

The Inequality of Finance

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Abstract

Thought leadership in academic finance is more unequal than in other fields. Using data on the top 2% of scientists across all fields from Ioannidis et al. (2019, 2020), we show that the set of top scientists in finance is less diverse in terms of gender and geography than in economics and other STEM fields. However, top female scientists in finance have relatively more impact than they do in economics and other STEM fields. Women's average beliefs about the level of brilliance necessary to be in a field have little explanatory power for women's representation in finance, but men's beliefs do. Our results suggest that field-specific culture is a higher barrier to women's advancement in finance than it is in other fields.

Keywords: Finance; Science; Brilliance; Beliefs; Gender; STEM; Citations; Culture

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1 Introduction

We document that the gender diversity of thought leaders in academic finance is lower than in other scientific fields. We contrast finance with economics and other STEM fields to examine the reasons. Our analysis complements recent studies (Siniscalchi and Veronesi, 2020; Adams and Lowry, 2021), suggesting that women’s preferences may not be the main reason they are underrepresented in academia. Men’s preferences may also play a role.

Examining diversity of thought leadership in finance is especially interesting for several reasons. First, while policy makers and academics agree that finance is fundamentally important for growth (e.g., Levine, 2005; Beck, 2012), they do not always agree that financial innovation is good for growth (e.g., Johnson and Kwak, 2012). Since innovation and diversity of thought are linked (e.g., Trajtenberg et al., 1997; Leung et al., 2008), it is plausible that more diverse thought leadership in finance could lead to higher quality financial innovation.

Second, members of the population do not always embrace finance. Surveys of the population show that trust declined following the global financial crisis (Guiso, 2012; Sapienza and Zingales, 2012). Stock market participation is low in some countries and demographic groups (Hong et al., 2004; Giannetti and Koskinen, 2010), as is financial literacy (Lusardi, 2019). Evidence in Adams (2021) suggests that trust in finance may be higher when finance professionals are more similar to members of the general population. Thus, understanding the extent to which diversity among finance thought leaders and finance professionals diverges from diversity in the population may be useful for developing ways of increasing the public’s trust in finance.

Finally, women are relatively underrepresented in MBA programs (Graduate Management Admission Council, 2019) and are less likely to enter the field of finance post-graduation (Sapienza and Zingales, 2012). Common explanations for these phenomena highlight the importance of supply-side channels (Averett et al., 2017), such as gender differences in preferences and women’s greater carer’s responsibilities. However, demand-side factors, such as the absence of female thought leadership, female role models and educators in finance may also play a role. Analyses of the diversity of thought leadership in finance can help shed light on the relative importance of demand- and supply-side factors leading to women’s relative

underrepresentation in the field.

To examine diversity of thought leadership in finance we use data on the top 2% of scientists in their respective fields by Scopus citations in 2019 from Ioannidis et al. (2019, 2020). Since citations are important measures of the impact of ideas (Hamermesh, 2018; Heckman and Moktan, 2020), we consider the top 2% of cited scientists in a field to be thought leaders. The data contains standardized academic impact measures for top scientists in 175 fields globally.

We calculate the percent women among top scientists in each field and examine how finance ranks relative to other fields in terms of women’s representation. We also compare impact measures of women and men in finance to the impact of men and women in other fields. Evidence in Koffi (2021) and Adams and Lowry (2021) suggests that citations are systematically biased downward for women. It is as yet unclear whether these biases differ across fields. Including field fixed effects in our cross-field comparisons helps address this possibility.

Finance ranks 132nd out of 175 fields in terms of the representation of women among its top scientists. The percentage of women in Finance is lower than the percentage of women in economics, which is consistent with AFFECT’s evidence that women are less represented in finance than in economics at every level, from incoming PhD students through full professors (Adams et al., 2019). This is surprising since finance is a younger field than economics. According to Sweetser and Petry (1981), the field of academic finance was carved out of economics in the early 1940s, making it only 80 years old.

Recent explanations for women’s occupational segregation focus on gender differences in preferences (Kahn and Ginther, 2017; Cortés and Pan, 2017) and the structure of work (Goldin, 2014; Goldin and Katz, 2018). But bias/culture may also play a role (Siniscalchi and Veronesi, 2020; Adams and Lowry, 2021; Adams and Xu, 2021). Adams and Xu (2021) highlight the potential role of country and field-specific culture in explaining variation in women’s representation across scientific fields. But country-level culture is unlikely to explain women’s representation in finance since, as we show, finance thought leadership is geographically concentrated. Only 20% of finance thought leaders are located outside the USA or Great Britain.

To examine other potential explanations for the low representation of women in finance, we first contrast finance with both economics and STEM (Science, Technology, Engineering and Mathematics) fields. Finance is a subfield of economics, which is classified as a STEM subject by the National Science Foundation. If gender differences in preferences for STEM subjects help explain sorting across scientific fields, we would expect finance to have a similar representation of women as economics or other STEM fields, controlling for cohort. Since the structure of scientific work is similar in finance and economics, we would also expect finance and economics to exhibit similar levels of female representation, controlling for cohort.

When we regress a female thought leader dummy on a finance dummy in the set of scientists in finance and economics, or finance and STEM, we find a negative and significant coefficient (at greater than the 5% level) on the finance dummy. A thought leader in finance is 1.6% or 1.8% less likely to be a woman than a thought leader in economics or STEM fields. This suggests that potential gender differences in preferences for STEM subjects or work-structure factors cannot fully account for the sorting of female scientists away from finance.

Maltby and Rutterford (2012) highlight the role of industry culture in explaining why there are relatively few women in the finance industry. Adams and Lowry (2021) find evidence that professional culture matters for women’s experiences in finance academia. We test whether there is evidence that finance culture makes it more difficult for women to become thought leaders in finance in two ways.

First, if women face greater barriers to finance thought leadership, a selection model would suggest that female thought leaders who overcome these barriers should have more impact than male thought leaders (Bohren et al., 2019). Accordingly we compare the productivity of female and male thought leaders. Since our impact measures are likely to be downward biased for women, we also contrast the gender differences in impact in finance with their differences in economics and STEM. Second, following Adams and Xu (2021), we examine the role of men’s beliefs in explaining women’s representation in finance. As the model of Siniscalchi and Veronesi (2020) highlights, the beliefs of the male majority can have an important impact on women’s representation in a field.

Consistent with the idea that the culture of finance imposes more barriers to women,

we find that female thought leaders in finance have more impact than male thought leaders in finance, as measured by citations per paper, their rank and the composite score of six citation metrics (total citations, H index, HM index, citations to single/first/last-authored papers). This is especially striking given evidence that women’s citations are downward biased (Koffi, 2020, 2021), which may be one reason why women have, on average, lower impact in economics and in other STEM fields. Female thought leaders in finance also have relatively more impact than they do in economics or other STEM fields. Women’s field-specific ability beliefs are not correlated with women’s representation in finance thought leadership, but men’s beliefs are. These results are consistent with the idea that in the “masculine” field of finance (Knights and Tulberg, 2013), men’s beliefs represent a greater barrier to equality in thought leadership, role modelling and education than they do in other fields.

2 Data and summary statistics

We collect data on the top 2% of scientists by Scopus citations with at least 5 publications from Ioannidis et al. (2019, 2020). Ioannidis et al. (2019, 2020) provide two top scientist datasets, one based on citations in a single calendar year, 2019, and one based on citations from 1996 to 2019. We focus on the dataset based on citations in 2019 because it contains more female scientists and scientists at more comparable stages in their careers. However, our conclusions are the same if we use the data based on citations from 1996 to 2019. See Tables A5-A8.

The data from Ioannidis et al. (2019, 2020) contains names, institutional affiliations, countries of the institutions, research areas, years of first publications and citation metrics for 161,441 scientists. Research areas are divided into 175 separate fields belonging to 20 academic disciplines using the Science-Metrix classification.

To compare finance to economics and STEM, we aggregate fields. We define Economics4 to consist of 4 economic fields: agricultural economics & policy, economics, econometrics, and economic theory. There is no universal definition of STEM fields (Manly et al., 2018). We consider STEM fields to be any field in Economics4, finance and the following 9 disci-

plines: biology, biomedical research, chemistry, earth & environmental sciences, enabling & strategic technologies, engineering, information & communication, mathematics & statistics, and physics & astronomy. Since we compare finance to economics and STEM separately, we define a STEM9 dummy to be equal to one if a field belongs to any STEM discipline excluding economics and finance and 0 otherwise. Our results are robust to using the STEM definition from the Department of Homeland Security (DHS) which includes agriculture, fisheries & forestry and psychology & cognitive sciences.

The data from Ioannidis et al. (2019, 2020) does not contain a gender classification. Since finance is a relatively small field,¹ measurement error in the classification of gender could be relatively more important than in larger fields. Thus we manually code the gender of scientists in finance. For scientists in other fields, we infer gender from their names using Genderize.io.² We drop 34,330 scientists for whom the certainty of the assigned gender is lower than 90%.³ This leads to a drop in the representation of scientists from Asian countries. The percentage drop in scientists from China, Korea, and Singapore is 66%, 64%, and 46%, respectively. We also exclude 708 scientists whose self-citation rate is higher than 50%.⁴ The final sample consists of 126,403 scientists from 150 countries in 175 fields.

To measure field-level culture, we obtain field-specific ability belief scores from Leslie et al. (2015). The scores measure individuals' beliefs about the importance of innate talent in their fields. To obtain the scores, Leslie et al. (2015) survey faculty, postdoctoral fellows, and graduate students from various academic disciplines and ask the following questions: *(1) Being a top scholar of [discipline] requires a special aptitude that just can't be taught; (2) If you want to succeed in [discipline], hard work alone just won't cut it; you need to have an innate gift or talent; (3) With the right amount of effort and dedication, anyone can become a top scholar in [discipline]; (4) When it comes to [discipline], the most important factors for success are motivation and sustained effort; raw ability is secondary.* Fields in which

¹Finance is in the 36th percentile of fields by number of top scientists.

²Genderize.io misidentifies gender for top finance scientists Sheridan Titman, Toni M. Whited, Kai Li and Lauren Cohen, which is why we manually code finance scientists' gender. Our main results are robust to using Genderize.io to classify scientists in finance.

³In unreported robustness checks, we find that our results are similar if we change the cutoff for the certainty of the assigned gender to 50%.

⁴Only 1 scientist in finance, a woman, is dropped from the sample due to the restriction on self-citation. In the full sample, 0.6% and 0.3% of men and women have self-citation rate that is higher than 50%.

respondents placed more weight on (1) and (2) are considered fields with higher field specific ability beliefs.

Individuals who state their field requires more innate talent implicitly describe themselves as talented. Thus, these beliefs are likely to be correlated with the self-image biases that Siniscalchi and Veronesi (2020) consider. Consistent with Siniscalchi and Veronesi (2020)'s predictions, Leslie et al. (2015) show that these beliefs are linked to gender disparities in PhD attainment across fields. Importantly for our purposes, Leslie et al. (2015) provide field specific ability beliefs for all respondents and for male and female respondents separately.⁵ Table A2 describes how we map disciplines in Leslie et al. (2015) to fields in Ioannidis et al. (2019, 2020).

Since finance is not a discipline in Leslie et al. (2015), we use the field-specific belief score of economics as a proxy for the field-specific belief score for finance. To assess how reasonable this approximation is, we collect data on the PhD institutions and PhD fields of all finance thought leaders. We argue that finance thought leaders are likely to share the beliefs of economists if they work at or obtained their PhDs from top-ranked institutions that typically have strong connections to their economics programs. We also argue that finance thought leaders are likely to share the ability beliefs of economists if they received their PhDs in economics.

In finance, 35 out of 340 top scientists are women. Table 2 lists their names. Some top female scientists who do research in finance, for example, Paola Sapienza, are not on the list because they are categorized as top economists by Ioannidis et al. (2019, 2020). It is unclear that the allocation of female scientists who do research on finance to economics leads to a bias in our results since top male scientists who do research in finance, such as David Scharfstein and Luigi Zingales, past presidents of the American Finance Association, are also classified as economists.

Table 1 reports descriptive statistics for our data. 17% of top scientists are women. 52% of them work in STEM9 fields. The average number of total citations in 2019 is 1,025 and

⁵Ginther and Kahn (2015) claim that field-specific ability beliefs do not predict gender disparities in PhD attainment after controlling for mathematics and verbal GRE scores. In their response to Ginther and Kahn (2015), Cimpian and Leslie (2015) show that the analysis in Ginther and Kahn (2015) suffer from multicollinearity problems and the results in Leslie et al. (2015) remain valid.

average citations per paper are 7.4. The average number of years from the first publication to the last publication is 29. We allocate scientists to cohorts based on the decade in which they published their first publication. The first cohort also includes those scientists whose first publications appeared before 1940.

Table 3 lists the number and percent of finance thought leaders, overall and by gender, for institutions (Panel A) and PhD institutions (Panel B) with at least 3 thought leaders. Panel C of Table 3 lists PhD fields of thought leaders. At the bottom of each panel we aggregate these numbers for the top-ranked institutions. Following Chen (2012), we focus on the top 6 institutions, which in finance are University of Chicago, Harvard, UCLA, University of Pennsylvania, NYU, Columbia University, and list the number of institutions and PhD fields of thought leaders for whom data existed. We use the rankings reported by Arizona State University W. P. Carey School of Business to rank finance departments. We obtain similar results using US News and World Report university rankings.

The 340 finance thought leaders in our sample are distributed across 169 institutions, with a greater concentration of thought leaders at top-ranked institutions. The top 6 institutions account for 15.3% of thought leaders with a similar share of male (15.4%) and female (14.3%) thought leaders.

The concentration of PhD institutions among finance thought leaders is significantly higher than their concentration at specific institutions of employment. Panel B of Table 3 shows that 32.8% of top scientists in finance earned their PhD degrees from the top 6 institutions, with similar shares of men and women from these top 6 institutions (32.5% and 35.3%, respectively). This evidence is consistent with evidence in Wu (2005) and Chen (2012) that the top 6 economics departments have a high concentration of PhDs from the top 6 economics departments.

Since the finance PhD programs at these top 6 universities have a strong economics component and 32.1% of finance thought leaders have PhD degrees in economics (see Panel C), we believe it is reasonable to use the field-specific belief score of economics as a proxy for the field-specific belief score for finance.

Table 4 ranks fields by women's representation among top scientists for academic fields with relatively few women. The table highlights that women's representation in finance is

relatively low in comparison with other fields: finance ranks 132nd out of 175 fields.⁶

Although finance is a young field (Sweetser and Petry, 1981), women’s representation in finance thought leadership (10.3%) is lower than women’s representation in both Economics4 and STEM9 fields. The percentages of women in agricultural economics & policy, economics, econometrics, and economic theory are 13.6%, 11.2%, 3.6%, and 0%, respectively, and the average for these four fields is 10.7%. In STEM9 fields, 11.4% of scientists are women.

3 Empirical results

3.1 Diversity in finance

Adams and Xu (2021) show that women’s representation among top scientists in a country is lower the more gender-unequal the country is. As a first step towards understanding potential channels for women’s relative underrepresentation in finance, we compare geographical and cohort diversity in finance, Economics4 and STEM9 fields.

Table 5 shows the geographic distribution of top scientists. Country is the country of the scientist’s institution in 2019. We find that 89% of top scientists work for institutions in Organization for Economic Co-operation and Development (OECD) countries. Academic finance and Economics4 are concentrated in the USA and Great Britain, but STEM9 fields and all fields are not. 79% (69%) of top scientists in finance (Economics4) are located in the USA and Great Britain, while the percentages of STEM9 and all scientists in these two countries are only 43% and 50%, respectively. Since we lose many observations from Asian countries as a result of gender coding, in unreported results we replicate Table 5 using the full sample. STEM9 and all fields are even more geographically diverse in the full sample, while the geographic concentration of finance remains the same (since we manually coded gender for finance).

In Table 6, we compare Blau indices of gender, cohort, geographic location and institution diversity among top 2% scientists in finance, Economics4, STEM9 and all fields. For finance

⁶The complete list of the percentage of female top scientists by field is reported in Table A3. Table A4 reports another complete list of fields ranked by women’s representation using an assigned gender cutoff of 50% instead of 90%.

and Economics4, we ignore subfields in computing the Blau index (Blau, 1977). Since STEM9 and all fields include a large number of fields, we first compute the field-level Blau index and then average these indices.

Table 6 shows that finance, Economics4 and STEM9 fields have a similar cohort diversity to academia as a whole, but they have lower gender and location diversity. Finance has a lower cohort diversity than Economics4 and STEM9, and the lowest gender and location diversity among all four groups. Institutional diversity is similar across disciplines. However, as our discussion of Table 3 highlights, diversity across institutions of employment may mask an absence of diversity across institutions of training. Thus, cross-country variation in country-level culture is unlikely to explain women’s relative underrepresentation in finance thought leadership.

3.2 Female representation

In Table 7, we compare women’s representation in finance and other fields in a multivariate analysis. We use a linear probability model to predict the likelihood a scientist is female if they work in finance. The dependent variable, *Female*, is an indicator variable equal to one if a scientist is female. *Finance* is an indicator variable equal to one if a scientist is in academic finance. We include *Career span* which is the number of years between the first and last publications in the sample. All regressions include cohort fixed effects. Standard errors are clustered at the field level.

In column (1), the subsample consists of scientists in finance and Economics4. The coefficient on finance is -0.016, which suggests a scientist in finance is 1.6% less likely to be a woman than a scientist in Economics4. In column (2), we compare women’s representation in finance and STEM9 fields and find a scientist in finance is 1.8% less likely to be a woman than a scientist in STEM9 fields. In column (3), we compare women’s representation in finance to their representation in all other fields. The results shows that a scientist in finance is 7.5% less likely to be female than a scientist in other fields.

Although both economics and STEM fields are known to have low female representation (Ginther and Kahn, 2004; Bayer and Rouse, 2016; Holman et al., 2018), the results show that women’s representation in finance is even lower. This is consistent with Adams et al. (2019).

When we compare the results in Table 4 with the results using the historic data from 1996-2019 in Table A5, we observe that the magnitudes of the coefficients are almost identical. In the 2019 data, a scientist in finance is 1.8% less likely to be a woman than a scientist in STEM9 fields. In the historic data, this likelihood is only slightly lower (2.0%). While more women may be entering finance in recent times, more women may also be entering STEM fields. Thus, relative to other fields our data does not suggest that female representation in finance is increasing.

3.3 Rank and Other Impact Measures

In this subsection, we compare the impact of female thought leaders in finance with the impact of their male peers, as well as that of women in other disciplines.

We examine 2019 citation impact measures of scientists in different academic fields visually and also regress them on *Female* and controls. *Number of papers* is the number of papers by the scientist that are cited in 2019. *Rank* is based on *Composite score*. It indicates the within-field rank of a scientist and is increasing in impact. *Composite score* is an index derived from six citation metrics, including total citations, H index, HM index, citations to single-authored papers, citations to first-authored papers, and citations to last-authored papers. In finance, authors are listed in alphabetical order on papers, so first/last authorship does not indicate a special contribution of an author. Thus, we focus on *Total citations*, *H index*, *HM index*, and *Citations to single-authored papers* as our dependent variables, as well as *Composite score*. In addition, we use *Citations per paper*, calculated as *Total citation* divided by *Number of papers*, to proxy for impact. All citation metrics exclude self-citations. All dependent variables in our regressions are log-transformed.

Figure 1 plots women’s relative *Rank*, *Numbers of papers* and *Citations per paper* in finance, Economics4, STEM9, and all fields. Panel A shows that in most fields, women’s ranks are lower than men’s, but in finance women’s ranks are higher; Panel B shows that women publish fewer papers than men in most fields including finance; Panel C shows that in the majority of fields, including finance, the average citation per paper for women is higher than the average for men.

Figure 2 shows how women are represented across quintiles of *Rank*, *Numbers of papers*

and *Citations per paper* in finance, Economics4, STEM9, and all fields. The figure highlights that women’s representation is lowest in the highest quintiles of numbers of papers, but highest in the highest quintiles of citations per paper across all categories of fields we consider. However, finance diverges from Economics4, STEM9 and all fields in women’s representation by rank. While female scientists tend to be less represented in the highest rank quintiles in Economics4, STEM9 and all fields, they have greater representation in the highest ranks in finance.

In Table 8, we regress our impact measures on *Female* and controls. Since Huang et al. (2020) find that the length of career span predicts the gender disparity in academic impact, we control for *Career span* and also include cohort fixed effects. Adams and Lowry (2021) show that finance academics derive a large portion of their cited material from conferences and seminars they attend. Since it may be more difficult for women in some countries to attend conferences and give seminars than in other countries, their impact may appear lower. Thus, we include country fixed effects to account for country-level characteristics that may be correlated with both a scientist’s gender and their impact.

In Panels A-D, the subsamples consists of scientists in academic finance, Economic4, STEM9 and all fields, respectively. Citations vary depending on the size of a field, the conventions for citing others’ work in that field and the importance of networking within the field. For example, Koffi (2020, 2021) documents that citations are systematically biased downward for women in economics. We use field fixed effects to account for field-specific citation norms in Panels B-D. In Panel A, the subsample consists of thought leaders in only one field, finance, so we cannot include field fixed effects. Standard errors are clustered at the field-gender level.

In Panels B-D, the coefficients on the female indicators are significantly negative in most regressions. On aggregate, women’s ranks are 7.7% lower than the ranks of their male peers in the same field. The gap increases to 9.3% in STEM9 fields. When we examine the gender gap in ranks in Economic4, we find the gap is much smaller (2.1%) and statistically insignificant. We also find that women in Economics4, STEM9 fields and all fields have fewer cited papers and lower total citations.

Although women have lower impact along most measures in Panels B-D, there is one

important exception. Women have significantly higher citations per paper. This suggests that the reason women have lower total citations is primarily because they publish fewer papers.

Panel A shows a similar pattern in terms of number of papers and citations per paper. Female finance academics have 13.9% fewer cited papers but on average each of their papers has 18.6% more citations than papers by male finance academics. Along all other dimensions, the gender differences in finance are opposite those in Panels B-D. The coefficients on the female indicators are positive except in column (2), and three of them are statistically significant. As shown in column (1), women in finance are ranked 19.1% higher than men in finance.

Huang et al. (2020) argue that women’s shorter career span can explain why women have on average lower citation impact. The fact that the coefficients on *Career span* in the three panels are significantly positive in all but one column are consistent with the idea that seniority in the profession is important for the quantity of papers and impact. But when we use citations per paper to measure impact, we observe that the coefficients on *Career span* are significantly negative. This suggests that it is important to distinguish between the aggregate output of a scientist and the impact of specific ideas. Papers by junior scientists can be more influential than papers by senior scientists.

Our findings suggest there are other explanations for the impact gap than career span. The fact that women have fewer papers, but their citations per paper are higher in all fields suggests that standard arguments about women’s preferences, in particular their aversion to competition (see also the discussion in Reuben et al. (2015)), are unlikely to drive the impact gap.⁷ A more likely explanation is that carer’s responsibilities affect how women trade off the quantity of research with its quality.

The fact that most impact gaps are lower in Economics4 and reversed in finance also appears inconsistent with standard supply-side explanations for women’s lack of career advancement. We examine the role of potential supply-side factors in finance in more detail in Tables 9 and 10.

⁷Our data do not suggest that these findings can be reconciled by differences in co-authorship patterns. There is no statistical difference in the percentage of single-authored papers by women and men in finance.

In addition to preferences and career span, the literature considers human capital to be an important supply-side factor related to gender differences in labor market outcomes (e.g., Blau and Kahn, 2017). In Table 9, we account for human capital by replicating Panel A of Table 8 and adding controls indicating the scientist is working at a Top 6 institution in finance (Panel A) or received their PhD from a Top 6 PhD institution in finance (Panel B). Our results are similar to those in Table 8 with a slight drop in significance accompanying the drop in sample size in panel B.

In Table 10, we compare the productivity of women in finance with women in other fields. The sample in Panel A consists of scientists in finance and Economics4. The coefficients on the interaction terms between the female and finance indicators are significantly positive for 5 out of 6 citation metrics. This suggests research by women in finance is more influential. We also find that women in finance have higher ranks and publish more papers than women in Economics4. In Panels B and C, we compare women in finance with women in STEM9 and all fields and find similar patterns.

We believe it is difficult to reconcile these findings with supply-side models of gender differences in labor market outcomes. They appear more consistent with a selection model, which suggests that demand-side factors, such as barriers to entry, may be important.

3.4 Expectations of Brilliance and Women’s Representation in Finance

Given that women in finance have more impact than men in finance, as well as women in Economics4 and STEM9 fields, it is puzzling that women’s representation in finance is lower than it is in Economics4 or STEM9 fields. The fact that finance is a geographically concentrated field suggests that societal culture cannot explain these findings. Some evidence that field-specific culture can help explain these results comes from Fortin et al. (2021). They show that the share of female PhD students varies across subfields of economics, including finance, and that the change in the share of female PhD students is linked to the adversity of the subfield climate. We add to the evidence on the role of field-specific culture by investigating whether field specific ability beliefs can help explain these results.

We argue that field specific ability beliefs may help explain women’s underrepresentation because they may be associated with the self-image bias that Siniscalchi and Veronesi (2020) consider. Individuals with a greater belief in the levels of brilliance necessary to be in a field implicitly consider themselves to be brilliant. Hence, they are likely to overweight their own positive attributes when judging others. The fact that Leslie et al. (2015) find that women’s representation among PhD students is lower in disciplines that are believed to require higher levels of brilliance for success is consistent with this argument and Siniscalchi and Veronesi (2020)’s prediction.

We first examine how field-specific ability beliefs for finance/economics compare to field-specific ability beliefs in other fields.

In columns (1) - (3) of Table 11 we regress the overall field-specific ability belief scores and the belief scores for men and women separately on a finance indicator. We find that the ability belief score is 0.325 higher in finance, with men placing a higher weight on brilliance than women. Given that the average value of the ability belief score is 4.059, the coefficient on the finance indicator is economically meaningful.

In columns (4) - (8) we relate the percentage of female thought leaders in each field to the finance indicator and the field-specific ability beliefs. The result in column (4) confirms our earlier individual-level findings at the field level, i.e. women’s representation in finance is significantly lower than in other fields. In column (5), we add *Ability belief* to the regression. The coefficient on *Ability belief* is -0.169 and significant at the 5% level. A one standard deviation increase in *Ability belief* is associated with a 0.585 standard deviation decrease in women’s representation. The coefficient on finance is reduced from -0.084 in column (4) to -0.029 and becomes statistically insignificant. Ability beliefs mediate 65.4% ($0.325 * -0.169 / -0.084$) of the relation between finance and women’s representation among top scientists.

Standard explanations for occupational segregation focus on sorting arguments. According to these explanations, women are not represented in certain occupations because women avoid occupations that are too risky or involve too much competition, i.e. women avoid occupations that are incompatible with preferences that are viewed as gender-specific (see the review in Cortés and Pan, 2017). However, the model of Siniscalchi and Veronesi (2020) highlights that the preferences of individuals who form the majority in a profession

can also explain occupational segregation. In columns (6) and (7), we replace *Ability belief* with *Ability belief (male)* and *Ability belief (female)* to examine these two explanations more closely.

The coefficient on *Ability belief (male)* in column (6) is -0.167 and statistically significant at the 1% level. In contrast, *Ability belief (female)* does not appear to mediate much of the relation between finance and women’s representation among scientific thought leaders. In column (7), the coefficient on finance decreases from -0.029 in column (5) to -0.059 and is significant at the 5% level, and the coefficient on *Ability belief (female)* is -0.098 and statistically insignificant. In column (8), we include both *Ability belief (male)* and *Ability belief (female)*. It appears that *Ability belief (male)* drives the relation between finance and women’s representation among top scientists in column (4), consistent with Siniscalchi and Veronesi (2020).

4 Conclusion

It is no secret that men dominate the finance industry. What is perhaps less well-known is that men also dominate finance thought leadership. Despite being a young field, we document that finance thought leadership is less gender diverse than fields that are comparably or more math-intensive. But finance thought leadership is also less diverse along other dimensions, such as geographic diversity.

Our results do not suggest that low diversity in finance is optimal. Female thought leaders in finance outperform male thought leaders along important dimensions. Moreover, women’s beliefs have little explanatory power for their representation in finance, but men’s beliefs do. These results suggest that women face greater barriers to entry into finance than men do.

Given the important of finance for economic growth and income inequality and the ongoing debate about the importance of financial inclusion ⁸, our results are troubling. It seems clear that reducing barriers to diverse thought leadership would benefit finance academia, the finance industry and society. It is less clear how to do it.

⁸See, e.g. <https://voxeu.org/article/financial-inclusion-drivers-and-real-effects>

Adams and Lowry (2021) empirically examine potential policy actions to improve women's experiences in academic finance. Siniscalchi and Veronesi (2020) theoretically examine policies to increase women's representation in academia. While much more work remains to be done on understanding how to improve academic culture, and the culture in academic finance specifically, what is clear from both these papers is that analysing and engaging with the topic is important. We hope this paper can stimulate further debate and research on this topic.

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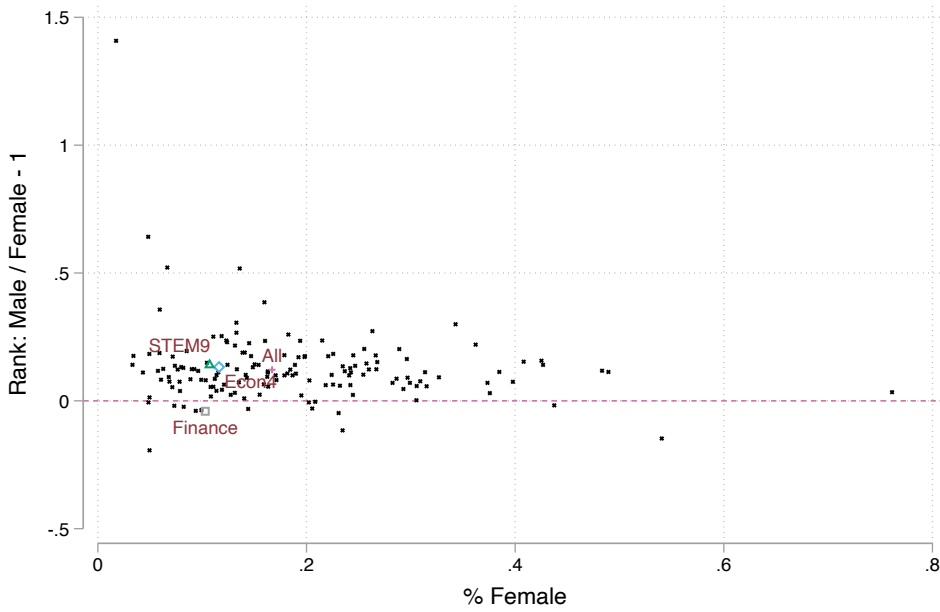
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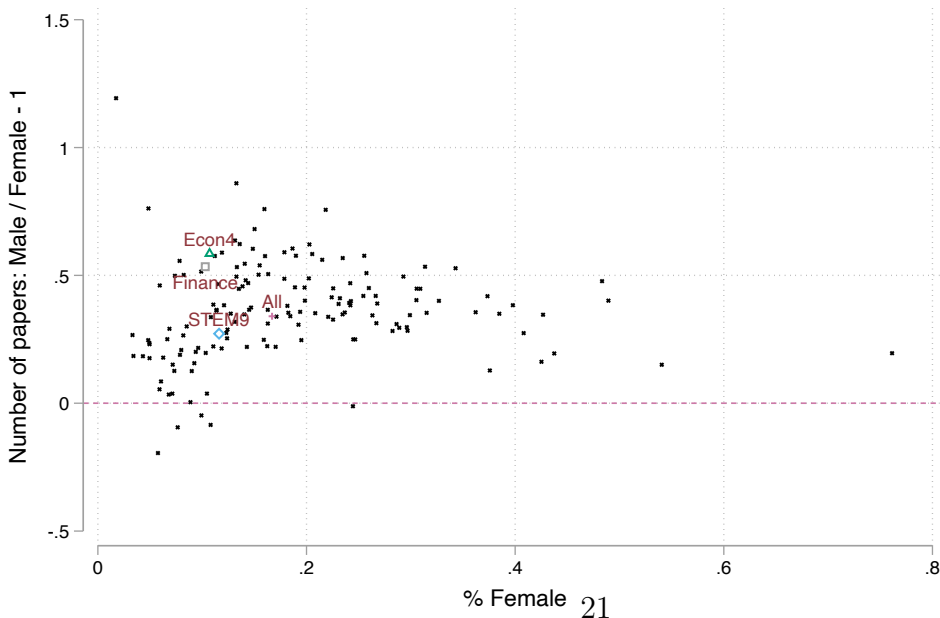
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Figure 1: Women’s Relative Rank and Productivity in Finance and Other Fields
 This figure depicts relative rank and productivity measures in finance and other fields. The sample is described in Table 1. Panel A plots the ratio of the average rank of men over the average rank of women in a field minus one against female representation in the field; Panel B plots the ratio of the average number of papers of men over the average number of papers of women in a field minus one against female representation in the field; Panel C plots a ratio of the average citation per paper of men over the average citation per paper of women in a field minus one against female representation in the field. A value higher than zero indicates men’s rank or productivity is higher than women’s.

Panel A



Panel B



Panel C

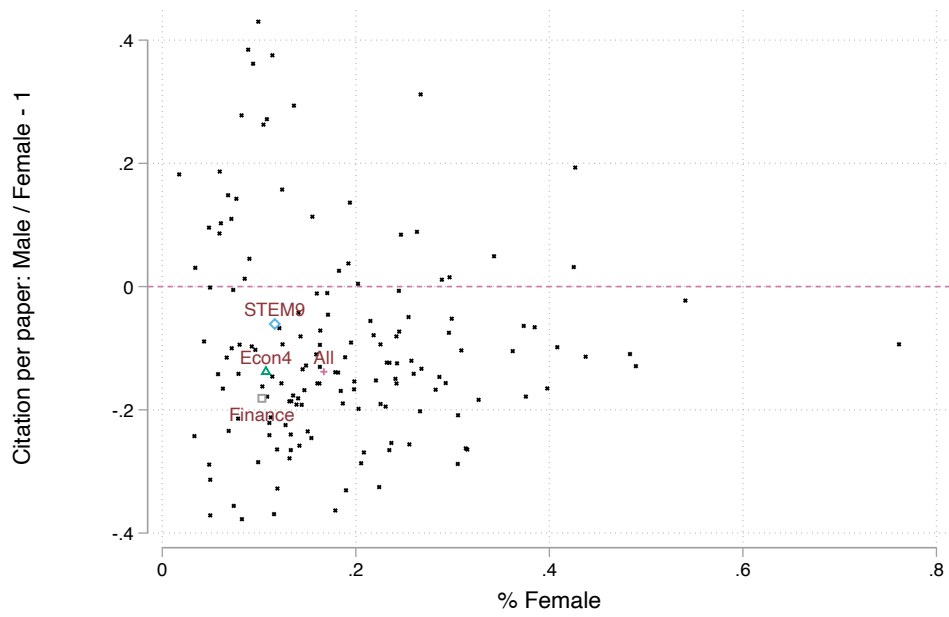
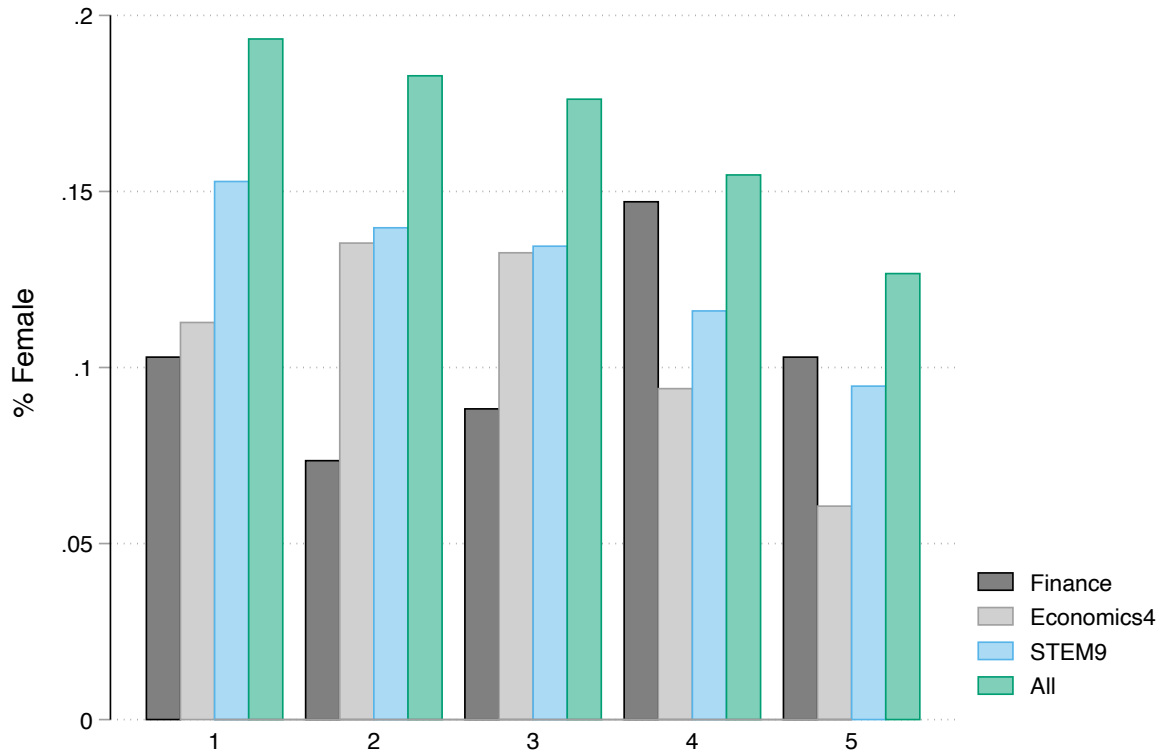


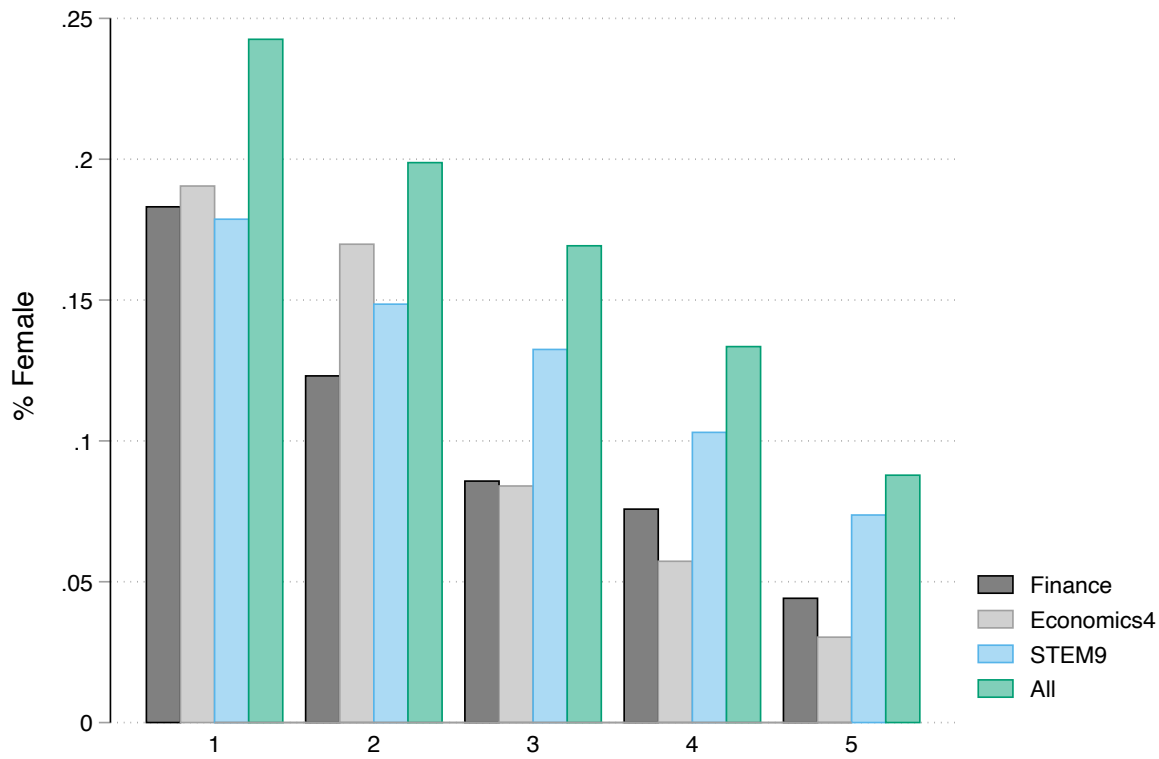
Figure 2: Women's Representation in Rank and Productivity Quintiles

This figure depicts women's representation in rank and productivity quintiles in finance, Economics4, STEM9 fields and all fields. The sample is described in Table 1. Panel A plots women's representation in rank quintiles; Panel B plots women's representation in quintiles of number of papers; Panel C plots women's representation in quintiles of citations per paper.

Panel A: Rank



Panel B: Number of papers



Panel C: Citations per paper

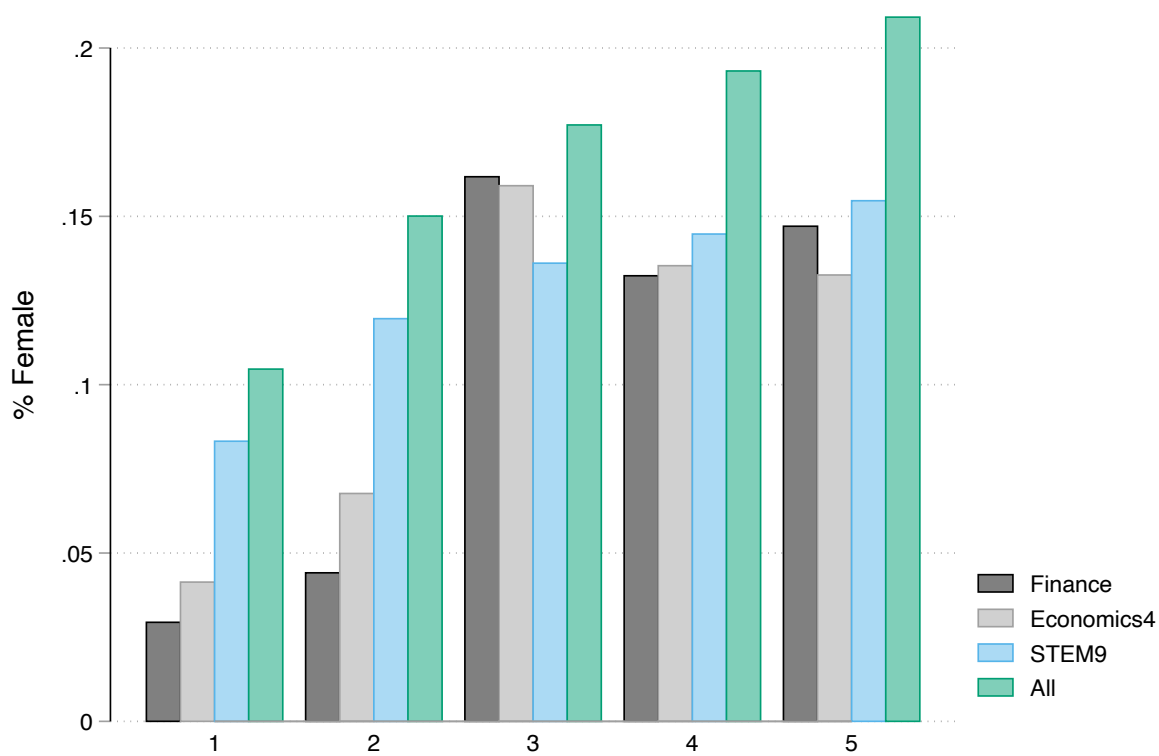


Table 1: Descriptive Statistics

This table reports the summary statistics for our data. We obtain data on the field, measures of academic productivity in 2019 from Scopus and year of first publication in the field for the top 2% ranked scientists with at least 5 publications from Ioannidis et al. (2019, 2020). We restrict the sample to scientists for whom the certainty of the assigned gender is higher than 90%. We assign gender to scientists in all fields except those in finance using Genderize.io. We code the gender of finance academics manually. Panel A presents the summary statistics for our main variables. Panel B presents separate summary statistics for men and women in finance, Economics4, STEM9 fields and all fields. We define STEM9 as fields in Biology, Biomedical Research, Chemistry, Earth & Environmental Sciences, Enabling & Strategic Technologies, Engineering, Information & Communication, Mathematics & Statistics, and Physics & Astronomy. *Rank* is the rank within a field and is increasing in productivity. *Number of papers* is the number of papers by the scientist that are cited in 2019. *Total citations* is the number of citations a scientist receives in 2019. *Citation per paper* is calculated as *Total citation* divided by *Number of papers*. *Citations of single-authored papers* is the number of citations a scientist receives for single-authored papers in 2019. *H index* is the Hirsch h-index. *HM index* is the coauthorship-adjusted Schreiber HM index. *Composite score* is a composite index that considers six citation metrics (Total citations, H index, HM index, Citations to single/first/last-authored papers). Self-citations are excluded from all citation metrics. Table A1 lists the definitions for all variables.

Panel A: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Female	126403	0.17	0.37	0	1
Finance	126403	0.00	0.05	0	1
Economics4	126403	0.01	0.10	0	1
STEM9	126403	0.52	0.50	0	1
Rank	126403	779.84	793.12	1	4811
Number of papers	126403	180.19	158.65	2	3050
Total citations	126403	1025.46	1455.06	13	65724
Citations per paper	126403	7.41	15.72	0.081	1753
Citations of single-authored papers	126403	38.97	134.20	0	13433
HM Index	126403	6.46	2.46	0.41	40.35
H Index	126403	13.02	5.93	1	98
Composite score	126403	2.92	0.38	1.54	5.38
First year	126403	1989.93	12.82	1834	2018
Career span	126403	29.29	12.22	0	186

Panel B: Summary Statistics by Gender

	N	Finance		Economics4				STEM9				All fields				
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female			
		Mean (Median)	N	Mean (Median)	N	Mean (Median)	N	Mean (Median)	N	Mean (Median)	N	Mean (Median)	N	Mean (Median)	N	Mean (Median)
Rank	305	170 (170)	35	177 (204)	1184	457 (426)	142	441 (410)	58343	784 (592)	7542	686 (492)	105322	800 (554)	21081	678 (426)
Number of papers	305	50 (37)	35	32 (27)	1184	79 (66)	142	51 (38)	58343	177 (136)	7542	137 (108)	105322	189 (143)	21081	138 (108)
Total citations	305	661 (468)	35	612 (566)	1184	652 (446)	142	571 (374)	58343	939 (600)	7542	880 (609)	105322	1045 (641)	21081	929 (600)
Citations per pa- per	305	17 (13)	35	21 (18)	1184	10 (7)	142	12 (9)	58343	7 (4)	7542	8 (6)	105322	7 (5)	21081	8 (6)
Citations of single-authored papers	305	87 (43)	35	66 (43)	1184	113 (63)	142	93 (52)	58343	40 (11)	7542	25 (8)	105322	41 (12)	21081	31 (10)
HM Index	305	7 (7)	35	7 (7)	1184	8 (7)	142	7 (7)	58343	7 (6)	7542	6 (6)	105322	7 (6)	21081	6 (6)
H Index	305	12 (11)	35	12 (11)	1184	12 (10)	142	11 (10)	58343	13 (11)	7542	13 (12)	105322	13 (12)	21081	13 (12)
Composite score	305	3 (3)	35	3 (3)	1184	3 (3)	142	3 (3)	58343	3 (3)	7542	3 (3)	105322	3 (3)	21081	3 (3)
First year	305	1992 (1993)	35	1999 (2001)	1184	1989 (1991)	142	1995 (1996)	58343	1990 (1992)	7542	1994 (1995)	105322	1989 (1990)	21081	1993 (1994)
Career span	305	26 (25)	35	19 (18)	1184	30 (28)	142	24 (23)	58343	29 (28)	7542	26 (25)	105322	30 (29)	21081	26 (25)

Table 2: List of Women in Top 2% of Scientists in Academic Finance

This table lists the top female scientists in academic finance in our sample. Gender of finance academics was identified manually. The sample is described in Table 1. *Country* is the country of affiliated institution in 2019. *Number of papers* is the number of papers by the scientist that are cited in 2019. *First year* is the year of the first publication of a scientist. Last year is the year of the last publication of a scientist. *Rank* is the rank within a field and is increasing in productivity. *Total citations* is the number of citations a scientist receives in 2019. Self-citations are excluded. The list does not include female scientists who publish in finance journals but are categorized as economists in Ioannidis et al. (2019, 2020).

Author	Country	Number of papers	First year	Last year	Rank	Total citations
Faccio, Mara	USA	25	2000	2019	17	1332
Demirgüç-Kunt, Asli	USA	95	1994	2020	21	3025
DeAngelo, Linda	USA	26	1981	2011	49	700
Adams, Renée B.	AUS	28	2005	2018	52	1096
Whited, Toni M.	USA	42	1991	2019	54	898
O'Hara, Maureen	USA	74	1979	2019	59	897
Villalonga, Belén	USA	23	2000	2019	61	681
Love, Inessa	USA	34	2003	2019	69	715
Sharma, Susan Sunila	AUS	48	2009	2020	70	631
Klapper, Leora	USA	48	1998	2020	71	818
Schoar, Antoinette	USA	29	2002	2020	79	874
Giannetti, Mariassunta	SWE	35	2001	2019	106	382
Puri, Manju	USA	29	1994	2017	110	633
Ivashina, Victoria	USA	17	2009	2019	112	423
Dittmar, Amy	USA	14	2000	2016	127	454
Pan, Jun	USA	14	2000	2017	130	566
Starks, Laura T.	USA	45	1981	2020	132	867
Boubakri, Narjess	ARE	62	1998	2019	136	578
Li, Kai	CAN	43	1998	2020	178	653
Mester, Loretta J.	USA	49	1987	2019	180	331
Aggarwal, Reena	USA	24	1989	2019	192	355
Jiang, Wei	USA	33	2003	2020	197	472
Denis, Diane	USA	20	1993	2016	202	363
Hochberg, Yael V.	USA	17	2007	2019	220	254
Kuhnen, Camelia M.	USA	19	2005	2020	224	233
Wachter, Jessica A.	USA	27	2001	2019	249	202
Xing, Yuhang	USA	17	2004	2018	257	664
Lowry, Michelle	USA	16	2002	2020	263	241
Fang, Lily	SGP	13	2000	2018	273	265
Katsiampa, Paraskevi	GBR	13	2014	2019	275	204
Ozkan, Neslihan	GBR	19	2002	2020	290	223
Turk-Ariss, Rima	USA	13	2008	2017	302	256
Haniffa, Roszaini	GBR	35	2002	2019	304	611
Gatzert, Nadine	DEU	74	2007	2020	320	217
Morse, Adair	USA	14	2006	2019	324	298

Table 3: Institutions and PhD Degrees of Top Scientists in Finance

This table reports institutions and PhD degrees of top scientists in finance. Top 6 institutions are the top 6 ranked universities according to the most recent finance rankings reported by Arizona State University’s W. P. Carey School of Business and consist of the University of Chicago, Harvard, UCLA, the University of Pennsylvania, NYU, and Columbia University. Panel A reports the institutions with at least three top scientists in finance; Panel B reports the universities from which at least three top scientists in finance obtained their PhD degrees; Panel C reports fields in which top scientists in finance obtained their PhD degrees. The sample is described in Table 1.

Panel A

Institution	Number of scientists	% Scientists	Number of women	Number of men
New York University	14	4.1%	1	13
Massachusetts Institute of Technology	12	3.5%	3	9
Columbia University	9	2.6%	1	8
Harvard University	9	2.6%	1	8
University of Chicago	8	2.4%	0	8
University of Pennsylvania	8	2.4%	2	6
Duke University	7	2.1%	1	6
University of Rochester	7	2.1%	0	7
University of California, Berkeley	6	1.8%	1	5
London Business School	5	1.5%	0	5
Stanford University	5	1.5%	0	5
University of North Carolina	5	1.5%	1	4
University of Southern California	5	1.5%	1	4
Yale University	5	1.5%	0	5
Boston College	4	1.2%	0	4
Chinese University of Hong Kong	4	1.2%	0	4
Cornell University	4	1.2%	1	3
Dartmouth College	4	1.2%	0	4
Northwestern University	4	1.2%	0	4
Ohio State University	4	1.2%	0	4
Purdue University	4	1.2%	1	3
University of California, Los Angeles	4	1.2%	0	4
University of Maryland	4	1.2%	0	4
University of Michigan	4	1.2%	1	3
University of Notre Dame	4	1.2%	0	4
Copenhagen Business School	3	0.9%	0	3
Emory University	3	0.9%	0	3
Montpellier Business School	3	0.9%	0	3
National University of Singapore	3	0.9%	0	3
Princeton University	3	0.9%	0	3
Stockholm School of Economics	3	0.9%	1	2
University of Alberta	3	0.9%	0	3
University of Oxford	3	0.9%	0	3
University of Texas at Austin	3	0.9%	1	2
University of Washington	3	0.9%	0	3
Vanderbilt University	3	0.9%	0	3
Institution identified	340		35	305
Top 6 institutions	52		5	47

Panel B

PhD institution	Number of Scientists	% Scientists	Number of women	Number of men
University of Chicago	41	12.7%	3	38
Harvard University	19	5.9%	1	18
Massachusetts Institute of Technology	16	5.0%	0	16
Stanford University	16	5.0%	3	13
University of California, Los Angeles	15	4.6%	2	13
Missing	14		1	13
University of Pennsylvania	14	4.3%	1	13
New York University	13	4.0%	3	10
Cornell University	9	2.8%	0	9
Yale University	8	2.5%	0	8
Northwestern University	7	2.2%	1	6
University of Rochester	7	2.2%	1	6
Duke University	6	1.9%	0	6
Ohio State University	6	1.9%	1	5
University of Michigan	6	1.9%	2	4
University of California, Berkeley	5	1.5%	0	5
Carnegie Mellon University	5	1.5%	0	5
University of Wisconsin	5	1.5%	0	5
Columbia University	4	1.2%	2	2
London Business School	4	1.2%	0	4
Princeton University	4	1.2%	2	2
University of North Carolina	4	1.2%	1	3
University of South Carolina	4	1.2%	1	3
University of Toronto	4	1.2%	1	3
University of Washington	4	1.2%	1	3
Boston College	3	0.9%	1	2
Indiana University	3	0.9%	0	3
Laval University	3	0.9%	1	2
No PhD	3		0	3
Purdue University	3	0.9%	0	3
University of Pittsburgh	3	0.9%	0	3
University of Texas	3	0.9%	1	2
PhD institution identified	323		34	289
Top 6 institutions	106		12	94

Panel C

PhD Field	Number of scientists	% Scientists	Number of women	Number of men
Finance	144	49.7%	15	129
Economics	93	32.1%	11	82
Missing	47		3	44
Finance and Economics	18	6.2%	2	16
Business	13	4.5%	1	12
Mathematics	8	2.8%	1	7
Accounting	3	1.0%	1	2
No PhD degree	3		0	3
Management	2	0.7%	1	1
Operational Research	2	0.7%	0	2
Physics	2	0.7%	0	2
City and Regional Planning	1	0.3%	0	1
Computer Science	1	0.3%	0	1
Industrial Administration	1	0.3%	0	1
Polymer Science	1	0.3%	0	1
Sociology	1	0.3%	0	1
PhD field identified	290		32	249

Table 4: Female Representation among Top Scientists for Academic Fields with Relatively Few Women

This table reports the percentage of female top scientists by academic field for fields in the bottom tercile of women's representation among top scientists. The sample is described in Table 1. The fields are listed in decreasing order of the percent of female top scientists in the field. *Gender rank* denotes the ranking of the field by the percent female top scientists in the complete set of 175 fields. *Gender rank* decreases as the percentage of top female scientists increases. *% Top female scientists* is the percentage of women among the top 2% scientists in an academic field. *N* is the number of scientists in a field. Complete lists of the percentages of female top scientists by academic field for different gender certainty cutoffs are reported in Tables A3 and A4.

Field	N	% Fe- male	Gender Rank	Field	N	% Fe- male	Gender Rank
Polymers	1223	12.4%	116	Oceanography	254	7.9%	146
Evolutionary Biology	767	12.4%	117	Acoustics	434	7.8%	147
Building & Construc- tion	398	12.3%	118	Statistics & Probabil- ity	418	7.7%	148
Nanoscience & Nan- otechnology	1422	12.1%	119	Organic Chemistry	1760	7.4%	149
Surgery	1429	11.9%	120	Optics	846	7.3%	150
Fisheries	472	11.9%	121	Geological & Geomat- ics Engineering	641	7.2%	151
Inorganic & Nuclear Chemistry	866	11.5%	122	Networking & Telecommunications	2242	7.1%	152
Biophysics	334	11.4%	123	Computation Theory & Mathematics	306	6.9%	153
Physiology	387	11.4%	124	Computer Hardware & Architecture	294	6.8%	154
Economics	1088	11.2%	125	Civil Engineering	571	6.7%	155
Chemical Engineering	804	11.1%	126	Mathematical Physics	78	6.4%	156
Zoology	244	11.1%	127	Applied Physics	3145	6.3%	157
Mining & Metallurgy	323	10.8%	128	Automobile Design & Engineering	32	6.3%	158
Ornithology	111	10.8%	129	Optoelectronics & Photonics	1321	6.1%	159
Software Engineering	373	10.5%	130	General Physics	876	5.9%	160
Meteorology & Atmo- spheric Sciences	1615	10.3%	131	Industrial Engineering & Automation	1269	5.9%	161
Finance	340	10.3%	132	Nuclear & Particle Physics	1614	5.8%	162
Design Practice & Management	131	9.9%	133	Aerospace & Aeronau- tics	666	5.0%	163
Orthopedics	1060	9.9%	134	Numerical & Compu- tational Mathematics	222	5.0%	164
Energy	2589	9.6%	135	Mechanical Engineer- ing & Transports	1155	4.9%	165
Microscopy	53	9.4%	136	Distributed Comput- ing	165	4.8%	166
Bioinformatics	309	9.4%	137	Geology	228	4.8%	167
Materials	2163	9.2%	138	General Mathematics	787	4.3%	168
Astronomy & Astro- physics	1022	9.0%	139	Unassigned	232	4.3%	169
Artificial Intelligence & Image Processing	3076	8.9%	140	Econometrics	83	3.6%	170
History of Social Sci- ences	34	8.8%	141	Electrical & Electronic Engineering	1202	3.4%	171
Operations Research	458	8.5%	142	Fluids & Plasmas	753	3.3%	172
Environmental Engi- neering	729	8.2%	143	Applied Mathematics	229	1.7%	173
Chemical Physics	1392	8.2%	144	Economic Theory	30	0.0%	174
Geochemistry & Geo- physics	1639	8.0%	145	Folklore	8	0.0%	175

Table 5: Geographic Distribution of Top Scientists by Field

This table reports the number of top scientists across countries and regions in Finance, Economics4, STEM9 and all fields. The region definition comes from the World Bank. There are 150 countries in our scientist dataset. Two countries, Bermuda and Falkland Islands, are not classified into any region. The sample is described in Table 1.

Country/Region	Number of countries	Number of scientists			
		Finance	Economics4	STEM9	All
UK	1	34	143	5538	11898
USA	1	233	766	23028	50933
OECD	37	317	1268	56234	112957
Non-OECD					
East Asia & Pacific	16	16	17	4672	5682
Europe & Central Asia	21	0	5	658	822
Latin America & Caribbean	22	1	3	557	924
Middle East & North Africa	18	3	8	1629	2186
South Asia	6	0	5	1280	1664
Sub-Saharan Africa	28	0	7	324	637
Missing country or region	3	3	13	531	1531
Total		340	1326	65885	126403
% UK		10%	11%	8%	9%
% USA		69%	58%	35%	40%
% UK & USA		79%	69%	43%	50%

Table 6: Gender, Cohort, Geographic Location and Institution Diversity

This table compares Blau indices of gender, cohort, geographic location and institution among top 2% scientists for Finance, Economics⁴, STEM⁹ fields and all fields. The sample is described in Table 1. The numbers of categories in gender, cohort, country and institution over which we calculate the Blau indices are 2, 9, 150 and 14,153. The maximum Blau indices of gender, cohort, country and institution are 0.5, 0.889, 0.993 and 1. *Cohort* is defined as the decade in which a scientist published the first publication, except for cohort one which includes anyone whose first publications appeared before 1940.

	Gender	Cohort	Blau Index	
			Country	Institution
Finance	0.185	0.761	0.509	0.988
Economics ⁴	0.191	0.768	0.643	0.99
STEM ⁹	0.197	0.77	0.817	0.994
All	0.281	0.761	0.749	0.988

Table 7: Women’s Relative Representation Among Top Finance Academics

This table reports linear probability model estimates of the likelihood a scientist is female if they work in finance. The sample is described in Table 1. *Female* is an indicator variable equal to one if a scientist is female. *Finance* is an indicator variable equal to one if a scientist is in academic finance profession. *Career span* is the number of years between the year of first publication and the year of last publication. In column (1), the subsample consists of scientists in academic finance and Economics4; in column (2), the subsample consists of scientists in academic finance and STEM9; in column (3), the subsample consists of scientists in all academic fields. t-statistics are calculated with standard errors clustered at the field level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variable	Female dummy		
	(1)	(2)	(3)
Finance	-0.016** (0.044)	-0.018** (0.035)	-0.075*** (0.000)
Career span	-0.001 (0.303)	-0.000 (0.300)	-0.002*** (0.000)
Constant	0.134*** (0.003)	0.125*** (0.000)	0.222*** (0.000)
Observations	1,666	66,222	126,171
R-squared	0.033	0.011	0.016
FE	Cohort	Cohort	Cohort
Sample	Finance, Economics4	Finance, STEM9	All

Table 8: Women’s Relative Rank and Productivity in Finance and Other Fields

This table reports ordinary least squares estimates of scientists’ rank and productivity measures regressed on a female indicator. The sample is described in Table 1. All dependent variables are log-transformed. *Female* is an indicator variable equal to one if a scientist is female. *Career span* is the number of years between the year of first publication and the year of last publication. In Panel A, the subsample consists of scientists in academic finance; in Panel B, the subsample consists of scientists in Economics4; in Panel C, the subsample consists of scientists in STEM9 fields; in Panel D, the subsample consists of scientists in all scientific fields. Finance is one field. Economics4 includes 4 fields: agricultural economics & policy, economics, econometrics, and economic theory. Table A1 lists the definitions for all variables. t-statistics are calculated with standard errors clustered at the field-gender level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variable	Rank	Number of papers	Total citations	Citations per paper	Citations of single authored papers	HM index	H index	Composite score
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Finance								
Female	0.191*	-0.139*	0.064	0.186**	0.300	0.023	0.039	0.013**
	(0.076)	(0.056)	(0.254)	(0.040)	(0.116)	(0.401)	(0.326)	(0.022)
Career span	0.013	0.049**	0.012	-0.035	0.040	0.014	0.012	0.003
	(0.299)	(0.018)	(0.415)	(0.128)	(0.181)	(0.151)	(0.196)	(0.107)
Constant	4.506**	2.415***	5.915**	3.560**	2.463*	1.725**	2.171**	1.335***
	(0.024)	(0.010)	(0.025)	(0.033)	(0.079)	(0.032)	(0.030)	(0.006)
Observations	330	330	330	330	330	330	330	330
R-squared	0.210	0.387	0.151	0.219	0.203	0.165	0.136	0.201
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Field FE	No	No	No	No	No	No	No	No
Panel B: Economics4								
Female	-0.021	-0.250**	-0.101**	0.129**	-0.030	-0.052**	-0.044**	-0.013***
	(0.165)	(0.012)	(0.010)	(0.023)	(0.342)	(0.015)	(0.042)	(0.003)
Career span	0.030***	0.059**	0.020	-0.035**	0.027	0.013*	0.009***	0.003**
	(0.009)	(0.017)	(0.123)	(0.036)	(0.150)	(0.051)	(0.008)	(0.012)
Constant	4.702***	2.426**	5.589**	3.219**	3.229**	1.763**	2.218***	1.340***
	(0.002)	(0.012)	(0.013)	(0.011)	(0.038)	(0.011)	(0.001)	(0.001)
Observations	1,293	1,293	1,293	1,293	1,293	1,293	1,293	1,293
R-squared	0.538	0.377	0.081	0.228	0.124	0.101	0.086	0.109
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Field FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: STEM9								
Female	-0.093***	-0.122***	-0.086***	0.028***	-0.111***	-0.030***	-0.024***	-0.011***
	(0.000)	(0.000)	(0.000)	(0.004)	(0.000)	(0.000)	(0.000)	(0.000)
Career span	0.018***	0.055***	0.026***	-0.024***	0.010***	0.013***	0.012***	0.002***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	5.649***	3.310***	5.693***	2.507***	2.034***	1.605***	2.212***	1.290***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	65,324	65,324	65,324	65,324	65,324	65,324	65,324	65,324
R-squared	0.385	0.420	0.264	0.404	0.269	0.233	0.271	0.292
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Field FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel D: All Fields								
Female	-0.077***	-0.158***	-0.097***	0.048***	-0.087***	-0.028***	-0.029***	-0.010***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Career span	0.020***	0.051***	0.026***	-0.021***	0.011***	0.012***	0.011***	0.002***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	5.505***	3.449***	5.751***	2.437***	2.054***	1.626***	2.245***	1.293***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	124,631	124,631	124,631	124,631	124,631	124,631	124,631	124,631
R-squared	0.466	0.492	0.346	0.372	0.293	0.260	0.334	0.331
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Field FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 9: Women’s Relative Rank and Productivity in Finance With Controls for Institutions

This table reports ordinary least squares estimates of scientists’ rank and productivity measures regressed on a female indicator in the subsample of scientists in finance. The sample is described in Table 1. All dependent variables are log-transformed. *Female* is an indicator variable equal to one if a scientist is female. *Top 6 inst.* is an indicator variable equal to one if a scientist works for one of the top 6 finance institutions. *Top 6 PhD* is an indicator variable equal to one if a scientist earned their PhD degree from one of the top 6 finance institutions. School ranking is from the ASU finance rankings. *Career span* is the number of years between the year of first publication and the year of last publication. Table A1 lists the definitions for all variables. t-statistics are calculated with standard errors clustered at the field-gender level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variable	Rank	Number of papers	Total citations	Citations per paper	Citations of single authored papers	HM index	H index	Composite score
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A								
Female	0.195* (0.079)	-0.139* (0.061)	0.071 (0.230)	0.192** (0.035)	0.301 (0.115)	0.025 (0.382)	0.042 (0.306)	0.013** (0.024)
Top 6 inst.	0.170* (0.051)	0.016 (0.731)	0.290 (0.249)	0.251 (0.332)	0.017 (0.527)	0.097 (0.101)	0.110 (0.292)	0.031 (0.183)
Career span	0.014 (0.251)	0.049** (0.022)	0.015 (0.294)	-0.032 (0.101)	0.041 (0.178)	0.015 (0.127)	0.013 (0.148)	0.003* (0.068)
Constant	4.436** (0.022)	2.409** (0.013)	5.796** (0.019)	3.457** (0.021)	2.456* (0.078)	1.685** (0.028)	2.126** (0.023)	1.322*** (0.004)
Observations	330	330	330	330	330	330	330	330
R-squared	0.214	0.387	0.172	0.235	0.203	0.181	0.151	0.219
Cohort	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Discipline	No	No	No	No	No	No	No	No
Panel B								
Female	0.172 (0.147)	-0.130** (0.029)	0.020 (0.624)	0.140 (0.136)	0.412** (0.050)	0.017 (0.502)	0.027 (0.455)	0.011* (0.096)
Top 6 PhD	0.310** (0.011)	-0.129 (0.283)	0.204*** (0.003)	0.302 (0.117)	0.313 (0.221)	0.037* (0.076)	0.042 (0.125)	0.028* (0.056)
Career span	0.029 (0.157)	0.048** (0.021)	0.018 (0.293)	-0.028 (0.156)	0.044 (0.162)	0.016 (0.153)	0.015 (0.171)	0.004* (0.096)
Constant	4.045** (0.030)	2.488** (0.015)	5.712** (0.026)	3.316** (0.031)	2.282* (0.092)	1.673** (0.038)	2.089** (0.033)	1.309*** (0.007)
Observations	315	315	315	315	315	315	315	315
R-squared	0.249	0.387	0.172	0.237	0.233	0.190	0.157	0.239
Cohort	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Discipline	No	No	No	No	No	No	No	No

Table 10: Women’s Relative Rank and Productivity in Finance

This table reports ordinary least squares estimates of rank and productivity measures regressed on interaction terms between female and finance indicators. The sample is described in Table 1. All dependent variables are log-transformed. *Female* is an indicator variable equal to one if a scientist is female. *Finance* is an indicator variable equal to one if a scientist is in academic finance profession. *Career span* is the number of years between the year of first publication and the year of last publication. In Panel A, the subsample consists of scientists in academic finance and Economics4; in Panel B, the subsample consists of scientists in academic finance and STEM9; in Panel C, the subsample consists of scientists in all academic fields. Table A1 lists the definitions for all variables. t-statistics are calculated with standard errors clustered at the field-gender level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variable	Rank	Number of papers	Total citations	Citations per paper	Citations of single authored papers	HM index	H index	Composite score
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Finance & Economics4								
Female	-0.015 (0.695)	-0.246*** (0.000)	-0.095* (0.074)	0.129** (0.041)	-0.038 (0.120)	-0.049*** (0.000)	-0.041* (0.074)	-0.013*** (0.003)
Female×Finance	0.210*** (0.002)	0.111*** (0.001)	0.159** (0.014)	0.058 (0.357)	0.323*** (0.000)	0.061*** (0.000)	0.075*** (0.006)	0.025*** (0.000)
Career span	0.025** (0.017)	0.056*** (0.000)	0.016*** (0.009)	-0.036*** (0.000)	0.031*** (0.008)	0.013*** (0.000)	0.009*** (0.000)	0.003*** (0.000)
Constant	4.710*** (0.000)	2.467*** (0.000)	5.735*** (0.000)	3.322*** (0.000)	3.020*** (0.000)	1.761*** (0.000)	2.219*** (0.000)	1.343*** (0.000)
Observations	1,634	1,634	1,634	1,634	1,634	1,634	1,634	1,634
R-squared	0.521	0.417	0.082	0.275	0.141	0.109	0.084	0.120
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Field FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: Finance & STEM9								
Female	-0.093*** (0.000)	-0.122*** (0.000)	-0.086*** (0.000)	0.029*** (0.004)	-0.111*** (0.000)	-0.030*** (0.000)	-0.024*** (0.000)	-0.011*** (0.000)
Female×Finance	0.320*** (0.000)	0.031** (0.016)	0.103*** (0.000)	0.096*** (0.000)	0.599*** (0.000)	0.048*** (0.000)	0.038*** (0.000)	0.023*** (0.000)
Career span	0.018*** (0.000)	0.055*** (0.000)	0.026*** (0.000)	-0.025*** (0.000)	0.010*** (0.000)	0.013*** (0.000)	0.012*** (0.000)	0.002*** (0.000)
Constant	5.643*** (0.000)	3.304*** (0.000)	5.695*** (0.000)	2.514*** (0.000)	2.033*** (0.000)	1.606*** (0.000)	2.212*** (0.000)	1.290*** (0.000)
Observations	65,658	65,658	65,658	65,658	65,658	65,658	65,658	65,658
R-squared	0.388	0.427	0.263	0.407	0.270	0.233	0.270	0.293
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Field FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: All Fields								
Female	-0.077*** (0.000)	-0.158*** (0.000)	-0.098*** (0.000)	0.048*** (0.000)	-0.088*** (0.000)	-0.028*** (0.000)	-0.029*** (0.000)	-0.010*** (0.000)
Female×Finance	0.309*** (0.000)	0.054*** (0.000)	0.133*** (0.000)	0.101*** (0.000)	0.535*** (0.000)	0.045*** (0.000)	0.052*** (0.000)	0.022*** (0.000)
Career span	0.020*** (0.000)	0.051*** (0.000)	0.026*** (0.000)	-0.021*** (0.000)	0.011*** (0.000)	0.012*** (0.000)	0.011*** (0.000)	0.002*** (0.000)
Constant	5.505*** (0.000)	3.449*** (0.000)	5.751*** (0.000)	2.437*** (0.000)	2.054*** (0.000)	1.626*** (0.000)	2.245*** (0.000)	1.293*** (0.000)
Observations	124,631	124,631	124,631	124,631	124,631	124,631	124,631	124,631
R-squared	0.466	0.492	0.346	0.372	0.293	0.260	0.334	0.331
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Field FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 11: Expectations of Brilliance and Finance

This table reports ordinary least squares estimates of field-specific ability belief scores (Ability belief) on a finance dummy and the percent of women among top scientists in a field on field-specific ability belief scores. Ability belief data comes from Leslie et al. (2015). It measures individuals' beliefs about the importance of innate talent in success in their fields. The sample is described in Table 1. *% Top female scientists* is the percentage of women among the top 2% scientists in an academic field. *Ability belief* is the field-specific ability belief scores. Since the data in Leslie et al. (2015) does not include a separate ability belief for finance, we use the ability belief in economics for finance. *Ability belief (male)* is the field-specific ability belief scores for male respondents to the survey conducted by Leslie et al. (2015). *Ability belief (female)* is the field-specific ability belief score for female respondents to the survey conducted by Leslie et al. (2015). *Finance* is a dummy variable indicating the academic finance profession. Table A1 lists the definitions for all variables. Standard errors are Huber-White standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variable	Ability belief				% Top female scientists			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Finance	0.325*** (0.001)	0.312*** (0.001)	0.256** (0.011)	-0.084*** (0.002)	-0.029 (0.393)	-0.031 (0.280)	-0.059** (0.032)	-0.032 (0.294)
Ability belief					-0.169** (0.023)			
Ability belief (male)						-0.167*** (0.006)		-0.173*** (0.002)
Ability belief (female)							-0.098 (0.117)	0.007 (0.917)
Constant	4.045*** (0.000)	4.128*** (0.000)	3.884*** (0.000)	0.187*** (0.000)	0.871*** (0.005)	0.878*** (0.001)	0.566** (0.026)	0.872*** (0.003)
Observations	24	24	24	24	24	24	24	24
R-squared	0.030	0.027	0.015	0.024	0.356	0.361	0.164	0.361

Appendix 1

Table A1: Variable Definition
This table presents all variables used in our analysis.

Variable	Definition	Source
Ability belief	Field-specific ability belief score	Leslie et al. (2015)
Ability belief (female)	Field-specific ability belief score for female survey respondents	Leslie et al. (2015)
Ability belief (male)	Field-specific ability belief score for male survey respondents	Leslie et al. (2015)
Career span	The number of years between the year of first publication and the year of last publication	Ioannidis et al. (2019, 2020)
Citations single	The number of citations a scientist receives for single-authored papers in 2019.	Ioannidis et al. (2019, 2020)
Composite score	A composite index that considers six citation metrics (total citations, H index, HM index, and citations to single/first/last-authored papers). Self-citations are excluded.	Ioannidis et al. (2019, 2020)
Country	Country associated with affiliated institution in 2019	Ioannidis et al. (2019, 2020)
Disiepline	Broad academic disciplines according to the Science-Metrix journal classification system	Ioannidis et al. (2019, 2020)
Female	Dummy variable: 1 if the scientist is female. 0 otherwise. For scientists in finance, their gender is manually coded; for other scientists, their gender is coded by Genderize.io, which infers gender from names.	Manual collection & Genderize.io
Field	Field classification according to the Science-Metrix journal classification system	Ioannidis et al. (2019, 2020)
First year	Year of first publication	Ioannidis et al. (2019, 2020)
H index	Hirsch h-index based on citations from publications published in 2019. Self-citations are excluded.	Ioannidis et al. (2019, 2020)
HM index	Coauthorship-adjusted Schreiber HM index based on citations from publications published in 2019. Self-citations are excluded.	Ioannidis et al. (2019, 2020)
Number of papers	The number of papers by the scientist that are cited in 2019	Ioannidis et al. (2019, 2020)
Rank	Within field rank based on the composite score. Self-citations are excluded. We reverse-code it so that a higher value indicates a higher rank.	Ioannidis et al. (2019, 2020)
STEM	Dummy variable: 1 if the field is in Biology, Biomedical Research, Chemistry, Earth & Environmental Sciences, Enabling & Strategic Technologies, Engineering, Information & Communication, Mathematics & Statistics, and Physics & Astronomy. 0 otherwise	Ioannidis et al. (2019, 2020)
Total citations	The number of citations a scientist receives in 2019. Self-citations are excluded.	Ioannidis et al. (2019, 2020)

Table A2: Field Mapping

This table reports how we mapped the disciplines in Leslie et al. (2015) to fields in Ioannidis et al. (2019, 2020).

Disciplines in Leslie et al. (2015)	Fields in Ioannidis et al. (2019, 2020)	Number of scientists
Anthropology	sAnthropology	150
Archaeology	Archaeology	227
Art History	N/A	
Astronomy	Astronomy & Astrophysics	1283
Biochemistry	Biomedical Research	12904
Chemistry	Chemistry	10644
Classics	N/A	
Communication Studies	Communication & Textual Studies	425
Comparative Literature	N/A	
Computer Science	Information & Communication Technologies	9649
Earth Science	Earth & Environmental Sciences	6428
Economics	Economics	341
Economics	Finance	1316
Education	Education	1205
Engineering	Engineering	12384
English Literature	N/A	
Evolutionary Biology	Evolutionary Biology	798
History	Historical Studies	304
Linguistics	Linguistics	246
Mathematics	Mathematics	1633
Middle Eastern Studies	N/A	
Molecular Biology	Biochemistry & Molecular Biology	434
Music Theory & Comp.	N/A	
Neuroscience	Neurology & Neurosurgery	5245
Philosophy	Philosophy & Theology	337
Physics	Physics & Astronomy, exclude Astronomy & Astrophysics	13041
Political Science	Political Science & Public Administration	616
Psychology	Psychology & Cognitive Sciences	3912
Sociology	Social Sciences	2458
Spanish	N/A	
Statistics	Statistics & Probability	467

Table A3: Women’s Representation Among Top Scientists across all Academic Fields

This table reports the percentage of top scientists who are female by academic field. Table 1 describes the sample. *Gender rank* denotes the ranking of the field by the percent female top scientists in the complete set of 175 fields. *Gender rank* decreases as the percentage of top female scientists increases.

Field	N	% Female	Gender rank	Field	N	% Female	Gender rank
Gender Studies	34	76.5%	1	Biotechnology	735	16.3%	89
Nursing	641	76.1%	2	Biomedical Engineering	798	16.3%	90
Art Practice, History & Theory	30	56.7%	3	Ecology	1762	16.3%	91
Family Studies	61	54.1%	4	Marine Biology & Hydrobiology	733	16.2%	92
Social Work	111	54.1%	5	Strategic, Defence & Security Studies	312	16.0%	93
Rehabilitation	378	48.9%	6	Social Sciences Methods	119	16.0%	94
Developmental & Child Psychology	689	48.3%	7	Dentistry	968	15.9%	95
Literary Studies	192	43.8%	8	Information Systems	245	15.5%	96
Speech-Language Pathology & Audiology	157	42.7%	9	Mycology & Parasitology	370	15.4%	97
Languages & Linguistics	214	42.5%	10	Gastroenterology & Hepatology	1391	15.0%	98
Public Health	1002	40.8%	11	Otorhinolaryngology	626	14.9%	99
Nutrition & Dietetics	651	39.8%	12	Sport Sciences	429	14.7%	100
Education	1055	38.5%	13	Dairy & Animal Science	662	14.5%	101
Gerontology	165	37.6%	14	Logistics & Transportation	354	14.4%	102
Geriatrics	166	37.3%	15	Forestry	427	14.3%	103
Epidemiology	185	36.2%	16	Cardiovascular System & Hematology	2858	14.2%	104
Demography	58	34.5%	17	Respiratory System	987	14.1%	105
Industrial Relations	35	34.3%	18	Agronomy & Agriculture	912	14.0%	106
Information & Library Sciences	175	34.3%	19	Biochemistry & Molecular Biology	2509	13.9%	107
Psychoanalysis	56	33.9%	20	Agricultural Economics & Policy	125	13.6%	108
Drama & Theater	12	33.3%	21	Entomology	466	13.5%	109
Anatomy & Morphology	104	32.7%	22	Urology & Nephrology	1193	13.3%	110
Music	38	31.6%	23	Emergency & Critical Care Medicine	527	13.3%	111
Substance Abuse	330	31.5%	24	General Chemistry	708	13.3%	112
Obstetrics & Reproductive Medicine	1167	31.4%	25	Physical Chemistry	464	13.1%	113
General Psychology & Cognitive Sciences	58	31.0%	26	Paleontology	434	13.1%	114
General & Internal Medicine	1893	30.9%	27	Nuclear Medicine & Medical Imaging	1468	12.7%	115
Pediatrics	926	30.6%	28	Polymers	1223	12.4%	116
Complementary & Alternative Medicine	131	30.5%	29	Evolutionary Biology	767	12.4%	117
Medical Informatics	224	29.9%	30	Building & Construction	398	12.3%	118
Genetics & Heredity	576	29.7%	31	Nanoscience & Nanotechnology	1422	12.1%	119
Sociology	341	29.6%	32	Surgery	1429	11.9%	120
Anthropology	140	29.3%	33	Fisheries	472	11.9%	121
Sport, Leisure & Tourism	270	28.9%	34	Inorganic & Nuclear Chemistry	866	11.5%	122
Communication & Media Studies	234	28.6%	35	Biophysics	334	11.4%	123
Food Science	786	28.2%	36	Physiology	387	11.4%	124
Development Studies	89	27.0%	37	Economics	1088	11.2%	125
Veterinary Sciences	773	26.8%	38	Chemical Engineering	804	11.1%	126
Environmental & Occupational Health	221	26.7%	39	Zoology	244	11.1%	127
Toxicology	781	26.6%	40	Mining & Metallurgy	323	10.8%	128
Architecture	19	26.3%	41	Ornithology	111	10.8%	129

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Field	N	% Female	Gender Rank	Field	N	% Female	Gender Rank
Criminology	247	26.3%	42	Software Engineering	373	10.5%	130
Cultural Studies	88	26.1%	43	Meteorology & Atmospheric Sciences	1615	10.3%	131
Behavioral Science & Comparative Psychology	281	26.0%	44	Finance	340	10.3%	132
Marketing	470	25.7%	45	Design Practice & Management	131	9.9%	133
Allergy	282	25.5%	46	Orthopedics	1060	9.9%	134
Geography	448	25.4%	47	Energy	2589	9.6%	135
Experimental Psychology	1119	24.7%	48	Microscopy	53	9.4%	136
Human Factors	241	24.5%	49	Bioinformatics	309	9.4%	137
Clinical Psychology	364	24.5%	50	Materials	2163	9.2%	138
Archaeology	202	24.3%	51	Astronomy & Astrophysics	1022	9.0%	139
Health Policy & Services	314	24.2%	52	Artificial Intelligence & Image Processing	3076	8.9%	140
Social Psychology	835	24.2%	53	History of Social Sciences	34	8.8%	141
Psychiatry	1569	24.1%	54	Operations Research	458	8.5%	142
Oncology & Carcinogenesis	4043	23.7%	55	Environmental Engineering	729	8.2%	143
Pharmacology & Pharmacy	1589	23.5%	56	Chemical Physics	1392	8.2%	144
Urban & Regional Planning	243	23.5%	57	Geochemistry & Geophysics	1639	8.0%	145
Arthritis & Rheumatology	543	23.2%	58	Oceanography	254	7.9%	146
Religions & Theology	117	23.1%	59	Acoustics	434	7.8%	147
Endocrinology & Metabolism	1556	22.6%	60	Statistics & Probability	418	7.7%	148
Business & Management	1619	22.5%	61	Organic Chemistry	1760	7.4%	149
Dermatology & Venereal Diseases	696	22.4%	62	Optics	846	7.3%	150
Virology	1078	22.1%	63	Geological & Geomatics Engineering	641	7.2%	151
Legal & Forensic Medicine	174	21.8%	64	Networking & Telecommunications	2242	7.1%	152
General Clinical Medicine	279	21.5%	65	Computation Theory & Mathematics	306	6.9%	153
International Relations	120	20.8%	66	Computer Hardware & Architecture	294	6.8%	154
Law	146	20.5%	67	Civil Engineering	571	6.7%	155
Classics	39	20.5%	68	Mathematical Physics	78	6.4%	156
Pathology	360	20.3%	69	Applied Physics	3145	6.3%	157
History	178	20.2%	70	Automobile Design & Engineering	32	6.3%	158
Tropical Medicine	524	19.8%	71	Optoelectronics & Photonics	1321	6.1%	159
Microbiology	2503	19.8%	72	General Physics	876	5.9%	160
Ophthalmology & Optometry	969	19.5%	73	Industrial Engineering & Automation	1269	5.9%	161
Medicinal & Biomolecular Chemistry	1310	19.4%	74	Nuclear & Particle Physics	1614	5.8%	162
Political Science & Public Administration	572	19.2%	75	Aerospace & Aeronautics	666	5.0%	163
Accounting	158	19.0%	76	Numerical & Computational Mathematics	222	5.0%	164
Applied Ethics	95	18.9%	77	Mechanical Engineering & Transports	1155	4.9%	165
Immunology	2027	18.9%	78	Distributed Computing	165	4.8%	166
Anesthesiology	611	18.7%	79	Geology	228	4.8%	167
Environmental Sciences	965	18.4%	80	General Mathematics	787	4.3%	168
Science Studies	115	18.3%	81	Unassigned	232	4.3%	169
Neurology & Neurosurgery	4811	18.2%	82	Econometrics	83	3.6%	170
History of Science, Technology & Medicine	39	17.9%	83	Electrical & Electronic Engineering	1202	3.4%	171
Philosophy	151	17.9%	84	Fluids & Plasmas	753	3.3%	172
Analytical Chemistry	1225	17.9%	85	Applied Mathematics	229	1.7%	173
Plant Biology & Botany	1980	17.1%	86	Economic Theory	30	0.0%	174
Horticulture	82	17.1%	87	Folklore	8	0.0%	175
Developmental Biology	2564	17.0%	88				

Table A4: Women’s Representation in Academic Fields - Alternative Ranking

This table reports the percentage of top scientists who are by academic field. The sample consists of the top 2% ranked scientists with at least 5 publications from Ioannidis et al. (2019, 2020). The sample is restricted to scientists of whom the certainty of the assigned gender is higher than 50%. *Gender rank* denotes the ranking of the field by the percent female top scientists in the complete set of 175 fields. *Gender rank* decreases as the percentage of top female scientists increases.

Field	N	% Female	Gender rank	Field	N	% Female	Gender rank
Nursing	743	74.8%	1	Developmental Biology	2860	18.1%	89
Gender Studies	39	71.8%	2	Biotechnology	984	18.1%	90
Art Practice, History & Theory	30	56.7%	3	Horticulture	86	17.4%	91
Family Studies	64	53.1%	4	Mycology & Parasitology	415	17.1%	92
Social Work	129	51.9%	5	Social Sciences Methods	129	17.1%	93
Rehabilitation	430	48.4%	6	Dentistry	1057	17.0%	94
Developmental & Child Psychology	758	48.2%	7	Ecology	1904	17.0%	95
Literary Studies	206	44.2%	8	Marine Biology & Hydrobiology	786	16.9%	96
Speech-Language Pathology & Audiology	176	43.2%	9	Physical Chemistry	614	16.8%	97
Languages & Linguistics	242	43.0%	10	Inorganic & Nuclear Chemistry	1144	16.6%	98
Nutrition & Dietetics	720	41.7%	11	Otorhinolaryngology	681	16.6%	99
Public Health	1117	41.6%	12	Gastroenterology & Hepatology	1542	16.3%	100
Education	1209	39.5%	13	Dairy & Animal Science	740	16.2%	101
Gerontology	182	39.0%	14	Polymers	1548	16.2%	102
Drama & Theater	13	38.5%	15	Strategic, Defence & Security Studies	343	16.0%	103
Geriatrics	188	37.2%	16	History of Science, Technology & Medicine	44	15.9%	104
Epidemiology	198	36.4%	17	Mining & Metallurgy	460	15.9%	105
Demography	61	36.1%	18	Logistics & Transportation	435	15.6%	106
Psychoanalysis	60	35.0%	19	General Chemistry	894	15.4%	107
Information & Library Sciences	210	33.8%	20	Building & Construction	509	15.3%	108
Medical Informatics	265	33.6%	21	Agronomy & Agriculture	1059	15.3%	109
Architecture	21	33.3%	22	Sport Sciences	459	15.3%	110
Industrial Relations	39	33.3%	23	Biochemistry & Molecular Biology	2803	15.2%	111
Anatomy & Morphology	114	32.5%	24	Cardiovascular System & Hematology	3076	15.2%	112
Substance Abuse	349	32.4%	25	Urology & Nephrology	1299	15.2%	113
Music	41	31.7%	26	Forestry	470	14.9%	114
General & Internal Medicine	2108	31.7%	27	Entomology	512	14.8%	115
Obstetrics & Reproductive Medicine	1297	31.7%	28	Agricultural Economics & Policy	135	14.8%	116
Pediatrics	1018	31.5%	29	Chemical Engineering	1064	14.8%	117
Anthropology	150	31.3%	30	Materials	3115	14.7%	118
General Psychology & Cognitive Sciences	61	31.1%	31	Emergency & Critical Care Medicine	567	14.3%	119
Complementary & Alternative Medicine	187	31.0%	32	Nuclear Medicine & Medical Imaging	1682	14.2%	120
Sociology	376	30.6%	33	Respiratory System	1065	14.2%	121
Genetics & Heredity	648	30.4%	34	Energy	3454	13.9%	122
Sport, Leisure & Tourism	316	30.1%	35	Microscopy	58	13.8%	123
Communication & Media Studies	257	30.0%	36	Biophysics	370	13.8%	124
Criminology	277	28.9%	37	Evolutionary Biology	829	13.6%	125
Veterinary Sciences	846	28.3%	38	Fisheries	546	13.6%	126
Cultural Studies	110	28.2%	39	History of Social Sciences	37	13.5%	127
Environmental & Occupational Health	249	28.1%	40	Artificial Intelligence & Image Processing	4234	13.1%	128

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Field	N	% Female	Gender Rank	Field	N	% Female	Gender Rank
Food Science	951	27.5%	41	Networking & Telecommunications	3220	13.0%	129
Toxicology	904	27.4%	42	Paleontology	462	13.0%	130
Marketing	538	27.3%	43	Ornithology	116	12.9%	131
Allergy	299	27.1%	44	Zoology	263	12.9%	132
Development Studies	93	26.9%	45	Surgery	1575	12.8%	133
Religions & Theology	131	26.7%	46	Economics	1177	12.7%	134
Clinical Psychology	393	26.5%	47	Physiology	408	12.5%	135
Experimental Psychology	1198	25.8%	48	Meteorology & Atmospheric Sciences	1881	12.3%	136
Behavioral Science & Comparative Psychology	311	25.7%	49	Software Engineering	434	12.2%	137
Human Factors	269	25.7%	50	Organic Chemistry	2237	12.0%	138
Social Psychology	929	25.5%	51	Oceanography	284	11.6%	139
Archaeology	216	25.5%	52	Industrial Engineering & Automation	1729	11.6%	140
Health Policy & Services	337	25.2%	53	Geological & Geomatics Engineering	848	11.6%	141
Geography	495	25.1%	54	Automobile Design & Engineering	35	11.4%	142
Oncology & Carcinogenesis	4594	25.0%	55	Operations Research	571	11.4%	143
Pharmacology & Pharmacy	1892	25.0%	56	Optoelectronics & Photonics	1799	11.3%	144
Dermatology & Venereal Diseases	770	24.5%	57	Orthopedics	1152	11.0%	145
Psychiatry	1706	24.3%	58	Acoustics	510	10.8%	146
Arthritis & Rheumatology	590	24.2%	59	Astronomy & Astrophysics	1141	10.6%	147
Endocrinology & Metabolism	1693	23.9%	60	Optics	1068	10.5%	148
Virology	1185	23.5%	61	Civil Engineering	784	10.5%	149
Legal & Forensic Medicine	188	23.4%	62	Computer Hardware & Architecture	354	10.5%	150
Business & Management	1794	23.4%	63	Finance	340	10.3%	151
Urban & Regional Planning	270	23.0%	64	Environmental Engineering	840	10.2%	152
Pathology	400	22.5%	65	Mechanical Engineering & Transports	1600	10.2%	153
General Clinical Medicine	325	22.2%	66	Design Practice & Management	170	10.0%	154
Law	163	22.1%	67	Bioinformatics	367	9.8%	155
Tropical Medicine	567	22.0%	68	Geochemistry & Geophysics	1859	9.7%	156
Classics	41	22.0%	69	Applied Physics	4056	9.6%	157
Microbiology	2732	21.2%	70	Chemical Physics	1565	9.2%	158
Analytical Chemistry	1718	21.1%	71	Statistics & Probability	473	9.1%	159
Ophthalmology & Optometry	1077	21.0%	72	Mathematical Physics	90	8.9%	160
Medicinal & Biomolecular Chemistry	1620	20.4%	73	Aerospace & Aeronautics	813	8.7%	161
Environmental Sciences	1304	20.4%	74	General Physics	1077	8.6%	162
International Relations	129	20.2%	75	Numerical & Computational Mathematics	273	8.4%	163
Information Systems	329	20.1%	76	Electrical & Electronic Engineering	1662	8.1%	164
History	190	20.0%	77	Computation Theory & Mathematics	331	7.9%	165
Political Science & Public Administration	617	19.9%	78	Nuclear & Particle Physics	1841	7.7%	166
Immunology	2221	19.7%	79	Distributed Computing	195	7.2%	167
Science Studies	127	19.7%	80	Econometrics	100	7.0%	168
Applied Ethics	102	19.6%	81	General Mathematics	926	6.8%	169
Accounting	179	19.6%	82	Unassigned	254	6.7%	170
Neurology & Neurosurgery	5240	19.3%	83	Geology	241	5.8%	171
Nanoscience & Nanotechnology	2705	19.1%	84	Fluids & Plasmas	862	5.8%	172
Anesthesiology	672	19.0%	85	Applied Mathematics	294	5.8%	173
Philosophy	160	18.8%	86	Economic Theory	31	0.0%	174
Plant Biology & Botany	2265	18.6%	87	Folklore	8	0.0%	175
Biomedical Engineering	999	18.3%	88				

Table A5: Women’s Relative Representation Among Top Finance Academics in Data Based on Citations from 1996 to 2019

This table reports linear probability model estimates of the likelihood a scientist is female if they work in finance. We obtain data on the field, measures of academic productivity from Scopus and year of first publication in the field for the top 2% ranked scientists with at least 5 publications from Ioannidis et al. (2019, 2020). The academic productivity measures are based on citations in Scopus from 1996 to 2019. *Female* is an indicator variable equalling one if a scientist is female. *Finance* is an indicator variable equalling one if a scientist is in academic finance profession. *Career span* is the number of years between the year of first publication and the year of last publication. In column (1), the subsample consists of scientists in academic finance and Economics4; in column (2), the subsample consists of scientists in academic finance and STEM9; in column (3), the subsample consists of scientists in all academic fields. t-statistics are calculated with standard errors clustered at the field level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variable	Female dummy		
	(1)	(2)	(3)
Finance	-0.013 (0.150)	-0.020*** (0.003)	-0.062*** (0.000)
Career span	-0.002* (0.068)	-0.001* (0.088)	-0.001*** (0.000)
Constant	0.152*** (0.007)	0.110*** (0.000)	0.179*** (0.000)
Observations	1,116	69,053	128,758
R-squared	0.020	0.009	0.014
FE	Cohort	Cohort	Cohort
Sample	Finance, Economics4	Finance, STEM9	All

Table A6: Women’s Relative Rank and Productivity in Finance and Other Fields Based on Citations from 1996 to 2019

This table reports ordinary least squares estimates of scientists’ rank and productivity measures regressed on a female indicator. The sample is described in Table A5. All dependent variables are log-transformed. *Female* is an indicator variable equalling one if a scientist is female. *Career span* is the number of years between the year of first publication and the year of last publication. In Panel A, the subsample consists of scientists in academic finance; in Panel B, the subsample consists of scientists in Economics4 fields; in Panel C, the subsample consists of scientists in STEM9 fields; in Panel D, the subsample consists of scientists in all academic fields. Finance is one field. Economics4 includes 4 fields: agricultural economics & policy, economics, econometrics, and economic theory. Table A1 lists the definitions for all variables. t-statistics are calculated with standard errors clustered at the field-gender level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variable	Rank	Number of papers	Total citations	Citations per paper	Citations of single authored papers	HM index	H index	Composite score
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Finance								
Female	-0.039 (0.685)	-0.063 (0.447)	0.048 (0.559)	0.105** (0.022)	-0.380 (0.111)	-0.014 (0.752)	0.034 (0.654)	-0.014* (0.100)
Career span	0.004 (0.139)	0.053*** (0.004)	-0.003 (0.359)	-0.056** (0.018)	0.012 (0.325)	0.024*** (0.007)	0.021** (0.017)	0.001* (0.061)
Constant	4.212*** (0.003)	2.225*** (0.004)	8.517*** (0.005)	6.343*** (0.005)	5.860** (0.025)	1.979*** (0.004)	2.556*** (0.006)	1.495*** (0.002)
Observations	191	191	191	191	191	191	191	191
R-squared	0.130	0.293	0.138	0.227	0.193	0.225	0.133	0.181
Cohort	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Field	No	No	No	No	No	No	No	No
Panel B: Economics4								
Female	-0.234** (0.023)	-0.257*** (0.004)	-0.141** (0.047)	0.116** (0.048)	-0.162** (0.024)	-0.125*** (0.001)	-0.107*** (0.007)	-0.019** (0.013)
Career span	0.029** (0.027)	0.046*** (0.009)	0.010 (0.139)	-0.036** (0.029)	0.011 (0.101)	0.019*** (0.004)	0.016** (0.025)	0.002*** (0.007)
Constant	4.166*** (0.007)	2.768*** (0.005)	8.026*** (0.006)	5.302*** (0.007)	6.230*** (0.006)	2.325*** (0.001)	2.795*** (0.005)	1.488*** (0.000)
Observations	899	899	899	899	899	899	899	899
R-squared	0.550	0.267	0.087	0.197	0.185	0.166	0.114	0.141
Cohort	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Field	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: STEM9								
Female	-0.074*** (0.000)	-0.095*** (0.000)	-0.078*** (0.000)	0.017 (0.176)	-0.129*** (0.000)	-0.047*** (0.000)	-0.031*** (0.000)	-0.009*** (0.000)
Career span	0.023*** (0.000)	0.045*** (0.000)	0.030*** (0.000)	-0.015*** (0.000)	0.003* (0.059)	0.018*** (0.000)	0.018*** (0.000)	0.003*** (0.000)
Constant	5.435*** (0.000)	3.461*** (0.000)	7.422*** (0.000)	4.005*** (0.000)	4.679*** (0.000)	2.268*** (0.000)	2.912*** (0.000)	1.420*** (0.000)
Observations	68,607	68,607	68,607	68,607	68,607	68,607	68,607	68,607
R-squared	0.409	0.269	0.321	0.347	0.229	0.298	0.356	0.375
Cohort	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Field	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel D: All fields								
Female	-0.071*** (0.000)	-0.134*** (0.000)	-0.079*** (0.000)	0.053*** (0.000)	-0.087*** (0.000)	-0.050*** (0.000)	-0.035*** (0.000)	-0.008*** (0.000)
Career span	0.024*** (0.000)	0.042*** (0.000)	0.030*** (0.000)	-0.013*** (0.000)	0.005*** (0.000)	0.017*** (0.000)	0.017*** (0.000)	0.003*** (0.000)
Constant	5.298*** (0.000)	3.590*** (0.000)	7.537*** (0.000)	3.992*** (0.000)	4.706*** (0.000)	2.318*** (0.000)	2.998*** (0.000)	1.430*** (0.000)
Observations	127,956	127,956	127,956	127,956	127,956	127,956	127,956	127,956
R-squared	0.501	0.365	0.401	0.332	0.231	0.300	0.438	0.384
Cohort	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Field	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table A7: Women’s Relative Rank and Productivity in Finance Based on Citations from 1996 to 2019

This table reports ordinary least squares estimates of rank and productivity measures regressed on interaction terms between female and finance indicators. The sample is described in Table A5. All dependent variables are log-transformed. *Female* is an indicator variable equalling one if a scientist is female. *Finance* is an indicator variable equalling one if a scientist is in academic finance profession. *Career span* is the number of years between the year of first publication and the year of last publication. In Panel A, the subsample consists of scientists in academic finance and Economics⁴; in Panel B, the subsample consists of scientists in academic finance and STEM⁹; in Panel C, the subsample consists of scientists in all academic fields. Table A1 lists the definitions for all variables. t-statistics are calculated with standard errors clustered at the field-gender level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variable	Rank	Number of papers	Total citations	Citations per paper	Citations of single authored papers	HM index	H index	Composite score
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Finance & Economics4								
Female	-0.244*** (0.000)	-0.251*** (0.000)	-0.137** (0.020)	0.114** (0.043)	-0.175*** (0.002)	-0.123*** (0.000)	-0.105*** (0.000)	-0.019*** (0.000)
Female × Finance	0.218*** (0.000)	0.122*** (0.001)	0.180** (0.010)	0.054 (0.338)	-0.127** (0.025)	0.087*** (0.001)	0.110*** (0.001)	0.007** (0.025)
Career span	0.024** (0.021)	0.047*** (0.000)	0.006 (0.147)	-0.041*** (0.000)	0.013 (0.128)	0.020*** (0.000)	0.017*** (0.000)	0.002*** (0.002)
Constant	4.200*** (0.000)	2.686*** (0.000)	8.167*** (0.000)	5.527*** (0.000)	6.101*** (0.000)	2.246*** (0.000)	2.742*** (0.000)	1.490*** (0.000)
Observations	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095
R-squared	0.534	0.313	0.081	0.233	0.181	0.217	0.124	0.146
Cohort	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Field	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: Finance & STEM9								
Female	-0.074*** (0.000)	-0.095*** (0.000)	-0.078*** (0.000)	0.017 (0.178)	-0.129*** (0.000)	-0.047*** (0.000)	-0.031*** (0.000)	-0.009*** (0.000)
Female × Finance	0.009 (0.612)	-0.025* (0.090)	0.144*** (0.000)	0.169*** (0.000)	0.034 (0.380)	0.020*** (0.008)	0.039*** (0.000)	0.001 (0.358)
Career span	0.023*** (0.000)	0.045*** (0.000)	0.030*** (0.000)	-0.016*** (0.000)	0.004* (0.053)	0.018*** (0.000)	0.018*** (0.000)	0.003*** (0.000)
Constant	5.431*** (0.000)	3.458*** (0.000)	7.424*** (0.000)	4.012*** (0.000)	4.681*** (0.000)	2.267*** (0.000)	2.911*** (0.000)	1.420*** (0.000)
Observations	68,800	68,800	68,800	68,800	68,800	68,800	68,800	68,800
R-squared	0.412	0.274	0.321	0.349	0.230	0.298	0.357	0.375
Cohort	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Field	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: All fields								
Female	-0.071*** (0.000)	-0.134*** (0.000)	-0.079*** (0.000)	0.053*** (0.000)	-0.087*** (0.000)	-0.050*** (0.000)	-0.035*** (0.000)	-0.008*** (0.000)
Female × Finance	0.022** (0.033)	-0.002 (0.769)	0.151*** (0.000)	0.153*** (0.000)	-0.039 (0.145)	0.021*** (0.000)	0.047*** (0.000)	-0.001 (0.340)
Career span	0.024*** (0.000)	0.042*** (0.000)	0.030*** (0.000)	-0.013*** (0.000)	0.005*** (0.000)	0.017*** (0.000)	0.017*** (0.000)	0.003*** (0.000)
Constant	5.298*** (0.000)	3.590*** (0.000)	7.537*** (0.000)	3.992*** (0.000)	4.706*** (0.000)	2.318*** (0.000)	2.998*** (0.000)	1.430*** (0.000)
Observations	127,956	127,956	127,956	127,956	127,956	127,956	127,956	127,956
R-squared	0.501	0.365	0.401	0.332	0.231	0.300	0.438	0.384
Cohort	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Field	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table A8: Expectations of Brilliance and Finance in Alternative Sample

This table reports ordinary least squares estimates of field-specific ability belief scores (Ability belief) on a finance dummy and the percent of women among top scientists in a field on field-specific ability belief scores. Ability belief data comes from Leslie et al. (2015). It measures individuals' beliefs about the importance of innate talent in success in their fields. The sample is described in Table A5. *% Top female scientists* is the percentage of women among the top 2% scientists in an academic field. *Ability belief* is the field-specific ability belief score. Since the data in Leslie et al. (2015) does not include a separate ability belief for finance, we use the ability belief in economics for finance. *Ability belief (male)* is the field-specific ability belief scores for male respondents to the survey conducted by Leslie et al. (2015). *Ability belief (female)* is the field-specific ability belief scores for female respondents to the survey conducted by Leslie et al. (2015). *Finance* is a dummy variable indicating the academic finance profession. Table A1 lists the definitions for all variables. Standard errors are Huber-White standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variable	Ability belief (1)	Ability belief (male) (2)	Ability belief (female) (3)	% Top female scientists				
				(4)	(5)	(6)	(7)	(8)
Finance	0.325*** (0.001)	0.312*** (0.001)	0.256** (0.011)	-0.077*** (0.001)	-0.031 (0.239)	-0.036 (0.131)	-0.056** (0.013)	-0.035 (0.156)
Ability belief					-0.141** (0.016)			
Ability belief (male)						-0.133*** (0.005)		-0.129*** (0.006)
Ability belief (female)							-0.085* (0.090)	-0.006 (0.910)
Constant	4.045*** (0.000)	4.128*** (0.000)	3.884*** (0.000)	0.153*** (0.000)	0.723*** (0.003)	0.704*** (0.001)	0.482** (0.019)	0.710*** (0.003)
Observations	24	24	24	24	24	24	24	24
R-squared	0.030	0.027	0.015	0.028	0.346	0.323	0.173	0.324