canadian research universities, included schools that

had a dedicated finance department, or a finance specialization, and looked to determine the ratio of male and female students. I followed the process as shown in Figure 3, and started out by searching the university websites to determine the gender distribution of the students within their finance programs. When this information was not available on the university website I contacted the appropriate faculty or staff member to inquire about these numbers. If there was no reply within a week, I followed up with an inquiry. If there was still no reply after two weeks, the school was excluded from the search. After working through this process I found ten schools at the graduate level (Table 3), and seven schools at the PhD level (Table 4), with the percentage of female finance students ranging from 25% (McGill Desautels, 2019) to 75% (HEC Montreal, 2019) across different schools and programs (Table 5). It is important to note that the data collected for university finance students and faculty was last updated as of January 2020. Any difference in the numbers found in this thesis, and those present on the university websites would be a result of changes made to the websites after January 2020.

Next, I moved on to look at the gender distribution of full-time, tenured finance faculty members across Canadian universities. I followed the same environmental scan process that was used to determine the gender distribution of finance students, as shown in Figure 3. My final list includes seventeen Canadian universities, with the percentage of female finance faculty ranging from 0% (Sauder School of Business, 2020; Smith School of Business, 2019; Beedie School of Business, 2019; Ivey School of Business, 2019; York University; 2019) to 50% (Rowe School of Business, 2020).

For both finance faculty and students, schools were excluded from this study if they did not have a dedicated finance program/specialization, or if they did not have the necessary information available on their website or by personal communication.

The list of schools used in the environmental scan is included in the appendix, as well as the list of twenty-five schools that I used to conduct the search.

4.3 Findings & Themes

In the preliminary research for this study I found that many university business schools are claiming to bring more women into their master's and PhD programs to study finance (Marriage, 2018). There is the assumption that the lack of women in leadership positions in finance is due to a "pipeline problem," which is why many programs are working so hard to reach gender parity for their students. (Marriage, 2018). It seemed logical to examine the gender distribution of students in these programs to see if there are far fewer women than men pursuing master's and PhDs in finance, and therefore less women going on to become professors of finance. I did an environmental scan of Canadian universities to determine the gender distribution of students pursuing their master's (Table 3) or PhD in finance (Table 4), and the finance faculty within those programs (Table 5).

Graduate Students

Of the twenty-five universities that I searched in this environmental scan, only ten disclosed the gender distribution of their master's students. Those that did disclose the distribution documented that their Master of Finance programs are almost equally male and female, and in several cases there are actually more women than men. Table 3 shows ten Canadian University master's programs (or specializations) in Finance, and the gender distribution

of the students in their program. The percentage of women in these programs ranges from 36% at Carleton University (P. Davis, personal communication, January 9th, 2020) to 70% at the University of Manitoba (E. Morphy, personal communication, January 8th, 2020), with the average of all the programs being 49 % female. Four out of the ten schools have reached or exceeded gender parity for their students (Saint Mary’s University, Simon Fraser University, University of Manitoba, and University of Toronto) with three schools less than 5% away from having equal numbers of men and women (McGill University, University of Alberta, and University of New Brunswick) as found in Table 3. This shows that many Canadian Universities have almost 50% men and women in their finance programs at the master’s level.

Table 3 – Gender Distribution in University Master of Finance Students

| School & Program | Number of Men | Number of Women | % Female | Reference |
|--|---------------|-----------------|----------|--|
| Brock University - Goodman School of Business <i>MSc in Management with a Finance Specialization</i> | N/A | N/A | 37% | (L. Redford, personal Communication, January 10th, 2020) |
| Carleton University - Sprott School of Business <i>MBA in Financial Management</i> | 9 | 5 | 36% | (P. Davis, personal communication, January 9th, 2020) |
| McGill University - Desautels Faculty of Management <i>Master of Management in Finance</i> | 26 | 25 | 49% | (Desautels Faculty of Management, 2019B) |
| Queen’s University - Smith School of Business <i>Master of Finance</i> | N/A | N/A | 42% | (Smith School of Business, 2019A) |
| Saint Mary’s University - Sobey School of Business <i>Master of Finance</i> | 45 | 48 | 52% | (T. Birch, personal communication, October 16th, 2019) |
| Simon Fraser University - Beedie School of Business <i>MSc in Finance</i> | 21 | 29 | 58% | (Beedie School of Business, 2019B) |
| University of Alberta - Alberta School of Business <i>Master of Financial Management in Shanghai & Shenzhen</i> | N/A | N/A | 46.5% | (C. Ribeiro, personal communication, January 8th, 2020) |
| University of Manitoba - Asper School of Business <i>Master of Finance</i> | N/A | N/A | 70% | (E. Morphy, personal communication, January 8th, 2020) |
| University of New Brunswick - Faculty of Management <i>Master in Quantitative Investment Management</i> | 6 | 5 | 45% | (S. Pathak, personal communication, January 8th, 2020) |
| University of Toronto - Rotman School of Business <i>Master of Finance</i> | 20 | 20 | 50% | (Rotman School of Management, 2019C) |

PhD Students

While not everyone who completes a master's degree in finance will go on to be an executive or professor, those who go as far as to complete a PhD could be in the pipeline for becoming a professor or a high-level finance professional. Table 4 displays the gender distribution of PhD finance students at seven Canadian Universities. The percentage of women in these PhD programs ranges from 25% at McGill University (McGill Desautels, 2019A) to 75% at the Université de Montréal (HEC Montreal, 2019A) where three of their four current PhD students are women. The average of all the schools included found that the gender distribution was 40% female. While the Université de Montréal was the only school I found that had more women than men in the PhD in Finance program (HEC Montreal, 2019A), Queen's University and Wilfred Laurier University were both fairly close to reaching parity, with women making up 43% of their PhD programs (Table 4). While the gender distribution of finance students at the PhD level (Table 4) is not quite as equal as it was at the master's level (Table 3), it is still much more proportional than that of finance faculty, as found in Table 5.

Table 4 – Gender Distribution in University PhD Finance Students

| School & Program | Number of Men | Number of Women | % Female | Reference |
|--|---------------|-----------------|----------|---|
| Carleton University - Sprott School of Business <i>PhD in Management in Finance</i> | 5 | 2 | 29% | (M. Doric, personal communication, January 8th, 2020) |
| McGill University - Desautels Faculty of Management <i>PhD in Finance</i> | 12 | 4 | 25% | (McGill Desautels, 2019A) |
| Queen's University - Smith School of Business <i>PhD in Finance</i> | 4 | 3 | 43% | (T. Touchetter, personal communication, October 11th, 2019) |
| Université de Montréal - HEC Montreal <i>PhD in Finance</i> | 1 | 3 | 75% | (HEC Montreal, 2019A) |
| University of Alberta - Alberta School of Business <i>PhD in Finance</i> | 8 | 3 | 27% | D. Giesbrecht, personal communication, January 7th, 2020) |
| University of Toronto - Rotman School of Management <i>PhD in Finance</i> | 10 | 6 | 38% | (Rotman School of Management, 2019A) |

| | | | | |
|--|---|---|-----|--|
| Wilfred Laurier University - Lazadris School of Business <i>PhD in Management in Finance</i> | 4 | 3 | 43% | (M. Lafrance, personal communication, October 11th, 2019) |
|--|---|---|-----|--|

Finance Faculty

After seeing the gender distribution of finance students at the master's (Table 3) and PhD (Table 4) levels as being fairly equal, it is disappointing to see that the gender distribution for finance faculty is not more proportional, as shown in Table 5. It is important to note that this list is not exhaustive - many universities did not list their finance faculty, and in some cases it was not possible to tell how many women or men were in the faculty, or who was a full-time, tenured professor. However, based on the information available from seventeen schools, the percentage of female finance professors ranges from as low as 0% at the University of British Columbia (Sauder School of Business, 2020), up to 50% at Dalhousie University (Rowe School of Business, 2020), with seven schools having only one woman in their faculty (Table 5). This is an issue because having just one woman on a team does not help representation and can take away from their credibility and ability to contribute to the team (He & Kaplan, 2017). As mentioned previously, there was research conducted in Norway about the impact of gender representation on boards, which found that there needs to be at least a representation of 40% for each gender in order to avoid the negative effects of tokenization (He & Kaplan, 2017). If only one of two women are present on a board, or in leadership positions at an organization, it delegitimizes their contributions, and can cause them to feel more isolated (He & Kaplan, 2017). In order to work against this tokenization, business schools need to reach a critical mass of 40% women represented in their leadership, and in finance departments they are quite far off from reaching that level (He & Kaplan, 2017). Only three of the schools have over 25% female faculty, and none of them have more than two full-time, tenured female faculty

members (Table 5). There are also five schools that have no female faculty members (Smith School of Business, 2019; Beedie School of Business, 2019A; Sauder School of Business, 2020; Ivey School of Business, 2019; Schulich School of Business, 2019). The average gender distribution of finance professors across these schools was 17% female (Table 5). As mentioned previously, these schools are some of the top research, and comprehensive universities in Canada (McLean's, 2019), so it is surprising to see such a lack of representation within their faculty.

As mentioned previously, it is important to note that these numbers were last updated as of January 2020. The numbers for university faculty and students are constantly fluctuating, so any discrepancy between the numbers found in these tables, and the numbers present on the university websites, would be a result of a change to the website made after January 2020.

Table 5 - Gender Distribution in University Finance Faculty

| School | Number of Men | Number of Women | % Female | Reference |
|---|---------------|-----------------|----------|--|
| Brock University - Goodman School of Business | 3 | 2 | 40% | (Goodman School of Business, 2019) |
| Carleton University - Sprott School of Business | 2 | 1 | 33% | (Sprott School of Business, 2019) |
| Concordia University - John Molson School of Business | 11 | 1 | 8% | (John Molson School of Business, 2020) |
| Dalhousie University – Rowe School of Business | 2 | 2 | 50% | (Rowe School of Business, 2020) |
| McGill University - Desautels Faculty of Management | 9 | 1 | 10% | (McGill Desautels, 2019C) |
| Queen’s University - Smith School of Business | 6 | 0 | 0% | (Smith School of Business, 2019B) |
| Ryerson University - Ted Rogers School of Management | 7 | 2 | 22% | (Ted Rogers School of Management, 2020) |
| Saint Mary’s University - Sobey School of Business | 8 | 1 | 11% | (Saint Mary’s University, 2020) |
| Simon Fraser University - Beedie School of Business | 2 | 0 | 0% | (Beedie School of Business, 2019A) |
| Université de Montréal - HEC Montreal | 5 | 1 | 17% | (HEC Montreal, 2019B) |
| University of British Columbia - Sauder School of Business | 5 | 0 | 0% | (Sauder School of Business, 2020) |
| University of Manitoba - Asper School of Business | 3 | 1 | 25% | (Asper School of Business, 2019) |
| University of Regina - Hill School of Business | 4 | 1 | 20% | (Hill School of Business, 2019) |
| University of Toronto - Rotman School of Management | 7 | 2 | 22% | (Rotman School of Management, 2019D) |
| Western University - Ivey School of Business | 3 | 0 | 0% | (Ivey Business School, 2019) |
| Wilfred Laurier University - Lazaridis School of Business & Economics | 6 | 2 | 25% | (Lazaridis School of Business & Economics, 2019) |
| York University - Schulich School of Business | 2 | 0 | 0% | (Schulich School of Business, 2019) |

Based on these numbers, it is evident that there is a serious issue for female representation in leadership positions in finance faculty. It is important to note that the number of associate professors today likely reflect hiring decisions from many years ago; it takes approximately five to seven years for a PhD student to become an associate professor (Berkeley, 2020). That being said, the representation of female professors at the non-associate professor level is still very low. For example, at Queen’s University at the professor and assistant professor level there are nine male professors and only one female professor (Smith School of Business, 2019B). It is a similar situation at Simon Fraser University, where there are no

female faculty members at any level in their finance department (Beedie School of Business, 2019A). The fact that there are still so few women at the professor and assistant professor level shows that there is still an issue for female representation in leadership within university finance departments today. While many universities are making a conscious effort to increase the number of female students, the same effort needs to be made for their faculty. If women are not able to see other women as professors or executives in finance, it is less likely that they will be able to see themselves in those roles (Bohnet, 2016). The push for gender diversity in finance needs to be a full system overhaul, not only a bottom-up approach (Chin et al., 2018).

4.4 Conclusion

It is evident that the gender distribution of full-time, tenured finance professors is much more skewed than that of finance students (as shown in Table 3, 4, and 5). By conducting this environmental scan on Canadian university finance departments and programs I found that the average gender distribution for master's students is almost equal, at 49% female (Table 3). At the PhD level it is slightly lower, at 40% female (Table 4), however it is not as low as that of professors, where women appear to hold an average of 17% of the full-time, tenured faculty positions across Canadian universities (Table 5). I will discuss the implications of this, and provide recommendations for business schools in the discussion and conclusion chapter of this paper.

Chapter 5

DISCUSSION & CONCLUSION

5.1 Discussions

The purpose of this project was to gain a better understanding of the impact of gender biases and stereotypes on the financial industry, specifically in the areas of venture capital investment and university finance programs. I conducted a systematic review of the literature related to gender biases within venture capital investment, to understand how these biases are present in the investment process, and where they come from. The systematic review used a clear set of criteria to search for the relevant literature on this topic and coded that data for further analysis. In order to better understand these biases, and to see if they were present in other areas of the finance industry, I conducted an environmental scan of university finance faculty and students. I did this to see the proportion of men and women entering finance programs, as well as the distribution of men and women obtaining leadership positions within those finance programs. I created a clear process to conduct the scan, as found in the methodology section of Chapter 4.

As discussed in Chapter 2, venture capital is an industry that is very male-dominated (Robinson, 2019). Through my research I have found that gender biases in the venture capital industry show up in different ways in the investment process. They have a negative impact on female founders, and lead to women receiving far less capital than that of their male counterparts (Robinson, 2019). There was a consensus throughout the literature that women receive between 1.3% (Johnson, Stevenson, & Letwin, 2018) to 5% (Edelman, 2018) of venture capital investment. While I was unable to find information to compare the

proportion of male and female entrepreneurs who apply for funding, multiple studies show that there is a clear bias for investors to favor male entrepreneurs, even when variables are held constant (Tinkler et al., 2014) - this is likely a result of societal gender biases about women that have been perpetuated in the male-dominated finance industry (Bohnet, 2016; Robinson, 2019). Much of the literature found that there are very few differences between male and female entrepreneurs that would account for such a disparity in the lack of funding that women receive (Alsos, Isaksen, and Ljuenggren, 2006). It was also found that when female founded ventures do receive funding, they have a better return on investment, making 78 cents in revenue for every dollar invested compared to 31 cents for male founded start-ups (Farrell, 2019, p. 4).

As mentioned previously, these biases show up in different ways in the investment process. A study by Kanze et al. (2018) found that male and female entrepreneurs are asked different types of questions, which significantly impacts the amount of money they can raise. This negatively impacts women, who are asked prevention-focused questions, while their male counterparts are asked promotion-focused questions (Kanze et al., 2019). Those who are asked prevention-focused questions go on to receive much less funding than those who are asked promotion focused questions – this negatively impacts female founders (Kanze et al., 2019). This demonstrated a strong gender bias occurring in the question period of venture capital investment. While it is difficult to say why this is for certain, it may be related to the fact that the finance industry and financial institutions have been heavily male-dominated in the past (Chin et al., 2018). Perhaps when male venture capitalists encounter female entrepreneurs, they ask them different types of questions because they do not have a positive association between women and money or finance (Stewart, 2016). This could

be because women are often associated with family and the arts, while men are associated with leadership and industries related to STEM (Bohnet, 2016). Venture capitalists may also view women as risk averse, which could prompt them to ask more prevention-focused questions to female entrepreneurs (Kanze et al., 2018). Another theme throughout the data was the idea that people like to work with, promote, hire, and invest in people who are like them. In the area of venture capital, which is 85% men, we see male venture capitalists investing primarily in male entrepreneurs (Tinkler & Ljuggren, 2014). The final way that gender bias shows up in venture capital investment, based on my research, is through the interpretations of signals. Based on a study by Alsos and Ljuggren (2017), and supported throughout the literature, it was found that when entrepreneurs send signals to investors they are interpreted differently if the entrepreneur is a man or a woman (Alsos & Ljuggren, 2017). Even when women send the right signals, they are often interpreted differently than they would have been if the same signal was sent by a man (Alsos & Ljuggren, 2017). Understanding these biases, and how they show up in the investment process is important.

In order to understand if these biases were present in other areas of the finance industry, I conducted an environmental scan of finance programs across Canada. I created a process for the environmental scan, which can be found in the methodology section of Chapter 4. For the environmental scan I looked at twenty-five Canadian universities, and mapped out the gender distribution of their masters and PhD students, as well as their full-time, tenured faculty members. I did this to see if there were fewer women entering finance programs, which could lead to a pipeline problem when it comes to hiring finance professors. I also wanted to see if women were reaching leadership positions within university finance

departments at the same rate as men, and if the lack of women in leadership could be a result of fewer women pursuing higher education in finance.

The results of the environmental scan can be found in Chapter 4. I found the proportion of women entering Master of Finance programs to be fairly equal, with an average of 49% across ten Canadian universities (Table 3). At the PhD level, the number of women decreased, but they still made up an average of 40% of PhD students in finance (Table 4). For faculty however, the numbers were much lower, with women making up an average of just 17% of full-time, tenured finance positions across seventeen Canadian universities (Table 5). As mentioned previously, it is important to note that the number of associate professors today likely reflects hiring decisions from years ago, because it takes approximately five to seven years for a PhD student to become an associate professor (Berkeley, 2020). That being said, there are still very few female faculty members at all levels in university finance programs (Beedie School of Business, 2019A; Smith School of Business, 2019B). Research by Iris Bohnet (2016), found that in education “the greater the proportion of female faculty, the more female students were likely to associate women with leadership and with math” (Bohnet, 2016, p. 210). She also found that while the gender of a professor has no impact on men, female students are more likely to enter into areas that are more male dominated, like STEM, when they are exposed to a female professor in that area (Bohnet, 2016).

These findings suggest that the finance industry creates and perpetuates a systematic bias against women, which makes it more difficult for them to get hired, promoted, and/or find investment.

5.2 Implications and Recommendations

These findings are important because having more women in leadership positions has been demonstrated to have a positive impact on organizations and the economy (Kanze et al., 2018). Kanze et al. (2018) found that having more women in top management leads to “improved firm profitability metrics, managerial task performance, chance of survival, and various stakeholder wealth measures” (Kanze et al., 2018, p. 5). Similarly, Criado Perez (2019) found that women can often be more effective leaders than men, and that diversity in leadership leads to greater firm performance.

Based on my research I believe that there are a few things that could help reduce and/or eliminate gender biases within the venture capital industry. First, I think it is important to make venture capitalists aware of their biases and help them realize that investing more in women is good for business (Farrell, 2019). It would be useful to create bias inhibiting measures in the investment process as well. This could be in the form of standardized questions, so that men and women are not asked different types of questions that have been shown to negatively impact women (Kanze et al., 2019). It would also be useful to take gender indicating components out of initial investment proposals, so that there is a greater opportunity for women to be able to pitch their ideas. While there is not a strong consensus on whether more female venture capitalists would help female entrepreneurs access more funding, the idea of homophily suggests that it might (Tinkler & Ljuggren, 2014). This is also an area that would be a good opportunity for further research.

According to a study of boards in Norway, there needs to be a “critical mass” of women (40% or more) to combat the negative perception of tokenization that comes from having one or two women on a team (He & Kaplan, 2017). This shows that it is important for

university finance departments to hire more women. In order to do this, university hiring departments need to do a better job of reaching more women when finance positions become available. He and Kaplan (2017) found that if there is only one woman in the hiring pool, “there is statistically no chance that she will be hired.” This shows that there is a need for more targeted recruiting when it comes to hiring at university business schools, and especially in finance departments. It has been found that forcing mandatory diversity training can have a negative impact on efforts to increase diversity (He & Kaplan, 2017). Consequently, it would be useful for universities to provide voluntary diversity training within their human resource department, so that the people making hiring decisions understand the importance and benefits of diversity. Overall, it would be beneficial to make the processes of hiring within business schools more transparent, so that people understand their biases, and how to avoid unintended biases that stop them from hiring the best candidate.

5.3 Limitations of the study

As with any research, this thesis had limitations. For the systematic review it would have been useful to explore more databases, and literature that was further reaching than that which I used. I looked for literature that was English written, and containing data for developed countries, however it may have been useful to explore venture capital investment and gender in developing countries as well. I also focused the study on venture capital investment – for future research it would be interesting to look at other forms of entrepreneurship funding, and how they are impacted by the gender of founders and/or investors.

In this research, I focused on one area of diversity – gender. There are many other areas of diversity, such as ethnicity, age, sexual orientation, etc. which are also important, and are likely impacted by biases and stereotypes within organizations. For future research it would be useful to explore different types of diversity and determine if there are other groups that are underrepresented in the area of finance. For university finance hiring practices it would be valuable to look at diversity with respect to where professors were trained, to determine if schools are hiring across diverse educational backgrounds, or if they are hiring from just one or two institutions. This, however, was beyond the scope of this study, so it could be an opportunity for further research.

5.4 Conclusion

In conclusion, it is evident that university finance departments and venture capital investment are two areas where women are still underrepresented (Robinson, 2019). Many of the reasons that female entrepreneurs receive less venture capital investment, as discussed in the systematic review, are related to unintended gender biases and stereotypes within the industry. This is likely a result of the biases within the finance industry as a whole, where women still hold very few leadership positions (Chin et al., 2018). While the number of women pursuing degrees in finance at the master's and PhD level are improving (as shown in Table 3 & 4), the percentage of women in full-time, tenured faculty positions is not on par (Table 5). Perhaps this is just a delay in the process, and maybe in the next five to seven years we will find more female finance faculty members, however the current number of women in university finance departments at all levels indicates that this is not just a “pipeline problem” as some have argued (Marriage, 2018). Perhaps investors, and those making the hiring decisions at Canadian universities, do not realize how their biases

impact their decision-making, however we need to see changes to mitigate these biases. Much of the literature on gender in the finance industry suggested ways that women could change to fight against biases, however they do mention the importance of working to eliminate unconscious bias in the industry as a whole (Chin et al., 2018). It was suggested that proportional representation could be achieved in several ways – through training to mitigate unconscious biases (Chin et al., 2018), by implementing quotas (Bohnet, 2016), more targeted recruiting, and providing voluntary diversity training within organizations (He & Kaplan, 2017). Many suggestions have been made as to how to eliminate these biases and implement systematic change – whether through helping those in leadership positions understand their biases and how they impact others, or creating clear and concrete ways to fix these biases, as they did in the case of blind auditions for symphony orchestras (Gladwell, 2005). While these measures are important, the main way that we will be able to eliminate these systematic biases is by getting more women into leadership positions – this needs to be the first step in the process, rather than the desired end result, and it cannot just be women working toward these changes (Arnold & Loughlin, 2019).

Based on my findings about gender in venture capital and university finance departments, it is evident that societal biases about women and leadership have been a contributing factor to the biases within the finance industry, which have led to very few women obtaining leadership positions in finance (Chin et al., 2018). According to research by Iris Bohnet (2016), role models play an integral part in helping women achieve positions in leadership, and pursue careers in fields that have been traditionally male-dominated. This is a problem in finance, as there are very few women in top leadership positions (Chin et al., 2018), however it could be an opportunity for growth – increasing the number of women holding

these top positions would help other women see themselves in those roles, and would combat the biases present about women in finance and leadership (Bohnet, 2016). Bohnet's work also shows that in order to challenge these biases and stereotypes, we need to get more women in leadership, not vice versa (Bohnet, 2016). An excerpt from her book, about leadership stereotypes, sums it up well:

Let's take stock: the gender gap in leadership is real; it's relationship to the gender gap in promotions is real; a connection exists between the promotion gap and the extent of stereotypical attitudes. These dynamics have been demonstrated in various contexts and countries, but too little is known to determine to what extent they generalize from whites to all other demographic groups. The stereotypes about 'leadership fit' - or lack thereof - are hardly based on evidence. There simply are not enough women in positions of leadership to draw reliable inferences.

(Bohnet, 2016, p. 29)

Work by Criado Perez (2019) shows that women in academia face even more barriers than their male counterparts. She found that women are less likely to be published, and discusses the citation gap for women in academia, both of which make it more challenging for female professors to progress in their career (Criado Perez, 2019). She also found that student evaluations were more negative for female professors than for male professors, and that "less effective male professors routinely receive higher student evaluations than more effective female teachers" (Criado Perez, 2019). These challenges, along with stereotypes related to women in finance, are likely why there are so few women holding leadership positions in university finance departments. Overall, it is evident that societal biases about women and leadership, and the lack of female role models has had a negative impact on

the perceptions of women in finance (Bohnet, 2016). This has led to few women obtaining leadership positions within the finance industry, which further perpetuates biases that women do not belong in finance (Chin et al., 2018). While it is important to work toward systematic change to challenge these biases and stereotypes, the first step needs to be getting women in leadership positions in finance in the first place. This will help challenge those biases, because according to Arnold & Loughlin (2019), “appointing more women to positions of senior leadership is a necessary first step to address the problematic mismatch between gender and leader stereotypes. This will require men (not women) to lean in for change - as they are typically the ones with the power to begin systematic change” (p. 4).

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APPENDIX

I. Literature used in Systematic Review

| Author | Title | Year | Journal | Description |
|---|--|------|---|---|
| Alsos, G. A., and Ljunggren, E. | The Role of Gender in Entrepreneur-Investor Relationships: A Signalling Theory Approach | 2017 | Entrepreneurship Theory and Practice | This study looks at how gender impacts funding decisions for investment in new firms. |
| Alsos, G. A., Espen, J., and Ljunggren, E. | New Venture Financing and Subsequent Business Growth in Men- and Women-Led Businesses | 2006 | Entrepreneurship Theory and Practice | This study explores the funding gap between male and female founded companies. |
| Bento, N, Gianfrate, G., and Thoni, M. H. | Crowdfunding for sustainability ventures | 2019 | Journal of Cleaner Production | This study looks at crowdfunding, and the distribution of success for female vs. male founders |
| Brush, C. Greene, P., Balachandra, L., and Davis, A. | The gender gap in venture capital - progress, problems, and perspectives | 2018 | Venture Capital | Looks at why female founders receive so much less funding than male entrepreneurs. |
| Coleman, S., Henry, C., Orser, B., Foss, L., and Welter, F. | Policy Support for Women Entrepreneurs' Access to Financial Capital: Evidence from Canada, Germany, Ireland, Norway, and the United States | 2018 | Journal of Small Business Management | This research explores programs and policies to improve women entrepreneurs' access to capital. |
| Edelman, L. F., Donnelly, R., Manolova, T., and Brush, C. G. | Gender stereotypes in the angel investment process | 2018 | International Journal of Gender and Entrepreneurship | This study looks at the disparity in equity funding for female entrepreneurs. |
| Frid, C. J., Wyman, D. M., an Gartner, W. B. | Low - wealth entrepreneurs and access to external financing | 2016 | International Journal of Entrepreneurial Behaviour & Research | The paper explores low-wealth business founders access to capital. |
| Gicheva, D., and Link, A. N. | Leveraging entrepreneurship through private investments: does gender matter | 2013 | Small Business Economics | Discusses female founders access to private equity investment. |
| Greene, P. G., Brush, C. G. Hart, M. M. And Saporito, P. | Patterns of venture capita funding: is gender a factor? | 2001 | Venture Capital | Looks at the disparity in access to funding between male and female founded companies. |
| Guzman, J., and Kacperczyk, A. | Gender gap in entrepreneurship | 2019 | Research Policy | Explores the different obstacles faced by male and female entrepreneurs. |
| Hernandez, M., Raveendhran, R., Weingten, E., and Barnett, Michaela | How Algorithms Can Diversify the Startup Pool | 2019 | MIT Sloan Management Review | Discusses the opportunity for algorithms to help investor decision-making. |
| Johnson, M. A., Stevenson, R. M, and Letwin, C. R. | A woman's place in the ... startup! Crowdfunder judgements, implicit bias, and the stereotype content model | 2018 | Journal of Business Venturing | Explores crowdfunder biases and impact on female entrepreneurs. |
| Kanze, D., Huang, L., Conley, M. A., & Higgins E. T. | We Ask Men to Win and Women Not to Lose: Closing the Gender Gap in Startup Funding | 2018 | Academy of Management Journal | Looks at the difference in the types of questions asked to female and male entrepreneurs by investors |

| | | | | |
|---|---|------|---|---|
| Marlow, S., and Patton, D. | All Credit to Men? Entrepreneurship, Finance, and Gender | 2005 | Entrepreneurship Theory and Practice | Discusses the barriers female founders face to raise capital for their ventures. |
| Swartz, E., Amatucci, F. M., and Coleman, S. | Still a man's world? Second generation gender bias in external equity term sheet negotiations | 2016 | Journal of Development Entrepreneurship | This paper looks the difference in term sheet negotiations for male and female founders. |
| Tinkler, J. E., Whittington, K. B., and Ku, M. C. | Gender and venture capital decision-making: The effects of technical background and social capital on entrepreneurial evaluations | 2015 | Social Science Research | Looks at how the entrepreneurs credentials are weighed differently for male and female entrepreneurs. |

II. Codes for Systematic Review

| Codes | Indicators | Authors |
|--|---|---|
| 1) Current Status | | |
| Access to Funding | <ul style="list-style-type: none"> Female founders make up 35-40% of privately held companies in the US Women receive 1.3-5% of VC funds <ul style="list-style-type: none"> 86% of venture capitalists are men | (Frid et al., 2016) (Brush et al. 2018) (Kanze et al., 2018) (Coleman et al. 2019) (Johnson et al. 2018) (Edelman, 2018) (Tinkler et al., 2014) (Hernandez et al., 2019) |
| Founder Differences | <ul style="list-style-type: none"> Male and female entrepreneurs are more similar than different | (Alsos et al, 2006) (Marlow and Patton, 2005) |
| Bias in Venture Capital | <ul style="list-style-type: none"> Investors prefer pitches by men, even when the content is the same as those pitched by women | (Tinkler et al., 2014) (Swartz et al., 2016) (Hernandez et al., 2019) (Kanze et al., 2018) (Edelman et al., 2018) (Coleman et al., 2019) |
| 2) Gender Bias within Venture Capital | | |
| Women are asked different questions | <ul style="list-style-type: none"> Women are asked prevention questions, while men are asked promotion questions This leads to women receiving much less funding than men For every additional prevention question asked, entrepreneurs raise \$3.8M less <ul style="list-style-type: none"> Male and female VCs show this bias against female entrepreneurs | (Kanze et al., 2018) (Hernandez et al., 2019) (Coleman et al., 2019) |
| Homophily | <ul style="list-style-type: none"> People like to work with people similar to them Leads to male VCs investing in male entrepreneurs <ul style="list-style-type: none"> Uncertainty of whether having more female VCs would lead to more women receiving investment | (Tinkler et al., 2014) (Alsos and Ljuggren, 2017) (Gicheva et al., 2011) (Swatz et al., 2016) (Coleman et al., 2019) |
| Signal Interpretation | <ul style="list-style-type: none"> Signals sent by entrepreneurs are interpreted different if they are sent by men or women <ul style="list-style-type: none"> Women have to work harder to prove their legitimacy | (Alsos and Ljuggren, 2017) (Tinkler et al., 2014) (Hernandez et al., 2019) (Edelman et al., 2018) |
| Relationships with men | <ul style="list-style-type: none"> Female founders can help improve their legitimacy through their relationships with men | (Alsos and Ljuggren, 2017) (Edelman et al., 2018) |
| 3) The Need for change | | |
| Importance of improving gender diversity in entrepreneurship | <ul style="list-style-type: none"> Women in top management leads to higher firm performance <ul style="list-style-type: none"> Diversity helps the economy | (Kanze et al., 2018) (Brush et al., 2018) (Tinkler et al., 2014) (Hernandez et al., 2019) (Edelman et al. 2018) (O’Gorman & Terjesen, 2006) |
| Female founded businesses are good for the economy | <ul style="list-style-type: none"> Female founded firms are growing at a faster rate than the national average <ul style="list-style-type: none"> Female founded companies positively contribute to the world economy | (Edelman et al., 2018) (O’Gorman and Terjesen, 2006) |

III. Data extraction forms for Systematic Review

DATABASE: EBSCO Business Source Premier

Searched: *(women or woman or gender or female) and (bias or gap or discrimination or exclusion) and (entrepreneur* or startup or start-up or seed) and (venture capital) and (fund*)*

8 results

INCLUSION CRITERIA

Documents included in this table are only those that fulfill the inclusion criteria found in the “methodology” section of this document. To be included in this table the articles must (i) contain the appropriate search terms related to gender and venture capital funding, (ii) be scholarly, peer-reviewed articles that are published and/or contain data primarily from between 2000-2020 (iii) be written in contain data from developed countries. Those that did not meet this criteria were not included in the table below.

| NO. | TITLE | AUTHOR | TYPE & PUBLICATION TITLE | YEAR | RESULT |
|-----|---|--|---|------|--------|
| 1 | We Ask Men to Win and Women Not to Lose: Closing the Gender Gap in Startup Funding | Kanze, D., Huang, L., Conley, M. A., and Higgins E. T. | Academic Journal Academy of Management Journal | 2018 | 1 of 8 |
| 2 | Gender gap in entrepreneurship | Guzman, J., and Kacperczyk, A. | Academic Journal Research Policy | 2019 | 2 of 8 |
| 3 | A woman's place in the ... startup! Crowdfunder judgements, implicit bias, and the stereotype content model | Johnson, M. A., Stevenson, R. M., and Letwin, C. R. | Academic Journal Journal of Business Venturing | 2018 | 3 of 8 |
| 4 | The gender gap in venture capital - progress, problems, and perspectives | Brush, C. Greene, P., Balachandra, L., and Davis, A. | Academic Journal Venture Capital | 2018 | 4 of 8 |
| 5 | Patterns of venture capita funding: is gender a factor? | Greene, P. G., Brush, C. G. Hart, M. M. and Saporito, P. | Academic Journal Venture Capital | 2001 | 5 of 8 |
| 6 | Crowdfunding for sustainability ventures | Bento, N, Gianfrate, G., and Thoni, M. H. | Academic Journal Journal of Cleaner Production | 2019 | 8 of 8 |

DATABASE: ABI/INFORM Global

Searched: *(women or woman or gender or female) and (bias or gap or discrimination or exclusion) and (entrepreneur* or startup or start-up or seed) and (venture capital) and (fund*)*

9 results

INCLUSION CRITERIA

Documents included in this table are only those that fulfill the inclusion criteria found in the “methodology” section of this document. To be included in this table the articles must (i) contain the appropriate search terms related to gender and venture capital funding, (ii) be scholarly, peer-reviewed articles that are published and/or contain data primarily from between 2000-2020 (iii) be written in contain data from developed countries. Those that did not meet this criteria were not included in the table below.

| NO. | TITLE | AUTHOR | TYPE & PUBLICATION TITLE | YEAR | RESULT |
|-----|---|---|---|------|--------|
| 1 | How Algorithms Can Diversify the Startup Pool | Hernandez, M., Raveendhran, R., Weingten, E., and Barnett, Michaela | Sloan Management Review | 2019 | 2 of 9 |
| 2 | New Venture Financing and Subsequent Business Growth in Men- and Women-Led Businesses | Alsos, G. A., Espen, J., and Ljunggren, E. | Academic Journal Entrepreneurship Theory and Practice | 2006 | 4 of 9 |
| 3 | Gender stereotypes in the angel investment process | Edelman, L. F., Donnelly, R., Manolova, T., and Brush, C. G. | Academic Journal International Journal of Gender and Entrepreneurship | 2018 | 5 of 9 |
| 4 | Still a man's world? Second generation gender bias in external equity term sheet negotiations | Swartz, E., Amatucci, F. M., and Coleman, S. | Academic Journal Journal of Developmental Entrepreneurship | 2016 | 6 of 9 |
| 5 | Still a man's world? Second generation gender bias in external equity term sheet negotiations | Swartz, E., Amatucci, F. M., and Coleman, S. | Academic Journal Journal of Developmental Entrepreneurship | 2016 | 8 of 9 |
| 6 | The Role of Gender in Entrepreneur-Investor Relationships: A Signalling Theory Approach | Alsos, G. A., and Ljunggren, E. | Academic Journal Entrepreneurship Theory and Practice | 2017 | 9 of 9 |

DATABASE: Web of Science

Searched: *(women or woman or gender or female) and (bias or gap or discrimination or exclusion) and (entrepreneur* or startup or start-up or seed) and (venture capital) and (fund*)*

14 results

INCLUSION CRITERIA

Documents included in this table are only those that fulfill the inclusion criteria found in the “methodology” section of this document. To be included in this table the articles must (i) contain the appropriate search terms related to gender and venture capital funding, (ii) be scholarly, peer-reviewed articles that are published and/or contain data primarily from between 2000-2020 (iii) be written in contain data from developed countries. Those that did not meet this criteria were not included in the table below.

| NO. | TITLE | AUTHOR | TYPE & PUBLICATION TITLE | YEAR | RESULT |
|-----|---|--|---|------|----------|
| 1 | Crowdfunding for sustainability ventures | Bento, N, Gianfrate, G., and Thoni, M. H. | Academic Journal Journal of Cleaner Production | 2019 | 1 of 14 |
| 2 | Gender gap in entrepreneurship | Guzman, J., and Kacperczyk, A. | Academic Journal Research Policy | 2019 | 2 of 14 |
| 3 | A woman’s place in the ... startup! Crowdfunder judgements, implicit bias, and the stereotype content model | Johnson, M. A., Stevenson, R. M, and Letwin, C. R. | Academic Journal Journal of Business Venturing | 2018 | 3 of 8 |
| 4 | We Ask Men to Win and Women Not to Lose: Closing the Gender Gap in Startup Funding | Kanze, D., Huang, L., Conley, M. A., & Higgins E. T. | Academic Journal Academy of Management Journal | 2018 | 4 of 14 |
| 5 | The gender gap in venture capital - progress, problems, and perspectives | Brush, C. Greene, P., Balachandra, L., and Davis, A. | Academic Journal Venture Capital | 2018 | 6 of 14 |
| 6 | The Role of Gender in Entrepreneur-Investor Relationships: A Signaling Theory Approach | Alsos, G. A., and Ljunggren, E. | Academic Journal Entrepreneurship Theory and Practice | 2017 | 7 of 14 |
| 7 | Still a man’s world? Second generation gender bias in external equity term sheet negotiations | Swartz, E., Amatucci, F. M., and Coleman, S. | Academic Journal Journal of Developmental Entrepreneurship | 2016 | 9 of 14 |
| 8 | Low - wealth entrepreneurs and access to external financing | Frid, C. J., Wyman, D. M., and Gartner, W. B. | Academic Journal International Journal of Entrepreneurial Behaviour & Research | 2016 | 10 of 14 |
| 9 | Gender and venture capital decision-making: The effects of technical background and social capital on entrepreneurial evaluations | Tinkler, J. E., Whittington, K. B., and Ku, M. C. | Academic Journal Social Science Research | 2015 | 11 of 14 |
| 10 | Leveraging entrepreneurship through private | Gicheva, D., and Link, A. N. | Academic Journal Small Business Economics | 2013 | 12 of 14 |

| | | | | | |
|----|---|---|---|------|----------|
| | investments: does gender matter | | | | |
| 11 | New Venture Financing and Subsequent Business Growth in Men- and Women- Led Businesses | Alsos, G. A., Espen, J., and Ljunggren, E. | Academic Journal Entrepreneurship Theory and Practice | 2006 | 14 of 14 |

DATABASE: Google Scholar

Searched: *(women or woman or gender or female) and (bias or gap or discrimination or exclusion) and (entrepreneur* or startup or start-up or seed) and (venture capital) and (fund*)*

1,200 results

INCLUSION CRITERIA

Documents included in this table are only those that fulfill the inclusion criteria found in the “methodology” section of this document. To be included in this table the articles must (i) contain the appropriate search terms related to gender and venture capital funding, (ii) be scholarly, peer-reviewed articles that are published and/or contain data primarily from between 2000-2020 (iii) be written in contain data from developed countries. Those that did not meet this criteria were not included in the table below.

| NO. | TITLE | AUTHOR | TYPE & PUBLICATION TITLE | YEAR | RESULT |
|------------|--|---|---|-------------|---------------|
| 1 | All Credit to Men? Entrepreneurship, Finance, and Gender | Marlow, S., and Patton, D. | Academic Journal Entrepreneurship Theory and Practice | 2005 | 2 of 1,200 |
| 2 | Policy Support for Women Entrepreneurs' Access to Financial Capital: Evidence from Canada, Germany, Ireland, Norway, and the United States | Coleman, S., Henry, C., Orser, B., Foss, L., and Welter, F. | Journal of Small Business Management | 2018 | 7 of 1,200 |

IV. Database Search Results

| Screening steps/Databases | EBSCO Business Source Premier | Web of Science | ABI/ INFORM Global | Google Scholar | Total | |
|---|--|-------------------|--------------------------|-------------------|-------|-------|
| Articles with selected keywords | | 8 | 14 | 9 | 1,200 | 1,231 |
| After merging results from different databases and deleting duplicates | | | | | | 1,221 |
| After eliminating substantively irrelevant articles | | | | | | 641 |
| After eliminating irrelevant abstract | | | | | | 105 |
| After reading the entire article | | | | | | 16 |
| Final sample | | | | | | 16 |

V. Distribution of Articles by Journal

| Source Title | Number of Articles |
|--|---------------------------|
| <i>Entrepreneurship Theory and Practice</i> | 3 |
| Venture Capital | 2 |
| <i>Academy of Management Journal</i> | 1 |
| International Journal of Entrepreneurship Behaviour & Research | 1 |
| International Journal of Gender and Entrepreneurship | 1 |
| <i>Journal of Business Venturing</i> | 1 |
| Journal of Cleaner Production | 1 |
| Journal of Developmental Entrepreneurship | 1 |
| Journal of Small Business Management | 1 |
| <i>Sloan Management Review</i> | 1 |
| Research Policy | 1 |
| Small Business Economics | 1 |
| Social Science Research | 1 |
| Total | 16 |

VI. Table for Finance Students and Faculty

| School | % Female in Masters | % Female in PhD | % Female in Faculty |
|--|---------------------|-----------------|---------------------|
| Brock University – Goodman School of Business | 37% | N/A | 40% |
| Carleton University – Spratt School of Business | 36% | 29% | 33% |
| Concordia University – John Molson School of Business | N/A | N/A | 8% |
| Dalhousie University – Rowe School of Business | N/A | N/A | 50% |
| McGill University – Desautels Faculty of Management | 49% | 25% | 10% |
| Queen’s University – Smith School of Business | 42% | 43% | 0% |
| Ryerson University – Ted Rogers School of Management | N/A | N/A | 22% |
| Saint Mary’s University – Sobey School of Business | 52% | N/A | 12% |
| Simon Fraser University – Beedie School of Business | 58% | N/A | 0% |
| Universite de Montreal – HEC Montreal | N/A | 75% | 17% |
| University of Alberta – Alberta School of Business | 46.5% | 27% | N/A |
| University of British Columbia – Sauder School of Business | N/A | N/A | 0% |
| University of Manitoba – Asper School of Business | 70% | N/A | 25% |
| University of New Brunswick – Faculty of Management | 45% | N/A | N/A |
| University of Regina – Hill School of Business | N/A | N/A | 20% |
| University of Toronto – Rotman School of Management | 50% | 38% | 22% |
| Western University – Ivey School of Business | N/A | N/A | 0% |
| Wilfred Laurier University – Lazrdis School of Business | | 43% | 25% |
| York University – Schulich School of Business | N/A | N/A | 0% |

VII. Full List of Schools and Reasons for Exclusion

A) Masters Students

Number of Schools searched: 25

Schools included in the study: 10

Schools excluded from the study: 15

| School | Included | Excluded | Reason for Exclusion |
|---|----------|----------|------------------------|
| Brock University – Goodman School of Business | x | | |
| Carleton University – Sprott School of Business | x | | |
| Concordia University – John Molson School of Business | | x | No Masters of Finance |
| Dalhousie University – Rowe School of Business | | x | No response to inquiry |
| McGill University – Desautels Faculty of Management | x | | |
| Memorial University – Faculty of Business Administration | | x | No Masters of Finance |
| Queen’s University – Smith School of Business | x | | |
| Ryerson University – Ted Rogers School of Management | | x | No Masters of Finance |
| Saint Mary’s University – Sobey School of Business | x | | |
| Simon Fraser University – Beedie School of Business | x | | |
| Université de Montreal – HEC Montreal | | x | No response to inquiry |
| Université du Québec à Montréal | | x | No response to inquiry |
| University of Alberta – Alberta School of Business | x | | |
| University of British Columbia – Sauder School of Business | | x | No response to inquiry |
| University of Guelph – Department of Economics and Finance | | x | No Masters of Finance |
| University of Manitoba – Asper School of Business | x | | |
| University of New Brunswick – Faculty of Management | x | | |
| University of Regina – Hill School of Business | | x | No Masters of Finance |
| University of Toronto – Rotman School of Management | x | | |
| University of Victoria – Peter B. Gustavson School of Business | | x | No finance department |
| University of Waterloo – Conrad School of Entrepreneurship and Business | | x | No Masters of Finance |
| Western University – Ivey School of Business | | x | No response to inquiry |
| Wilfred Laurier University – Lazrdis School of Business | | x | No response to inquiry |
| Windsor University – Odette School of Business | | x | No finance department |
| York University – Schulich School of Business | | x | No response to inquiry |

B) PhD Students

Number of Schools searched: 25

Schools included in the study: 7

Schools excluded from the study: 18

| School | Included | Excluded | Reason for Exclusion |
|---|----------|----------|------------------------|
| Brock University – Goodman School of Business | | x | No PhD in Finance |
| Carleton University – Sprott School of Business | x | | |
| Concordia University – John Molson School of Business | | x | No PhD in Finance |
| Dalhousie University – Rowe School of Business | | x | No PhD in Finance |
| McGill University – Desautels Faculty of Management | x | | |
| Memorial University – Faculty of Business Administration | | x | No PhD in Finance |
| Queen’s University – Smith School of Business | x | | |
| Ryerson University – Ted Rogers School of Management | | x | No PhD in Finance |
| Saint Mary’s University – Sobey School of Business | | x | No PhD in Finance |
| Simon Fraser University – Beedie School of Business | | x | No response to inquiry |
| Université de Montreal – HEC Montreal | x | | |
| Université du Québec à Montréal | | x | No response to inquiry |
| University of Alberta – Alberta School of Business | x | | |
| University of British Columbia – Sauder School of Business | | x | No response to inquiry |
| University of Guelph – Department of Economics and Finance | | x | No PhD in Finance |
| University of Manitoba – Asper School of Business | | x | No response to inquiry |
| University of New Brunswick – Faculty of Management | | x | No PhD in Finance |
| University of Regina – Hill School of Business | | x | No PhD in Finance |
| University of Toronto – Rotman School of Management | x | | |
| University of Victoria – Peter B. Gustavson School of Business | | x | No finance department |
| University of Waterloo – Conrad School of Entrepreneurship and Business | | x | No response to inquiry |
| Western University – Ivey School of Business | | x | No response to inquiry |
| Wilfred Laurier University – Lazrdis School of Business | x | | |
| Windsor University – Odette School of Business | | x | No finance department |
| York University – Schulich School of Business | | x | No response to inquiry |

C) Finance Faculty

Number of Schools searched: 25

Schools included in the study: 18

Schools excluded from the study: 7

| School | Included | Excluded | Reason for Exclusion |
|---|----------|----------|------------------------|
| Brock University – Goodman School of Business | x | | |
| Carleton University – Sprott School of Business | x | | |
| Concordia University – John Molson School of Business | x | | |
| Dalhousie University – Rowe School of Business | x | | |
| McGill University – Desautels Faculty of Management | x | | |
| Memorial University – Faculty of Business Administration | | x | No response to inquiry |
| Queen’s University – Smith School of Business | x | | |
| Ryerson University – Ted Rogers School of Management | x | | |
| Saint Mary’s University – Sobey School of Business | x | | |
| Simon Fraser University – Beedie School of Business | x | | |
| Université de Montreal – HEC Montreal | x | | |
| Université du Québec à Montréal | | x | No response to inquiry |
| University of Alberta – Alberta School of Business | | x | No response to inquiry |
| University of British Columbia – Sauder School of Business | x | | |
| University of Guelph – Department of Economics and Finance | | x | No response to inquiry |
| University of Manitoba – Asper School of Business | x | | |
| University of New Brunswick – Faculty of Management | x | | |
| University of Regina – Hill School of Business | x | | |
| University of Toronto – Rotman School of Management | x | | |
| University of Victoria – Peter B. Gustavson School of Business | | x | No finance department |
| University of Waterloo – Conrad School of Entrepreneurship and Business | | x | No response to inquiry |
| Western University – Ivey School of Business | x | | |
| Wilfred Laurier University – Lazrdis School of Business | x | | |
| Windsor University – Odette School of Business | | x | No finance department |
| York University – Schulich School of Business | x | | |