

# **Women in Finance: An Investigation of Factors Impacting Career Choice**

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*Literature indicates that firms and individuals would benefit if more women pursued, and persisted in, a career in finance. Given that, why are there consistently low numbers of women studying and working in finance? More research is needed as to the nature and causes of low female participation in the field of finance. Specifically, this paper investigated the impact female faculty members had on the enrollment of female undergraduate finance majors. A weak positive correlation between numbers of female faculty and female undergraduate enrollment in finance existed. Future research may include impact of recruiting for STEM fields prior to college.*

*Keywords: finance, female, undergraduate*

## **INTRODUCTION**

Diversity is a discussion on perhaps every college campus in the United States. Studies (IMF, 2018) point to the value of having students from varied populations, based on race, religion, national origin, and gender. Likewise, literature suggests that students also have more robust and meaningful educational experiences when surrounded by diverse faculty and staff (Bauer 2018, Bier 2016, Tinto 1993).

Despite the efforts to diversify institutional makeup and culture, some areas of academia still struggle to have student and faculty bodies composed of populations that mirror the general population. One such discipline is finance. Preliminary data shows that only 25% of undergraduate finance majors are female, similar to the composition in other STEM fields. Similarly, female faculty account for only 21% of all finance faculty (2018 AACSB Salary Survey). While both populations have increased in the past decade, they both still trail other business disciplines and STEM fields (Hatfield & Webb 2015, Hooker, 2018).

To further complicate these trends, pilot data related to this study yields some curious observation. Two large, private, Tier I research universities both report that roughly 25% of their undergraduate finance students are female—or about the national average. However, at one institution only 11% of finance faculty are female while the other is 25%. This prompts the question, does having female faculty increase female students in the major? Likewise, at a third institution that is primarily female (89% of undergraduate students), 86% of finance majors are female. While this shows some gender bias, it is far from that found at the two aforementioned institutions. This prompts the second research question, does organization culture and support influence women's choice of studying finance?

## PROBLEM STATEMENT

Women tend to be better traders than their male counterparts (Barber & Odean, 2001). Despite their success working in financial markets, women do not participate in the finance industry (IMF, Adams et al 2018) nor academic programs in finance (ACBSP 2018, Adams et al 2018) at the same rate as male students and faculty. While some research suggests this is caused by differences in intellect between the genders (Hooker 2018), others suggest it is because of industry and organizational culture (Feusting, 2019, Neck 2015). The scope of this study is to explore the relationship between gender composition of faculty and undergraduate students majoring in finance.

## REVIEW OF LITERATURE

Gender disparity in finance has been explored from a variety of viewpoints and through a number of theoretical lenses. Barber and Odean (2001) showed significantly higher returns for female traders than those of their male counterparts. In their study, the researchers found that female equity traders made fewer trades, held positions longer, and thus generated higher returns than their male counterparts. The authors contributed much of the success of female traders to overconfidence found in the male population in their study. Thus, higher returns were the result of psychological and personality traits, not superiority in intellect or risk tolerance.

Subsequent research found that female managed mutual funds and hedge funds performed better than those managed by males on a risk adjusted basis. Unlike the Barber and Odean (2001) study, these superior returns were the result of better investment decisions and risk tolerances. Thus, superior returns were not just the result of personality traits, but superior asset evaluation, selection, and execution (Luongo, 2011).

At the firm level, research also shows that women tend to be better financial managers. Peng and Wei (2007) found that management over-confidence found in corporate investment decisions (Malmendier & Tate, 2005), was not as prominent in companies with female executives. Their study was broad-based and focused on cash flow sensitivity of companies in the S&P 1500. Some firms have recognized the value of gender diverse management teams (Merten, 2019), and credit female inclusion in management with firm success.

Women also tend to have different risk appetites and investment preferences than men. Bliss and Potter (2002) found that female fund managers were more risk aggressive than their male counterparts. However, from a personal wealth perspective, studies show that women often take less risky positions than men (Croson & Gneezy, 2009; Davar et al, 2007; Sunden, 1998; Jianakopulos, 2007). This difference in risk appetite, combined with differences in consumption patterns and accumulation of wealth (Murthy et al, 2011), presents a case for increased female employment in the financial services industry.

However, despite superior performance, increased demand, and efforts by industry organizations (IMF, Bier 2016), women do not participate in the finance industry at the same rate as men. This is also nuanced in the existing literature as women often represent only a small percentage of the population studied, even when the focus is on gender (Davar et al, 2007). Likewise, women do not major in finance at the same rate as male students, and females make up a small percentage of undergraduate finance faculty (AACSB, 2018).

Studies conducted within academia (Bauer 1999, Hatfield 2015, Turner 2006) as well as those conducted by and for practitioners (Neck 2015, IMF 2018, Adams 2018) point to various factors that contribute to the dearth of female undergraduate finance students. The low undergraduate participant rate then perpetuates into industry and faculty. In his work on student attrition, Tinto (1993) perhaps hints at the crux of the problem:

Institutions of higher education are not unlike other human communities....(they hinge)  
on the establishment of a healthy, caring educational environment which enables all

individuals, not just some, to find a niche in one or more of the many social and intellectual communities of the institution. (205)

Thus, Tinto espouses culture as one of the primary reasons students persist and conversely, culture is also a reason students depart.

According to the work of Adams, Barber, and Odean (2018), this cultural transmission begins at home before students even enter university studies. In their study, the authors found that female students from families with at least one parent working (especially the mother) in a STEM field were significantly more likely to choose finance as a major or career. This study also sets precedent for viewing finance not only as a business discipline, but also as a STEM discipline largely due to its quantitative focus.

While the ‘math-gap’ is often used to explain disparate numbers of female students in STEM fields, including finance (Hooker, 2018), Feusting et al. (2019) point that the problem may be more cultural than intellectual. In their work, the authors point out that intellectual ability is often shaped by goals in a particular field of study. Also in their work, the authors find that faculty may contribute to this phenomenon through student interaction by both encouraging and discouraging female students in STEM fields.

Clues to the low numbers of female finance majors in university schools of business may be found in the reasons females in senior finance positions leave the profession, as investigated by Neck (2015). The researcher found women leave these positions due to a combination of factors, including the way work is structured, reaching a point where she feels she has achieved all she will in the field, and an increased appreciation for life outside the job, or feeling there is “more to life” or an increased appreciation for life factors outside of work. The way work is structured refers to the ability of women to control their own work hours. Many women electing to leave report doing so because they value more balance in their lives.

Perhaps as women get older (and thus more senior), they simply want more balance. When women are younger they can work the long hours - and probably happily do so. They want to prove themselves and are more likely to be single and child free. However, working ‘24/7’ is much harder as you get older, particularly for women who can feel pulled in many different directions with competing commitments – family, children, partners, friends and parents. (Neck, 2015, p. 536).

The researcher found the problem of work/life balance to persist in large part due to the field remaining predominantly male – a situation which will continue as long as women holding senior positions continue to leave. As more females leave senior positions in finance, there are fewer role models for female students and that may in turn influence the number of women seeking to start careers in finance.

Gender differences in finance education have been studied for nearly three decades. Bauer and Dahlquist (1999) investigated gender bias in finance education and made practical suggestions to improve the experience of females majoring in the discipline. Data for women CFAs and women as finance majors is presented in the research. As of the date of the article, only 18% of CFAs were women. According to Bier (2016) that percentage has remained below 20% in the two decades following the research. Additionally, Bauer and Dahlquist (1999) point to low numbers of females seeking both undergraduate and graduate degrees in finance, another percentage that has remained low in the years following their research. The researchers found many problems associated with gender bias and discrimination are deeply ingrained and subtle. The authors state that behavioral assumptions are learned, and when not questioned, drive societal results. This suggests the bias of male dominated finance positions persists because women continue to be underrepresented in the field. In other words, to overcome the subtle gender bias, more women are needed in finance careers.

In a recent position paper, the IMF detailed the need to close the gender gaps in leadership positions in finance worldwide. According to the research, female chief executive officers account for less than 2 percent of all finance related agencies worldwide and less than 20 percent of members of executive

boards. Surprisingly, the research revealed more low- and middle-income countries have women on executive boards of banks and banking-supervision agencies when compared with advanced economies. The IMF research found that greater financial resilience, as well as greater bank stability, is evidenced when women contribute on bank boards.

## METHODOLOGY

Surveys were administered at the end of the Fall 2019 semester or early in the Spring 2020 semester. Due to changes in access attributed to the Covid-19 pandemic, data collected shifted away from survey instruments and to collection of intuitionally reported data. This data was collected from the universities' websites, and often allowed for longitudinal observation. When available, data was collected for both student and faculty demographics beginning in the fall of 2015 through the fall of 2020. However, while this data contained gender demographics, it did not provide insight into mentoring programs.

## FINDINGS AND DISCUSSION

Data was collected from 17 institutions. These institutions included both masters-large, masters-small, and large R1 comprehensive universities. Five of the universities were private, and all were not-for-profit. Also, five universities provided data through the aforementioned survey instrument. All data was combined for analytical purposes, regardless of collection method or university classification.

The question regarding mentoring programs specifically designed for female finance students provided perhaps the most clear answer available from the data. For the universities that responded to the survey, no programs exist. Though not solicited with the survey, two universities did offer additional clarity. A university with a primarily female (89%) student body, had a mentoring program for finance students, but none specifically for female students. Another university responded that they thought having a program for female finance majors was a great idea and intended to start one. The absence of this variable speaks to the problem being studied, and likely should be a topic for further research. Similarly, no institution responded that they had a program specifically for women in STEM; however, sixteen of the universities contributing data mentioned at least one organization (one university appeared to have eleven) on their web sites.

With regard to the second question, what correlation, if any, exists between gender composition of faculty and students, that data was also clear. Based on the universities studied, there appeared to be a weak ( $r=.37$ ) positive correlation between female faculty composition when compared with female undergraduate student composition, but was not statically significant ( $f=.30$ ) (Appendix 2). However, with one known outlier in the data, removing the primarily female institution from the data caused this correlation to fall ( $r=.26$ ), and was still not statically significant (Appendix 3).

While the initial research questions revealed little about mentoring and faculty composition on gender diversity among undergraduate finance students, examination of longitudinal data did provide some interesting observations. Of the schools for which longitudinal data was available, only one university showed consistent growth in the undergraduate finance major, almost 20% annually for the 5-year period studied. During the same 5-year period, that university saw its number of female undergraduate finance majors grow at a rate of 30% annually. The other 4 institutions had little or no growth in their overall number of undergraduate finance majors. All had a decrease in females majoring in finance. This too begs to question what differences might exist in the cultures of the universities to create such differing patterns of enrollment, especially as all are large, comprehensive universities. While student data was longitudinal, historical faculty data was not readily available.

## FUTURE RESEARCH

The number of female students in university finance programs is concerning. Although this research did not uncover the reason why, it did show that the number of women in faculty positions may not be a

determining factor. It remains a vital question to be addressed. The impact of mentoring programs for women in finance needs to be addressed. If there are not enough programs available to study, new ones should be started to determine if the presence of a mentoring program is beneficial in attracting more women to the field.

Another area of study will be the recruiting programs for women in STEM in place in K-12 education. Girls as young as elementary school are being introduced to robotics, engineering, medical research, and much more. As those programs have grown, so has the number of women enrolling in STEM fields of study at universities across the country. Although many would consider finance a STEM field, it is not being recruited as part of these programs.

In order to understand the phenomena found within the data, the authors intend to conduct cultural audits at primarily female institution and the one institution found to have significant growth in undergraduate females majoring in finance.

## CONCLUSION

This paper explored the nature and causes of low female participation in the field of finance. While women continue to be underrepresented in the field of finance, the literature clearly indicates that both firms and individuals would benefit if more women pursued, and persisted in, a career in finance. Diversity of ideas and voices is crucial for business success. Studies have shown that having women in the executive positions increases net profit margins by as much as one percent. Diverse voices will promote new approaches, new ideas, and new leadership strategies in business. Women executives boost employee engagement more than all-male boards. For all of these reasons, women are needed in boardrooms and on trading floors to foster those changes.

To realize these benefits, more female students must enroll in and complete finance majors in colleges of business around the country. Understanding why females are not enrolling in finance programs is the first step in addressing the problem. Once the underlying factors are identified, programs can be developed to increase enrollment and nurture success in female students pursuing a major in finance.

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## APPENDIX 1

Proposed survey:

1. Does your university have an undergraduate finance major? Yes/ No  
If No=end survey
2. Total number of students declaring finance as a major. Please include students that have multiple majors.  
Continuous variable
3. Number of FEMALE students declaring finance as a major. Please include students that have multiple majors.

Continuous variable

4. Number of finance faculty
  - a. Full-time (Continuous Variable)
    - i. Number of female full-time finance faculty (Continuous Variable)
  - b. Part-time including adjunct (Continuous Variable)
    - i. Number of female part-time and adjunct faculty (Continuous Variable)
5. Does your university offer a specific organization or student support system for female finance majors? (Y/N)
6. Does your university offer a specific organization or student support system for female STEM majors? (Y/N)
7. If yes to questions 5 or 6, may we contact your institution for further research? (Y/N)
  - a. If yes, best contact.
8. Would you like a copy of the results of the study once completed? (Y/N)

## APPENDIX 2

### SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.363632
R Square	0.132228
Adjusted R Square	0.023757
Standard Error	0.107703
Observations	17

### ANOVA

	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.014141	0.014141	1.219014	0.301653
Residual	16	0.0928	0.0116		
Total	17	0.10694			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.090767	0.066214	1.370822	0.207654	-0.06192	0.243456	-0.06192	0.243456
Students	0.204685	0.185388	1.10409	0.301653	-0.22282	0.63219	-0.22282	0.63219



### APPENDIX 3

#### SUMMARY OUTPUT

##### *Regression Statistics*

Multiple R	0.266315
R Square	0.070924
Adjusted R Square	-0.0618
Standard Error	0.113222
Observations	16

##### ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.00685	0.00685	0.534366	0.488518
Residual	15	0.089734	0.012819		
Total	16	0.096585			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-0.00109	0.200338	-0.00545	0.995801	-0.47482	0.472632	-0.47482	0.472632
Students	0.582501	0.796851	0.731004	0.488518	-1.30175	2.466754	-1.30175	2.466754