DISCUSSION PAPER SERIES

DP16686

Women in Economics: Europe and the World

Emmanuelle Auriol, Guido Friebel, Alisa Weinberger and Sascha Wilhelm

INDUSTRIAL ORGANIZATION

LABOUR ECONOMICS

ORGANIZATIONAL ECONOMICS

PUBLIC ECONOMICS

CEPR

ISSN 0265-8003

Women in Economics: Europe and the World

Emmanuelle Auriol, Guido Friebel, Alisa Weinberger and Sascha Wilhelm

Discussion Paper DP16686
Published 01 November 2021
Submitted 19 October 2021

Centre for Economic Policy Research
33 Great Sutton Street, London EC1V 0DX, UK
Tel: +44 (0)20 7183 8801
www.cepr.org

This Discussion Paper is issued under the auspices of the Centre's research programmes:

- Industrial Organization
- Labour Economics
- Organizational Economics
- Public Economics

Women in Economics: Europe and the World

Abstract

Based on a data set that we collected from the top research institutions in economics around the globe (including universities, business schools and other organizations such as central banks), we document the underrepresentation of women in economics. For the 238 universities and business schools in the sample, women hold 25% of senior level positions (full professor, associate professor) and 37% of junior level positions. In the 82 U.S. universities and business schools, the figures are 20% on the senior level and 32% on the entry level, while in the 122 European institutions, the numbers are 27% and 38%, respectively, with some heterogeneity across countries. The numbers also show that the highest-ranking institutions (in terms of research output) have fewer women in senior positions. Moreover, in the U.S., this effect is even present on the junior level. The "leaky pipeline" may hence begin earlier than oftentimes assumed, and is even more of an issue in the highly integrated market of the U.S. In Europe, an institution ranked 100 places higher has three percentage points fewer women in senior positions, but in the U.S. it is almost 5 percentage points.

JEL Classification: A11, J16

Keywords: Gender equality, academic hierarchies, leaky pipeline

Emmanuelle Auriol - emmanuelle.auriol@tse-fr.eu
Toulouse School of Economics and CEPR

Guido Friebel - gfriebel@wiwi.uni-frankfurt.de
Goethe University and CEPR

Alisa Weinberger - weinberger@econ.uni-frankfurt.de
Goethe University Frankfurt

Sascha Wilhelm - wilhelm@econ.uni-frankfurt.de
Goethe University Frankfurt

Women in Economics: Europe and the World*

Emmanuelle Auriol† Guido Friebel‡
Alisa Weinberger§ Sascha Wilhelm¶

October 2021

Abstract

Based on a data set that we collected from the top research institutions in economics around the globe (including universities, business schools and other organizations such as central banks), we document the underrepresentation of women in economics. For the 238 universities and business schools in the sample, women hold 25% of senior level positions (full professor, associate professor) and 37% of junior level positions. In the 82 U.S. universities and business schools, the figures are 20% on the senior level and 32% on the entry level, while in the 122 European institutions, the numbers are 27% and 38%, respectively, with some heterogeneity across countries. The numbers also show that the highest-ranking institutions (in terms of research output) have fewer women in senior positions. Moreover, in the U.S., this effect is even present on the junior level. The "leaky pipeline" may hence begin earlier than oftentimes assumed, and is even more of an issue in the highly integrated market of the U.S. In Europe, an institution ranked 100 places higher has three percentage points fewer women in senior positions, but in the U.S. it is almost 5 percentage points.

Keywords: gender equality, academic hierarchies, leaky pipeline
JEL Classification: A11; J16

*We would like to thank the Women in Economics Committee of the European Economic Association, also for financially supporting the collection of data, and seminar and conference participants, in particular at the Annual Meeting of the Verein für Socialpolitik 2019 in Leipzig, the Joint Bank of England, Federal Reserve Board and European Central Bank conference on Gender and Career Progression at the European Central Bank in Frankfurt, the EEA Annual Meeting 2017, a meeting of the Royal Dutch Economic Association, the CLBO workshop on Big Data, and the University of Tilburg. Moreover, we would also like to thank Christian Zimmermann for providing data from RePEc's database, and Graziella Bertocchi. Furthermore, we thank Tugyan Cengic, Isabel Münch, Pascal Scheu, and Tristan Stahl for excellent research assistance. Emmanuelle Auriol acknowledges financial support from TSE-IAST funding from the French National Research Agency (ANR) under the Investments for the Future (Investissements d'Avenir) program grant ANR-17-EURE-0010; Guido Friebel acknowledges support from the Goethe Fellowship of the Forschungskolleg Humanwissenschaften. Finally, we would like to express our gratitudes to hundreds of Dean's offices for verifying and correcting our data work.

†Toulouse School of Economics (University of Toulouse I), and CEPR. E-mail: emmanuelle.auriol@tse-fr.eu
‡Goethe University Frankfurt, WinE, CEPR, and IZA. E-mail: gfriebel@wiwi.uni-frankfurt.de
§Goethe University Frankfurt. E-mail: weinberger@econ.uni-frankfurt.de
¶Goethe University Frankfurt. E-mail: wilhelm@econ.uni-frankfurt.de

1 Introduction

In many realms of society, and, in particular, in key positions such as top management, politics, and science, women are underrepresented. One of these professions that has recently received a fair amount of interest is the one of academic economists, about whom Lundberg and Stearns (2019) report for the U.S. that the share of women increased in the 20th century but in the last decades the progress has stalled. This could be explained by exogenous differences in taste between genders because in economics women are already underrepresented at the undergraduate level. Out of all undergraduate students in the U.S, 56% are women – however, in economics, the share of women is 30% (Buckles, 2019). Further, less than 30% of the bachelor's degrees in economics in the U.S. are awarded to women. However, when looking at graduate studies, more women start an economics Ph.D. than men and women also tend to complete their Ph.D. more often than men.[1] Over the last decade, between 30% and 35% of Ph.D.'s in economics in the U.S. have hence been earned by women (CSWEP, 2017). In 2019, only 14.5% of full professors were women (CSWEP, 2019), a phenomenon labeled as the "leaky pipeline" in which over the different stages of a career the attrition of women is higher than the attrition of men.[2] The puzzling persistence of the leaky pipeline has therefore attracted a lot of research and media attention lately.[3]

For reasons such as taste, norms, or more female-friendly policies, the situation could be quite different in other countries. For a few countries in Europe, the phenomenon of a leaky pipeline leading to female underrepresentation in tenured positions has been identified in Sweden (Persson, 2003), Italy (Corsi et al., 2017), Germany (Friebel et al., 2021), and the United Kingdom (Blackaby et al., 2005; Gamage et al., 2021). One common *a priori* with respect to Europe is that in the Nordic countries and maybe the Benelux countries, there are more women in academic careers because of different norms and different social policies. Whether this is true or not is an empirical issue that our data allow us to explore.

[1] Similarly, in Great Britain, undergraduate women in economics get better grades than their male classmates (*The Economist* "Women and economics", Print edition | Christmas Specials 2017 by Soumaya Keynes).

[2] For instance, in 2019 in the U.S., new doctorates in economics were 32.2% female, 30.3% for assistant professors, and 35.8% for tenured associate professors but falling to 14.5% for full professors (CSWEP, 2019). This gap could be caused by cohort effects, a lag effect between the time of Ph.D. completion and the time of promotion to full professorship. However, the gap has been stable over the last two decades making cohort effects appear unlikely.

[3] There have been published numerous articles in, for instance, *The New York Times*, *Financial Times* and the *The Economist*: The New York Times (2020): "A Year After a #MeToo Reckoning, Economists Still Grapple With It" ; The New York Times (2019): "Female Economists Push Their Field Toward a #MeToo Reckoning" ; The New York Times (2018): "Why Women's Voices Are Scarce in Economics" ; Financial Times (2018): "Where are all the female economists?" ; The Economist (2019): "Economics is uncovering its gender problem"

In this paper, we present information on women in the economics profession from a global perspective, and in more detail for Europe. We provide an in-depth view of the global top research institutions and investigate differences between countries. When looking at the top 300 research institutions worldwide (according to RePEc[4]), half of them are located in Europe. Hence, the European market for economists is of similar importance as the North American one. The paper provides variation beyond the U.S./Canada perspective the literature has mostly focused on. Moreover, we use a different method of gathering data than the survey method used by CSWEP for the U.S. Our advantage is that all information is collected from the institutions' websites but is also verified by the institutions. We hence use the same standardized approach for all institutions over the world, combining the advantage of a web-scraped based research method with information obtained from the departments themselves.

In the section "Method and Data", we present detailed information about our approach. We designed a web-scraping algorithm to monitor URLs of institutions contributing to research in economics using RePEc. This mostly covers universities and business schools but also central banks or other research organizations. These data hence also allow for more institutional variation than other methods[5]. Indeed, many economists work in non-economics departments (e.g., strategy or organizational and business economics in business schools) but do publish in economics journals. Another example is economists working in public policy schools or in finance departments.

The algorithm identifies the individuals listed on the websites and records the position titles these individuals hold. Gender is identified through first names and a gender identification software analyzing pictures of the individuals. For the top 300 institutions (in terms of research output), we complement these algorithms by additionally classifying the obtained position titles (more than 1,000) into a generally accepted hierarchy of positions to make comparability across countries as good as possible: (Full) Professor, Associate Professor, Assistant Professor, Lecturer, Research Fellow, Research Associate. For each country individually, we use a text-mining method to extract the hierarchical level from position descriptions and name titles. Next, we create a mapping between keywords of the position descriptions and a representative level. Finally, we contacted the departments (297 in total) to verify the results of our work and provide us with feedback – in a way similar to what surveys would do. Using the same methodology for all institutions and equipped with our standardized position levels, we compare the situation for different countries. Furthermore, female underrepresentation may not only differ across countries but may also depend on the research output of institutions which we measure by their ranking in RePEc.

[4]Research Papers in Economics, accessible via https://repec.org

[5]CSWEP, for instance, collects data on economics departments primarily. See https://www.aeaweb.org/about-aea/committees/cswep/survey/annual-survey for further information on their approach.

Before presenting data and results, it is useful to briefly review the literature on gender in the economics profession. This is mainly focused on documenting and explaining the leaky pipeline between junior and senior ranks. Studies usually find that part of the wage or promotion gap can be explained when controlling for observed characteristics, unobserved heterogeneity and self-selection. Nevertheless, a substantial part of the gender differences remain unexplained (Kahn, 1995; Broder, 1993; McDowell et al., 1999; McDowell et al., 2001; Ward, 2001; Bandiera, 2016).

One could think that the gender gap in promotion to tenure is not specific to economics and applies to all fields, but the gap is much greater in economics than in other social sciences (Ginther and Khan, 2014). Since economics relies on analytical skills and the mastering of mathematics and statistics, the gender gap could reflect some general bias in science. However, even after accounting for differences in productivity and the effect of children on promotion, women in economics are substantially less likely to get tenure and take longer to achieve it compared to men and women in other disciplines (Ginther and Khan, 2014). As Ceci et al. (2014) conclude: "Economics is an outlier, with a persistent sex gap in promotion that cannot be readily explained by productivity differences." Moreover, Ceci et al. (2014) find that female full professor salaries in economics as a proportion of male salaries dropped from 95% in 1995 to less than 75% in 2010. Unsurprisingly, women in economics are less happy than the men they work with, and less happy than women working in other disciplines. The gap is quite big and growing larger over time. What are the possible reasons for the gender gap?

The literature identifies three determinants. First, discrimination, for instance through biased behavior (Wu, 2018), inappropriate behavior in professional occasions (Shinall, 2018; Dupas et al., 2021), feeling less valued in the profession as revealed by the AEA Professional Climate Survey 2019 (Allgood et al., 2019), and social stereotypes also present in non-professional occasions (MacNell et al., 2015; Milkman et al., 2015; Madera et al., 2009; Schmader et al., 2007). Second, differential treatment in the publishing process: Women are held against higher editorial standards or are evaluated more critically (Hengel, 2017; Krawczyk and Smyk, 2016; Grossbard et al., 2021; Card et al., 2020; Hospido and Sanz, 2021) and are also given less credit for their publications and in co-authorships with men (Sarsons, 2017; Boschini and Sjögren, 2007; McDowell et al., 2006). Third, differential treatment in biased hiring policies (Ceci and Williams, 2015a; Reuben et al., 2014; Rivera, 2017; Bagues et al., 2017; Hipp, 2020), a smaller tendency of women to apply – but a higher probabiltiy of being chosen conditional on applying (Hospido et al., 2020; Ceci and Williams, 2015b). Differential experiences at the workplace and career aspirations have an impact as well (Azmat et al., 2020; Azmat and Ferrer, 2017), and different mobility patterns by gender emerge (Hilmer and Hilmer, 2010). Role model effects, encouragement, and mentoring play an important role (Rask and Bailey, 2002; Blau

et al., 2010; Ginther et al., 2020; Bettinger and Long, 2005; Hilmer and Hilmer, 2007). Some institutions have implemented policies to work against female underrepresentation (Juraqulova et al., 2019; Buckles, 2019) but not all of them are effective and some even have unintended effects (Antecol et al., 2018).

One could be tempted to ask why we should care about discrimination against women beyond for the obvious and considerable fairness concern. There are two main reasons. First, if positions are mainly filled from the male ability distribution, more able women are neglected and universities forego the opportunity to hire or retain more able employees. Second, if the topics favored by women in research are different from those favored by men, the weak representation of women in the most prestigious and powerful positions implies less means dedicated to these topics and less publicity around the results. This would mean that economics systematically under-invests in some topics that are relevant to society.[6] Also, the topics chosen by women in research are different from those picked by men; women are higher represented in health and education than in macroeconomics (Boschini and Sjögren, 2007). In the U.S., women research more in labor and public economics and less in macroeconomics and finance (Lundberg and Stearns, 2019). This difference is stable over the period 1990-2017.

2 Results

2.1 A Global View on Women in Economics in Academic Departments

As of December 21, 2020, the algorithm had collected 186,243 positions in 2,032 institutions. Restricting the data to individuals for which we have information on both gender and position, we end up with 96,044 individuals in 1,383 institutions – our "full database". Out of these identified positions, we then have a data set on the global top 300 research institutions for which the data have been manually checked several times by us and verified by the departments.

In our analysis, we first present an overview over all institutions in our database before focusing on the top 300 for a deeper analysis. We focus on universities and business schools, in which the main responsibilities are research and teaching. In most of our paper we exclude research departments of central banks or federal banks as well as research networks and organizations, such as NBER or CEPR, which have different goals and are

[6] In line with this argument, May et al. (2013) find that male and female economists have different views on economic outcomes and policies.

organized differently. 238 institutions remain (see Table 1) in what we refer to as the "main data set".

Table 1: Overview Over Main Data Set by Type of Institution: Top 300

Type of Institution	Number of Institutions	Main Data Set
Universities	198	196
Business Schools	44	42
Central Banks or Federal Banks	27	-
Research Networks or Organizations	31	-
Total	300	238

Notes: Three universities and business schools decided to opt out of our study. One university does not provide a comprehensive overview over its researchers on the website and is hence also excluded.

Looking at geographical location (Table 2), within the top 300, there are 117 North American and 157 European institutions; after only focusing on universities and business schools, our data set consists of 122 in Europe and 92 in North America.

Table 2: Overview Over Main Data Set by Geographical Location

Region	Number of Institutions	Main Data Set
Europe	157	122
North America (U.S. and Canada)	117	92
Rest of the World	26	24
Total	300	238

Table 3 lists the share of women across the globe by hierarchical levels. First, for our full database, and second for our main data set. We observe that the share of women is around 32% on all positions. While 40% of the positions are filled with women at the research associate (mostly Ph.D. students) level and the entry level (assistant professors and lecturers), the share of women falls to 27% at the senior level.

Table 3: Share of Women in All Institutions and Main Data Set

Level	All Institutions	Positions	Women	Main Data Set	Positions	Women
Senior Level	26.76%	35,513	9,503	25.22%	13,334	3,363
Entry Level	39.52%	22,525	8,903	36.69%	8,135	2,985
Research Fellow	30.35%	25,259	7,665	26.56%	5,971	1,586
Research Associate	39.81%	12,747	5,074	36.89%	6,928	2,556
Total	32.43%	96,044	31,145	30.52%	34,368	10,490

Notes: Main data set refers to 238 universities and business schools globally. *All institutions* refers to all 1,383 institutions for which we have information on position and gender for the respective position. *Senior level* refers to full professors and associate professors; *Entry level* refers to assistant professors and lecturers.

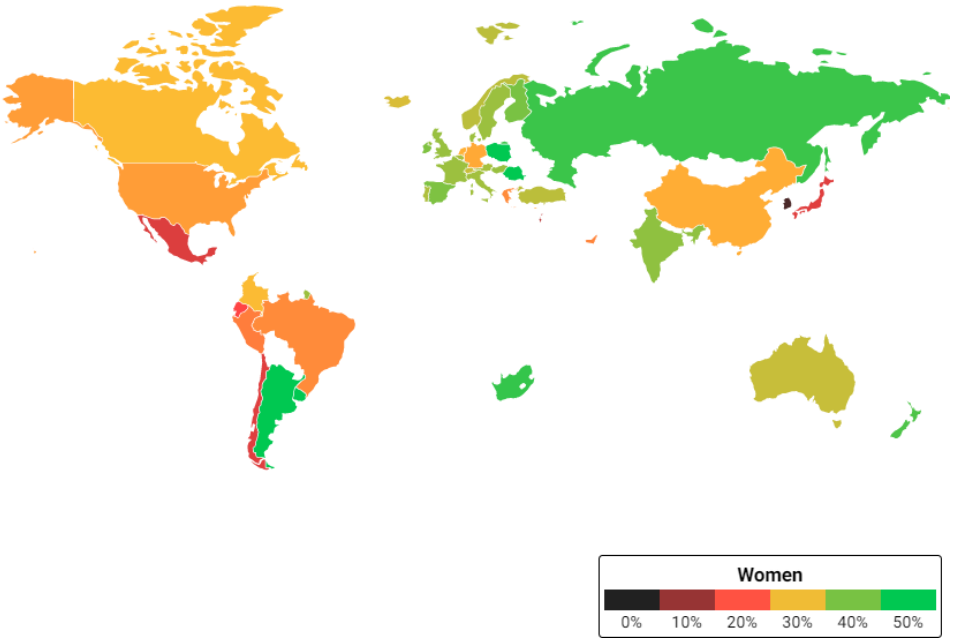
Table 4 unpacks the results on our main data set for world regions. In Australia and New Zealand, the share of women is around 35%, in Europe as a whole around 32% and in North America only 26%. Differences between the overall share of women in our full database is visualized in Figure 1 and the share of women in senior positions in Figure 2. They clearly show the heterogeneity across countries and regions: Europe seems to be more gender-equal compared to North America.

Table 4: Share of Women in Different World Regions (Main Data Set)

Region	All Levels	Positions	Senior Level	Positions
Europe	32.46%	18,215	27.27%	7,261
North America (U.S. and Canada)	26.53%	12,716	22.09%	4,956
Australia and New Zealand	35.31%	2,651	26.97%	801
Rest of the World	34.10%	786	22.78%	316

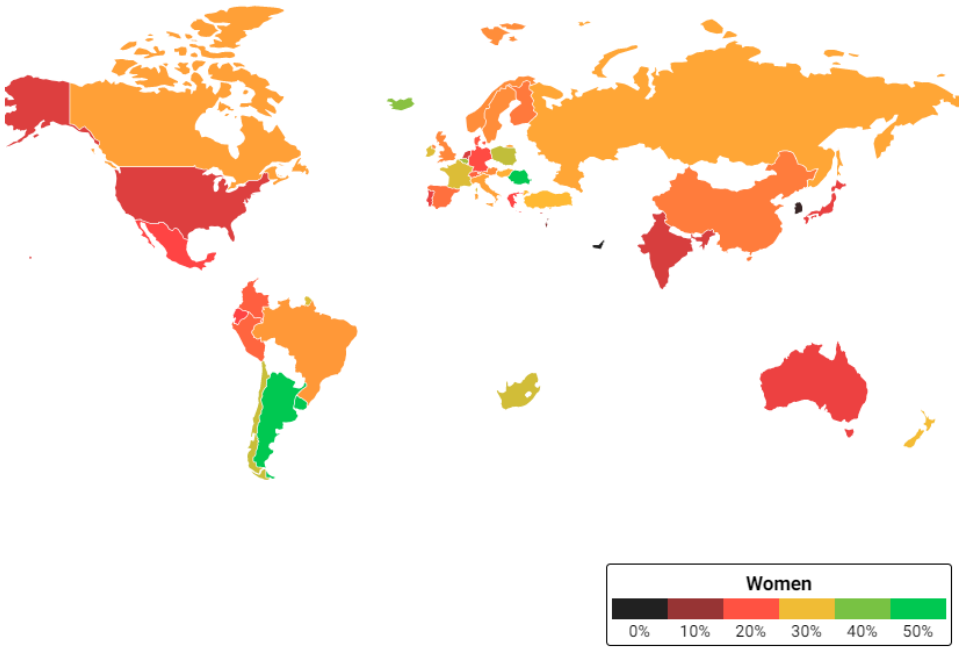
Notes: Main data set refers to 238 universities and business schools globally. *Senior level* refers to full professors and associate professors.

Figure 1: Proportion of Women in All Academic Positions (Full Database)



Notes: This figure plots information on all positions in the full database as of February 2021. Countries for which we have no observations in our database are left blank.

Figure 2: Proportion of Women, Full Professors Only (Full Database)



Notes: This figure plots information on all positions in the full database as of February 2021. Countries for which we have no observations in our database are left blank.

2.2 A Closer Look at Europe and the U.S

Comparing Europe with the U.S. in more detail (Table 5) shows the following picture: Overall, U.S.-American research institutions have almost 7 percentage points fewer women compared to Europe. Looking at all levels individually, the share of women is lower in the U.S. Especially at the senior level, where 27.3% are women in Europe, but only 20.3% in the U.S. These differences in means are also statistically significant. The fact that the more integrated market in the U.S. is associated with a smaller proportion of women in academic jobs in economics comes as a surprise and seems to contradict the famous argument made by Becker (2010) that competition should drive out discrimination.

While Europe and the U.S. have large differences at the aggregate level, the question is whether there are also differences *within* these two regions. For a classification of European countries into regions, we use the geographical sub-regions of Europe defined by the EuroVoc[7]of the publications office of the European Union. Table 6 shows that Southern Europe has about 35% women, Western Europe 31%, Northern Europe has 31% and Central and Eastern Europe 46% women. Romanian institutions have the highest share of women (more than 50% at the senior level), Spain, Portugal and Italy all have more than 30% and are therefore above the European average. France and Denmark

[7]We provide a table with the exact list of countries belonging to these regions in Table D in the appendix.

are close to 30%, Greece, Germany and the Netherlands are scoring particularly low. We provide country overviews over our full database and main data set in Table B and Table C in the appendix.

Table 5: Share of Women, Europe vs. U.S. (Main Data Set)

Level	Europe	Positions	Women	U.S.	Positions	Women
Senior Level	27.27%	7,261	1,980	20.29%	4,130	838
Entry Level	38.46%	3,864	1,486	32.09%	2,739	879
Research Fellow	30.92%	3,053	944	21.66%	2,202	477
Research Associate	37.21%	4,037	1,502	34.78%	2,194	763
Total	32.46%	18,215	5,912	26.25%	11,265	2,957

Notes: Main data set refers to 238 universities and business schools globally. Out of these institutions, there are 122 in Europe, and 82 in the U.S. *Senior Level* refers to full professors and associate professors; *Entry Level* refers to assistant professors and lecturers.

Comparing the U.S. with the other North American country well represented in our main data set, Canada, shows the following: The share of women among all positions is comparable (26% and 29% respectively), but Canadian institutions have an almost 11 percentage points higher share of women at the senior level than the U.S. (31% vs. 20%). The high percentage of women in senior positions at Canadian institutions is mostly driven by universities in the French-speaking region of Canada and particularly by one large institution.[8]

Following the definition of the U.S. Census Bureau[9], we split the U.S. into four regions (see Table 6). We do observe that the lowest percentages of women are in the West, a region where many of the top institutions are located. We also find that the share of women is particularly low at private universities in the U.S. (see Table K in the appendix). However, comparing the regions with the overall U.S. average shows that the differences in means are not significant (except for the South). Overall, the regions are quite comparable in terms of their share of women. Breaking down the U.S. further at the state-level yields similar results. The share of women on all positions, the senior level, and the entry level, is very similar across states (see Figure 6 in the appendix). This is a sharp contrast to the European market which is very heterogeneous region-wise and also country-wise. The U.S.-American market is more homogeneous compared to Europe.

[8]Removing this institution lowers the percentage to 25% for all positions and 26% for the senior level and hence makes Canada more similar to the U.S.

[9]We provide a table with an overview which states belong to which region in Table E in the appendix.

Table 6: Share of Women: Europe and North America (Main Data Set)

Region	All Levels	Positions	Senior Level	Positions
Southern Europe	34.66%	4,169	32.46%	2,098
Northern Europe	30.64%	2,794	26.02%	1,126
Western Europe	31.22%	10,593	23.71%	3,750
Central and Eastern Europe	46.13%	659	40.77%	287
U.S. - Northeast	26.05%	4,825	21.13%	1,813
U.S. - West	24.92%	2,167	18.40%	848
U.S. - Midwest	25.84%	2,879	18.10%	906
U.S. - South	29.84%	1,394	23.98%	563
Canada	28.74%	1,451	31.11%	826

2.3 Research Output of Institutions and Percentage of Women

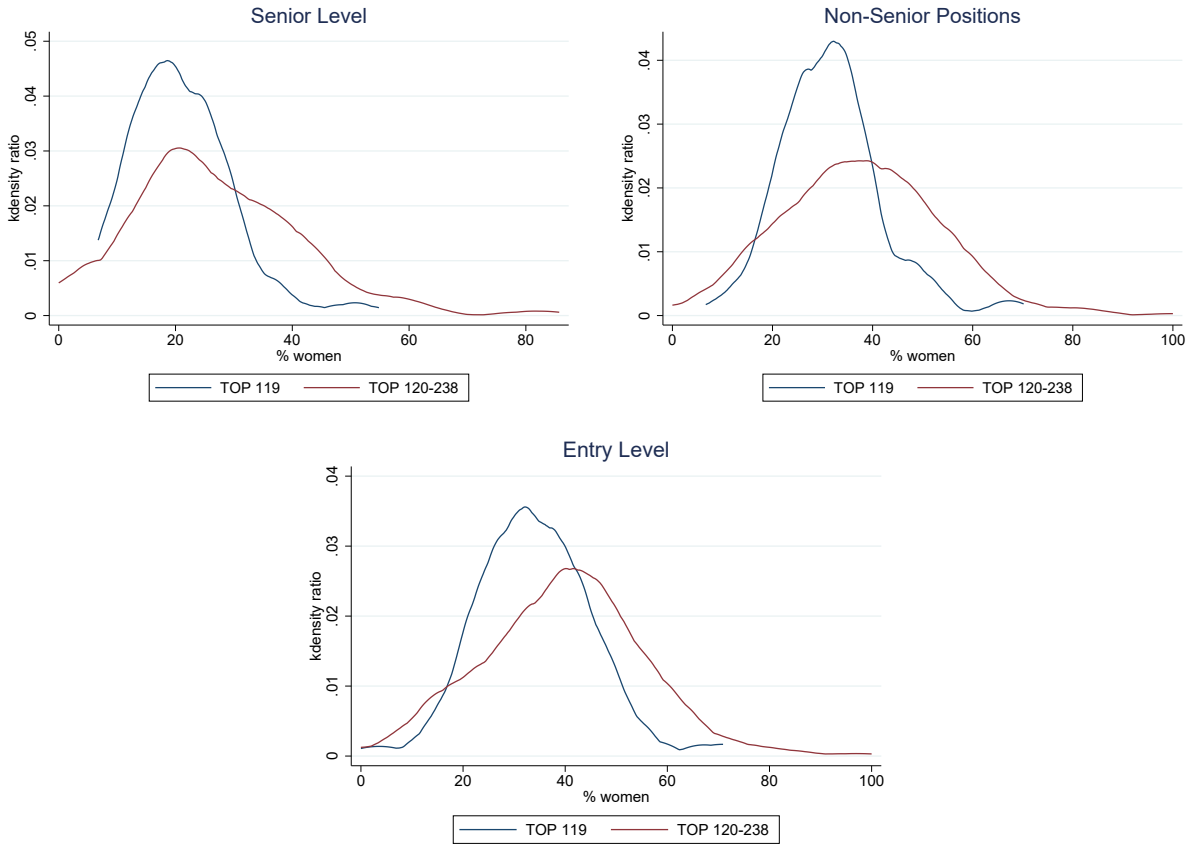
While there is substantial heterogeneity across countries and also across regions in Europe (or between Canada and the U.S. in North America), it is not evident that these differences are (entirely) driven by institutions, gender norms or policies. It might also be possible that the observed heterogeneity exists due to demand differences institutions might have on their faculty in terms of publication targets. While there is no reason to believe that women graduating with a Ph.D. would be less qualified than men, there is one common explanation for the leaky pipeline in terms of parenthood. Institutions where faculty is publishing more on average might have fewer women at the senior level due to them not achieving this high publication record owing to all the factors previously outlined. In line with this idea, we expect the following:

- *Higher-ranked research institutions should hire women at the entry level at the same rate as lower-ranked institutions.* ***(E1)***
- *Higher-ranked institutions should have a smaller proportion of women on the senior level.* ***(E2)***

To test these expectations, we use RePEc's ranking of institutions; Zimmermann (2013) describes the methodology how institutions' research output is measured and ranked using widely accepted journal rankings. In Table A in the appendix, we provide a list of the top 300 institutions.

First, we plot kernel density graphs for a sample split of these data in Figure 3. The first graph plots the senior level only, the second all non-senior positions, the third the entry level. The mode for the lower-ranked half is much higher than for the higher-ranked half at the senior level. Surprisingly, this also seems to be true for the entry level.

Figure 3: Kernel Density Estimates by Level (Main Data Set)



Notes: For institutions having at least five positions on each level.

Hence, it seems that there are significant differences between the top universities and business schools and the lower-ranked half. We explore this further by running simple regressions. We regress the share of women at all academic levels, the senior level and the entry level on the research ranking of an institution. "Senior level" refers to full professors and associate professors, "entry level" denotes assistant professors and lecturers. In order to have meaningful regressions, we exclude institutions that do not have at least five positions on each level.[10] Two remarks: (i) in the regressions, *Ranking* is reverse-coded, which means that the lower the rank number, the better-ranked the institution: Hence, the best rank is 1, and lower-ranked institutions have the ranks 2 up to 238.[11] (ii) the regression is purely descriptive: what we find is correlation, not causation.

[10]The restriction on the minimum number of researchers is necessary as standard errors increase when including institutions with a very low number of positions. Institutions with one person at the level, for example, can only have a female proportion of 0% and 100% and cause a high standard deviation.

[11]For the institutions in our main data set, we adjusted the original rankings and created new ranks from 1 to 238 following their order in the original top 300.

Table 7: Percentage of Women on Research Ranking (Main Data Set)

Variables % of Women	(1) All Levels	(2) All Levels	(3) Senior Level	(4) Senior Level	(5) Entry Level	(6) Entry Level
Ranking	0.0296***	0.0300***	0.0401***	0.0374***	0.0118	0.00638
	(0.00799)	(0.00746)	(0.00935)	(0.00470)	(0.0128)	(0.0125)
Constant	25.14***	25.09***	18.05***	18.37***	33.36***	33.99***
	(1.056)	(0.895)	(1.083)	(0.560)	(1.585)	(1.468)
Observations	235	235	231	231	201	201
Individual Positions	34,368	34,368	13,331	13,331	8,096	8,096
Adjusted R^2	0.042	0.067	0.073	0.095	-0.001	-0.004
Country FE		33		32		28

Notes: The observations number denotes the number of institutions in our main data set (i.e, 238 universities and business schools globally). At least five identified positions per institution. *Senior Level* refers to full professors and associate professors; *Entry Level* refers to assistant professors and lecturers. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

The positive coefficient on *Ranking* implies that an institution with a lower rank number (and, thus, better-ranked) has a lower share of female researchers compared to a higher-ranked one. In particular, an institution with say rank 1 has an about 4 percentage points lower share of women at the senior level compared to an institution ranked 100 places lower (in this case, rank 101). It is also noteworthy that under the inclusion of 28 to 33 country fixed effects[12], the effects remain stable. Our second expectation – higher-ranked research institutions have fewer women in senior positions – is therefore met by the data.

Our first expectation, however, does not seem to be confirmed. Notice first the positive coefficient for the entry level in Table 7 which, although not statistically significant, seems to indicate that higher-ranked institutions also have fewer women at the entry level.[13] Actually, when conditioning on the largest institutions having at least 20 positions at the junior level, the entry-level effect is stable (around 3 percentage points) and becomes statistically significant.[14] We will explore this result further below.

[12]The number of country fixed effects changes throughout the specifications as not all institutions (hence, not all represented countries) in our sample have at least five positions at the respective level.

[13]The negative adjusted R^2s for the entry level indicate that this does not explain much in terms of the relation between the percentage of women among junior faculty and an institution's ranking. Large heterogeneity across countries might also play a role here since there are many outliers (e.g., institutions having a very high number of women, for instance in Romania). Moreover, the effect becomes significant for the entire top 400 research institutions (see Table H in the appendix) and the top 300 European research institutions (see Table I in the appendix)

[14]Our results (senior level and all academic levels) remain stable when removing the top 25 institutions, the lowest 20 institutions, taking the entire population, imposing at least 3 identified positions for the respective level and persist when imposing at least 20 identified positions.

2.4 Ranking Effect: Europe vs. U.S.

European institutions score higher in terms of gender equality than the U.S. Comparing the estimates for the senior level shows that an institution ranked 100 places higher has about 3 percentage points fewer women in Europe (column 4 in Table 8) – interestingly, it increases to almost 5 percentage points in the U.S. (column 4 in Table 9). We include country fixed effects for Europe and state fixed effects in the U.S. in the regressions. Higher-ranked institutions have fewer women in all academic positions (and especially at the senior level), and the point estimates are higher in the U.S.

Table 8: Percentage of Women on Research Ranking (Europe Only)

Variables % of Women	(1) All Levels	(2) All Levels	(3) Senior Level	(4) Senior Level	(5) Entry Level	(6) Entry Level
Ranking	0.0149	0.0184*	0.0303**	0.0304***	-0.00218	-0.0107
	(0.0126)	(0.00919)	(0.0150)	(0.00753)	(0.0191)	(0.0176)
Constant	29.02***	28.57***	20.78***	20.77***	37.35***	38.45***
	(1.782)	(1.172)	(1.960)	(0.959)	(2.733)	(2.262)
Observations	119	119	117	117	95	95
Individual Positions	18,215	18,215	7,261	7,261	3,833	3,833
Adjusted R^2	0.001	0.011	0.025	0.046	-0.011	-0.008
Country FE		20		20		18

Notes: The observations number denotes the number of European institutions within our main data set (i.e., 238 universities and business schools globally). At least five identified positions per institution. *Senior Level* refers to full professors and associate professors; *Entry Level* refers to assistant professors and lecturers. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 9: Percentage of Women on Research Ranking (U.S. Only)

Variables % of Women	(1) All Levels	(2) All Levels	(3) Senior Level	(4) Senior Level	(5) Entry Level	(6) Entry Level
Ranking	0.0419***	0.0420***	0.0395***	0.0499***	0.0242	0.0271***
	(0.00851)	(0.00975)	(0.0119)	(0.0159)	(0.0184)	(0.00781)
Constant	21.17***	21.16***	15.78***	14.75***	29.66***	29.37***
	(1.032)	(0.975)	(1.189)	(1.591)	(1.863)	(0.780)
Observations	82	82	82	82	80	80
Individual Positions	11,265	11,265	4,130	4,130	2,735	2,735
Adjusted R^2	0.193	0.213	0.129	0.221	0.010	0.026
State FE		27		27		26

Notes: The observations number denotes the number of U.S.-American institutions within our main data set (i.e., 238 universities and business schools globally). In the specification with state fixed effects, we control for states in the U.S. At least five identified positions per institution. *Senior Level* refers to full professors and associate professors; *Entry Level* refers to assistant professors and lecturers. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

At the junior level in the U.S., the results in column 6 of Table 9 are highly significant indicating a 3 percentage points decrease in the share of women if an institution is ranked 100 places higher. The junior entry-level effect does not occur in Europe[15] as retrieved from column 6 in Table 8.

The results are also robust to more restrictive specifications. They remain stable when removing the top 25 and top 15 institutions, conditioning on at least 20 identified positions and also when not imposing any restrictions on the minimum number of observations of positions.

It seems to be the case that the top institutions in the U.S. put the higher standards on their female faculty not only at the senior but already at the entry level. This might be owing to cultural differences, also in terms of hiring and the academic job market. Some micro evidence points towards disadvantages in women's mobility patterns. As shown by Hilmer and Hilmer (2010), women are in fact less likely than men to move from a non-top 30 department to a top 30 one when they have not completed their Ph.D at such a top university. Hence, women's mobility is more downward oriented than upward.

2.5 Is It the U.S. or Is It Excellence?

We have established that the ranking effects are stronger in the U.S. compared to Europe. This raises the question whether these results are reflecting the fact that some of the best institutions are in the U.S. (and not cultural or regional differences). Notice first that the European institutions are well represented among the top universities (Table 10).

Table 10: Number of Institutions Among Top Universities and Business Schools

Category	Institutions in Europe	Institutions in the U.S.
Top 50	16	30
Top 100	46	43
Top 150	72	60
Top 200	104	70
Top 238	122	82

Notes: Our *main data set* consists of 238 universities and business schools globally.

[15]For the top 300 European institutions we investigated in our study on "Women in European Economics" (Auriol et al., 2020), we find a different point estimate at the entry level which is closer to the one in the U.S. However, this is not comparable since the top 300 European institutions clearly differ from the top 112 European institutions in the world's top 300. Therefore, we believe that the effects found here better represent the situation, since many of the lower-ranked top 300 European institutions do not appear in the global 300 after all, and are therefore very different compared to the European ones which are indeed also part in the global 300.

To explore this further, we run pooled regressions in which we control for regions (Europe or U.S.) and interact regions with the research ranking. Table 11 shows that the ranking coefficient remains significant when controlling for the region. On average, institutions in the U.S. have 5 percentage points fewer women on all levels (column 1), 4 percentage points at the senior level (column 3), and 5 percentage points at the entry level (column 5) compared to institutions in Europe. In columns 2, 4 and 6 we estimate an individual ranking slope for Europe and for the U.S.

The coefficient for the region remains significant when including interaction effects between the ranking and the region. For "all academic levels" and the entry level, the coefficient increases in size, implying that the U.S. have on average almost 8 percentage points fewer women in these positions in comparison to Europe. For the senior level, however, the increase is, at 5 percent, not as large. The interaction effects in column 4 show that in the U.S., an institution ranked 100 places higher than another one in the U.S. has 4 percentage points fewer women on the senior level, while in Europe, the figure is 3 percentage points. When comparing the percentage of women in Europe and in the U.S. with respect to institutions' ranking, not only the U.S. has on average fewer women at all levels, but also the gender gap is widening more in the U.S. than in Europe with ranking (i.e., the slope is steeper). From these observations we infer that, indeed, regional effects play an important role, rather than the research ranking of an institution per se.

Table 11: Percentage of Women on Research Ranking and Regions (Main Data Set)

Variables % of Women	(1) All Levels	(2) All Levels	(3) Senior Level	(4) Senior Level	(5) Entry Level	(6) Entry Level
Ranking	0.0275***		0.0346***		0.0117	
	(0.0079)		(0.00976)		(0.0133)	
U.S.	-4.797***	-7.844***	-3.957***	-4.997*	-4.653**	-7.694*
	(1.141)	(2.06)	(1.278)	(2.294)	(2.054)	(3.309)
Rank x U.S.		0.0419***		0.0395***		0.0242
		(0.00849)		(0.0119)		(0.0184)
Rank x Europe		0.0149		0.0303**		-0.00218
		(0.0126)		(0.0151)		(0.0191)
Constant	27.41***	29.02***	20.23***	20.78***	35.56***	37.35***
	(1.301)	(1.785)	(1.441)	(1.963)	(2.189)	(2.736)
Observations	201	201	199	199	175	175
Individual Positions	29,480	29,480	11,391	11,391	6,568	6,568
Adjusted R^2	0.122	0.128	0.108	0.105	0.027	0.026

Notes: The observations number denotes the number of institutions in our main data set (i.e, 238 universities and business schools globally). At least five identified positions per institution. For the regions, Europe is the omitted category. *Senior Level* refers to full professors and associate professors; *Entry Level* refers to assistant professors and lecturers. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

2.6 Central Banks and Organizations

Women could leave universities and business schools and instead pursue a career at a central bank or international organization. Therefore, we investigate the gender composition at institutions excluded from our main data set (central banks, federal banks, international organizations). At these institutions, there does not exist a tenure-track system (and aspects such as publication records should not be as important). Table J in the appendix provides an overview over the gender composition on different levels. Interestingly, the percentages of women across different hierarchy levels in central banks and federal banks also point towards a leaky pipeline. Literature also documents differences in career progression between men and women in central banking (Hospido et al., 2020). Moreover, Charléty et al. (2017) find that women have a higher likelihood of being appointed to the board of a central bank when the one leaving is a women.

3 Discussion

Barriers to Entry at the Junior Level

Besides regional differences, we also observe that the share of women differs between the higher-ranked and lower-ranked institutions in terms of research output. What could be possible dimensions on which these institutions differ besides their structure or research ranking? It could be the case that the ranking of an institution also influences hiring practices and recruitment policies.

This implies that the crucial stage is not only the attrition of women prior to reaching senior positions but already earlier at the matching process of entry-level candidates to institutions after completing their Ph.D. Thus, it may be relevant to think deeper about the hiring process. Considering Europe, only the best institutions hire through the international job market,[16] which uses very specific and, arguably, stressful mechanisms that may keep women from applying or obstruct their performance. The lower-ranked institutions hire through different mechanisms, for instance, nationwide competitions like in France, referral-based or internal hiring. Furthermore, the fact that the lower percentages of women on the entry level seems to be driven by the U.S. (and even stronger for private institutions there) could be an indicator of a sorting effect — women applying and succeeding in less good places.

Women might refrain from applying for the best academic positions due to the lack of

[16]EEA has organized its own job market, which, to date, has attracted less than one third of women, despite its efforts in coaching and monitoring job candidates.

confidence or encouragement by placement officers and their advisors. Top research institutions, which are likely to put higher standards on the applicants in terms of letters of recommendations, might inadvertently encourage (self-)selection of male researchers, perpetuating discrimination and prejudices against women. In fact, letters of recommendation in the academic hiring process use different adjectives to describe men and women, and those used to describe women are viewed more negatively in hiring decisions (Madera et al., 2009; Schmader et al., 2007). To find out whether this is the case in our profession, we would need data from the hiring committees of as many research institutions as possible, a hard but not impossible task.

Cohorts Effects Hypothesis

A common argument to explain the low number of tenured female faculty in academia builds on the fact that the number of female academic job market entrants was rather low over many decades. Then, the previous (mostly male) entrants are still occupying the professorships. This argument could imply that interventions are not necessary since the observed inequality will fade away automatically as time progresses and cohorts of women get promoted. We scrutinized that argument; performing back-of-the-envelope calculations (provided in Appendix A) on the necessary ratio of women with Ph.D.s in the past such that the cohort explanation were able to rationalize the current women's ratio for professors. This number would be much lower (around 10%) than the actual number of Ph.D graduates (24%). Hence, the cohort explanation is not able to explain the low share of women in the economics profession. Therefore, the leaky pipeline hypothesis has appeal, consistent with our data.

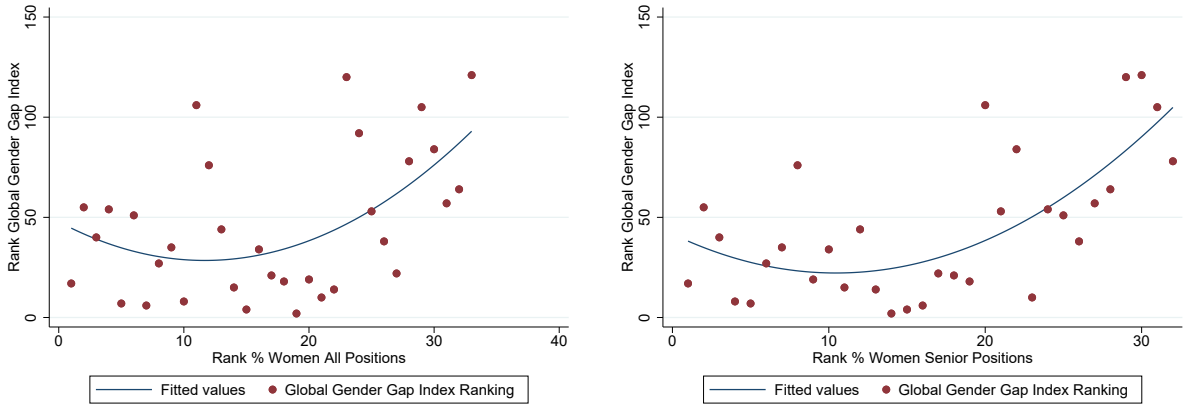
Gender Equality Indices and Representation of Women

Across all countries, the proportion of female researchers on all levels is much higher than at the senior level. However, we also observe large heterogeneity: Europe overall seems to be more gender-equal than the U.S. Within Europe, the Nordic countries and France score much higher on gender equality than, for instance, Germany and the Netherlands. Therefore, the question arises what could be possible explanations for these observations?

The observed heterogeneity is likely to correlate with broader measures of gender equality in the respective country. For this purpose, we use the "Global Gender Gap Index" by the World Economic Forum which contains information on 153 countries. We ranked all countries in our main data set in terms of (i) the share of women across all academic positions and (ii) the share of women at the senior level (full and associate professors)

and correlate it with the ranking in the Global Gender Gap Report 2020[17]. We find a 41% correlation between the index and the ranking on the share of women on all positions, and a 58% correlation between the index and the ranking on the share of women at the senior level (as visualized in Figure 4).

Figure 4: Correlation between Gender Gap Index and Share of Women



Combining these findings with results from the latest waves of the "World Value Survey"[18] shows deeply rooted perceptions of gender roles and gender equality nowadays. For instance, way below 5 percent in Sweden, Norway, Finland and Denmark (strongly) agree with the statement "University is more important for a boy than for a girl". Looking at other countries, this also only accounts for 6 percent in France, around 4 percent in Germany and the United Kingdom, but almost 10 percent in the U.S.[19] From these observations, we could conclude that the different share of women, in particular in senior positions, reflects general heterogeneity and values in these countries.

In many countries, there is rising scholarly attention to the status of women in the economics profession. We hope our data help to advance the debate about women in economics as they provide further evidence on the existence of a leaky pipeline on a global scale. The underrepresentation of women could be driven by different factors: Partly, owing to historical and institutional reasons.[20] Partly, other factors, such as recruitment

[17] https://www.weforum.org/reports/gender-gap-2020-report-100-years-pay-equality. We provide an overview over these rankings in Table G in the appendix.

[18] https://www.worldvaluessurvey.org/

[19] It should be noted that there are some outliers. In particular, Eastern European countries such as Romania or Russia have a high share of women in their research institutions but do not score high in the World Value Survey. This is owing to the history of these countries, since the "World Value Survey" reveals that around 28 percent in Romania and almost 60 percent in Russia (strongly) agree on the statement that men make better political leaders than women, which does not point towards a high perception of gender equality. Therefore, although these countries have high shares of women, it does not reflect gender equality but may rather show the opposite with the high share of women owing to the historical past of the country, where the economics field was regarded as a minor subject in former soviet countries.

[20] The formerly socialist countries, for instance, score particularly high, possibly for historical reasons,

policies related to the ranking of the research institution, which we measure through research output from RePEc. Besides deeply rooted cultural aspects, experiences along the career path, in the hiring process or different perceptions on own possibilities of success shaped by experiences of others might play an important role.

It is undoubtful that many institutions, including many economic associations[21] have taken explicit measures to promote the careers of female economists, undertaking efforts to reach more gender balanced hiring and promotion decisions. We are not yet in the position to judge all these alternatives comprehensively and would hope that by collecting more data, potentially through job market organizations to better understand hiring procedures, could help evaluate these measures. Another possibility is that women do apply but do not get selected by the good research institutions or drop out quickly after being hired, and potentially move to less good institutions, which again, could be tested with such data. Currently, there is unfortunately evidence that seemingly female-friendly policies may not result in desired outcomes (Antecol et al., 2018). Thus, we may need to continue analyzing and looking carefully at more micro-level data to get the full picture. Since our web-scraping algorithm collects data on these institutions on a daily basis, this will enable us to build a panel data set in the long term, which will allow us to track progress over time. It thereby helps to identify possible reasons for female underrepresentation and how the status of women in the economics profession will evolve.

4 Method and Data

4.1 Web-Scraping Algorithm

The data set and the underlying technicalities are described in detail in Friebel and Wilhelm (2019). Our algorithm daily monitors URLs of institutions contributing to research in economics. We use a list of institutions collected by RePEc, which are mostly universities, but also business schools, central banks, governmental or multi-national institutions. After manually identifying the respective institutions' websites that post information about affiliated researchers, the algorithm then identifies the individuals listed

economics being a rather "female" occupation during socialist times

[21] There are several committees of economic associations around the globe focusing on the representation of women and minorities in the economics profession and neighboring disciplines such as finance: The Academic Female Finance Committee (AFFECT) of the American Finance Association, the Committee on the Status of Minority Groups in the Economics Profession (CSMGEP) of the American Economic Association (AEA), CSWEP (inaugurated by the AEA in 1972), the Canadian Women Economists Network/Réseau de Femmes Économistes (CWEN/RFÉ), the WinE Committee of the European Economic Association (EEA), the Women's Committee of the Royal Economic Society in Great Britain and many more. These committees aim on documenting the status of women in the profession and offer networking events or mentoring projects to fight the underrepresentation of women in tenured positions.

on these websites and, where available, records the individuals' position titles. Based on the information found, we classify gender in two categories (female, male) via first names and a gender identification software analyzing pictures of the individuals[22].

After collecting the data, we carefully separated academic from non-academic staff. Since our sample contains a large variety of countries, the titles and position descriptions the individuals have differ substantially, not only between countries, but also within countries. To make positions comparable, we classified and translated our obtained titles (more than 1,000) into a general hierarchy of academic positions: (Full) Professor, Associate Professor, Assistant Professor, Lecturer, Research Fellow, Research Associate. Since this classification resembles the academic title structure in the U.S. or Canada, for the North American institutions this classification is relatively straightforward. However, for other regions of the world, especially Europe, it is quite difficult: First, owing to different languages; second, to many different titles in different countries and even within countries between different institutions. These distinctions are sometimes blurred, which gives rise to some ambiguity. A few examples may be useful.

The position *Maître de Conférences* in France is a tenured position at the entry level, hence comparable to an assistant professor or lecturer. Some researchers, however, translate the title into associate professor. In turn, lecturers can be members of faculty or be adjunct faculty. Research fellows represent researchers who are full-time active, for instance in the French CNRS, or represent emeritus or part-time researchers. Further, while associate professors are very common in some regions of the world, for instance the U.S., this title is not very prevalent in some European countries, for instance Germany.

To circumvent these issues and enhance comparability, in our data analyses, we group assistant professors and lecturers together as "entry level". Full professors and associate professors are grouped as "senior level". Research associates are at the beginning of their academic career, the largest proportion on this level are Ph.D. students. Research fellows, a very broad category, are for instance honorary, adjunct or visiting faculty and emeriti as well as professors of practice. Post-doctoral researchers are also categorized as research fellows since in some cases their post-doctoral appointment is aiming at continuing the academic career path while in other cases it is not directly linked with this goal. The translation of the multitude of different titles into our position categories almost inevitably leads to imperfect compatibility, but we have done our best to bring down measurement errors wherever possible.

Finally, and importantly, for the top 300 institutions, we contacted the persons responsible for managing the institutions and websites to verify the results of this work and provide us

[22]This is done provided that the uncertainty given these two pieces of information is sufficiently low (Friebel and Wilhelm, 2019). Otherwise, we consider the person's gender as unidentified.

with feedback on positions and gender, and also asked them to update our list concerning people who entered and those who left. They received an easy-to-use web-based list of the positions and persons we identified. We monitored visits of these lists and sent reminders.[23] Hence, while the data may be subject to some remaining measurement error, we are confident that the big picture is quite accurate.

Importantly, we rely on RePEc's definition of "institutions contributing to the field of economics". Therefore, in the data set, we do not only have institutions that primarily contribute to economics but also to neighboring research areas like finance, management, marketing or psychology. While this leads to some measurement error, the standard classification approach using economics departments only would exclude a large group of economists as previously described. Since this also includes institutions which are not research-oriented and there is large heterogeneity between the institutions, we focus on the top 300 institutions in our analysis. We determine the top 300 global institutions in terms of research output as measured by RePEc as of January 2020[24].

4.2 Description of Our Data Set

Our entire database consisting of all positions collected by the algorithm sums up to 186,243 individual positions in 2,032 institutions as of December 21, 2020. This might include non-academic staff or individuals for which information on gender and/or position is missing. Hence, for our "full database" we only include individuals for which we have information on both, gender and position, which are 96,044 individuals in 1,383 institutions. Out of these positions, we have data on the top 300 research institutions. After excluding research departments of central banks or federal banks as well as research networks and organizations, such as NBER or CEPR, our "main data set" then consists of 238 universities and business schools

[23] A total of 166 institutions visited the website at least once, carrying out a total of 838 position removal requests, 448 requests to correct the gender the algorithm identified and 1,941 requests to change the hierarchical definition of positions we found. While in particular the last number looks substantial, it is mainly driven by a few institutions that communicated a large number of corrected positions (maximum reported number 165), which were not present on their websites (74 institutions reported changes in positions, with an average of 6.6 remarks per institution and a median of 16.5).

[24] Because the list is updated monthly, the ranking of institutions and whether they are within the top 300 or not are subject to change. Therefore, we chose the list as of January 2020 and fixed it as we also contacted the departments to confirm our gathered data. For consistency, we also checked the list as of March 30, 2020. Roughly 10 institutions changed (some became part of the top 300 while others are no longer in it), mostly institutions having the lower ranks, which shows that our picture of top research institutions is quite accurate.

References

Allgood, S., L. Badgett, A. Bayer, M. Betrand, S. E. Black, N. Bloom, and L. D. Cook (2019): "AEA Professional Climate Survey: Final Report," *Report, American Economic Association, Committee on Equity, Diversity and Professional Conduct.*

Antecol, H., K. Bedard, and J. Stearns (2018): "Equal but Inequitable: Who Benefits from Gender-Neutral Tenure Clock Stopping Policies?" *American Economic Review*, 108, 2420–2441.

Auriol, E., G. Friebel, and S. Wilhelm (2020): "Women in European economics," in *Women in Economics*, ed. by S. Lundberg, London: CEPR Press, 26–30.

Azmat, G., V. Cuñat, and E. Henry (2020): "Gender Promotion Gaps: Career Aspirations and Workplace Discrimination," *CEPR Discussion Paper No. DP14311.*

Azmat, G. and R. Ferrer (2017): "Gender Gaps in Performance: Evidence from Young Lawyers," *Journal of Political Economy*, 125, 1306–1355.

Bagues, M., M. Sylos-Labini, and N. Zinovyeva (2017): "Does the Gender Composition of Scientific Committees Matter?" *American Economic Review*, 107, 1207–1238.

Bandiera, O. (2016): "The Gender and Ethnicity Earnings Gap at LSE," *Tech. rep. September. London School of Economics.*

Becker, G. S. (2010): *The Economics of Discrimination*, University of Chicago Press.

Bettinger, E. P. and B. T. Long (2005): "Do faculty serve as role models? The impact of instructor gender on female students," *American Economic Review*, 95, 152–157.

Blackaby, D., A. L. Booth, and J. Frank (2005): "Outside Offers and the Gender Pay Gap: Empirical Evidence from the UK Academic Labour Market," *The Economic Journal*, 115, F81–F107.

Blau, F. D., J. M. Currie, R. T. Croson, and D. K. Ginther (2010): "Can Mentoring Help Female Assistant Professors? Interim Results From a Randomized Trial," *American Economic Review*, 100, 348–342.

Boschini, A. and A. Sjögren (2007): "Is Team Formation Gender Neutral? Evidence from Coauthorship Patterns," *Journal of Labor Economics*, 25, 325–365.

Broder, I. E. (1993): "Professional Achievements and Gender Differences Among Academic Economists," *Economic Inquiry*, 31, 116–127.

Buckles, K. (2019): "Fixing the Leaky Pipeline: Strategies for Making Economics Work for Women at Every Stage," *Journal of Economic Perspectives*, 33, 43–60.

Card, D., S. DellaVigna, P. Funk, and N. Iriberri (2020): "Are Referees and Editors in Economics Gender Neutral?" *The Quarterly Journal of Economics*, 135, 269–327.

Ceci, S. J., D. K. Ginther, S. Khan, and W. M. Williams (2014): "Women in Academic Science: A Changing Landscape," *Psychological Science in the Public Interest*, 15, 75–141.

Ceci, S. J. and W. M. Williams (2015a): "National hiring experiments reveal 2:1 faculty preference for women on STEM tenure track," *Proceedings of the National Academy of Sciences*, 112, 5360–5365.

——— (2015b): "Women have substantial advantage in STEM faculty hiring, except when competing against more-accomplished men," *Frontiers in Psychology*, 6, 1532.

Charléty, P., D. Romelli, and E. Santacreu-Vasut (2017): "Appointments to central bank boards: Does gender matter?" *Economics Letters*, 155, 59–61.

Corsi, M., C. D'Ippoliti, and G. Zacchia (2017): "Gendered careers: Women economists in Italy," *Working Papers CEB 17-003, ULB – Universite Libre de Bruxelles*.

CSWEP (2017): "The 2017 Report on the Status of Women in the Economics Profession," *Annual Report*.

——— (2019): "The 2019 Report on the Status of Women in the Economics Profession," *Annual Report*.

Dupas, P., A. Sasser Modestino, M. Niederle, J. Wolfers, and The Seminar Dynamics Collective (2021): "Gender and the Dynamics of Economics Seminars," *NBER Working Paper 28494*.

Friebel, G., N. Fuchs-Schündeln, and A. Weinberger (2021): "Statusbericht zum Frauenanteil in der Volkswirtschaftslehre an deutschen Universitäten," *Perspektiven der Wirtschaftspolitik*, 22, 142–155.

Friebel, G. and S. Wilhelm (2019): "The Women in European Economics Monitoring Tool: Technical Description," *Working Paper. Available at https://women-economics.com*.

Gamage, D. D. K., A. Sevilla, and S. Smith (2021): "Women in economics: a UK perspective," *Oxford Review of Economic Policy*, 36, 962–982.

Ginther, D. and S. Khan (2014): "Women in Economics: Moving Up or Falling Off the Academic Career Ladder?" *Journal of Economic Perspectives*, 18, 193–213.

Ginther, D. K., J. M. Currie, F. D. Blau, and R. T. A. Croson (2020): "Can Mentoring Help Female Assistant Professors in Economics? An Evaluation by Randomized Trial," *AEA Papers and Proceedings*, 110, 205–209.

Grossbard, S., T. Yilmazer, and L. Zhang (2021): "The gender gap in citations of articles published in two demographic economics journals," *Review of Economics of the Household*, 19, 677–697.

Hale, G. and T. Regev (2011): "Sex Ratios at Top PhD Programs in Economics," *Working Paper*.

Hengel, E. (2017): "Publishing while Female. Are women held to higher standards? Evidence from peer review," *Cambridge Working Papers Economics (CWPE) 1753*.

Hilmer, C. and M. Hilmer (2007): "Women Helping Women, Men Helping Women? Same-Gender Mentoring, Initial Job Placements, and Early Career Publishing Success for Economics PhDs," *American Economic Review*, 97, 422–426.

——— (2010): "Are There Gender Differences in the Job Mobility Patterns of Academic Economists?" *American Economic Review*, 100, 353–357.

Hipp, L. (2020): "Do Hiring Practices Penalize Women and Benefit Men for Having Children? Experimental Evidence from Germany," *European Sociological Review*, 36, 250–264.

Hospido, L., L. Laeven, and A. Lamo (2020): "The Gender Promotion Gap: Evidence from Central Banking," *The Review of Economics and Statistics*.

Hospido, L. and C. Sanz (2021): "Gender Gaps in the Evaluation of Research: Evidence from Submissions to Economics Conferences," *Oxford Bulletin of Economics and Statistics*, 83, 590–618.

Juraqulova, Z. H., J. J. McCluskey, and R. C. Mittelhammer (2019): "Work–life policies and female faculty representation in US doctoral-granting economics departments," *Industrial Relations Journal*, 50, 168–196.

Kahn, S. B. (1995): "Women in the Economics Profession," *Journal of Economic Perspectives*, 193–206.

Krawczyk, M. and M. Smyk (2016): "Author's Gender Affects Rating of Academic Articles: Evidence from an Incentivized, Deception-free Laboratory Experiment," *European Economic Review*, 326–335.

Lundberg, S. and J. Stearns (2019): "Women in Economics: Stalled Progress," *Journal of Economic Perspectives*, 33, 3–22.

MacNell, L., A. Driscoll, and A. N. Hunt (2015): "What's in a Name: Exposing Gender Bias in Student Ratings of Teaching," *Innovative Higher Education*, 40, 291–303.

Madera, J. M., M. R. Hebl, and R. C. Martin (2009): "Gender and Letters of Recommendation for Academia: Agentic and Communal Differences," *Journal of Applied Psychology*, 94, 1591–1599.

May, A. M., M. G. McGarvey, and R. Whaples (2013): "Are Disagreements Among Male and Female Economists Marginal at Best? A Survey of AEA Members and Their Views On Economics and Economic Policy," *Contemporary Economic Policy*, 32, 111–132.

McDowell, John, M., L. D. Singell, and M. Stater (2006): "Two to Tango? Gender Differences in the Decisions to Publish and Coauthor," *Economic Inquiry*, 44, 153–168.

McDowell, John, M., L. D. Singell, and J. P. Ziliak (1999): "Cracks in the Glass Ceiling: Gender and Promotion in the Economics Profession," *American Economic Review*, 89, 392–396.

——— (2001): "Gender and Promotion in the Economics Profession," *Industrial and Labor Relations Review*, 54, 224–244.

Milkman, K. L., M. Akinola, and D. Chugh (2015): "What happens before? A field experiment exploring how pay and representation differentially shape bias on the pathway into organizations," *Journal of Applied Psychology*, 100, 1678–1712.

Persson, I. (2003): "Genre et économie en Suède," in *Le travail du genre: les sciences sociales du travail à l'épreuve des différences de sexe*, ed. by J. Laufer, C. Marry, and M. Maruani, Paris: Éditions La Decouverte, 259–273.

Rask, K. N. and E. M. Bailey (2002): "Are Faculty Role Models? Evidence from Major Choice in an Undergraduate Institution," *Journal of Economic Education*, 33, 99–124.

Reuben, E., P. Sapienza, and L. Zingales (2014): "How stereotypes impair women's careers in science," *Proceedings of the National Academy of Sciences Mar 2014*, 111, 4403–4408.

Rivera, L. A. (2017): "When Two Bodies Are (Not) a Problem: Gender and Relationship Status Discrimination in Academic Hiring," *American Sociological Review*, 82, 1111—-1138.

Sarsons, H. (2017): "Recognition for Group Work: Gender Differences in Academia," *American Economic Review*, 107, 141–145.

Schmader, T., J. Whitehead, and V. H. Wysocki (2007): "A Linguistic Comparison of Letters of Recommendation for Male and Female Chemistry and Biochemistry Job Applicants," *Sex Roles*, 57, 509–514.

Shinall, J. B. (2018): "Dealing with Sexual Harassment," *CSWEP News*.

Ward, M. (2001): "The gender salary gap in British academia," *Journal of Applied Economics*, 33, 1669–1681.

Wu, A. H. (2018): "Gendered Language on the Economics Job Market Rumors Forum," *AEA Papers and Proceedings*, 108, 175–179.

Zimmermann, C. (2013): "Academic Rankings with RePEc," *Economics*, 1, 249–280.

Appendix

A Calculations Cohort Effects Hypothesis

A common argument to explain the current low number of tenured female faculty in academia builds on the fact that the number of female academic job market entrants was rather low over many decades. Then, the previous (mostly male) entrants are still occupying the professorships. This argument could imply that interventions are not necessary since the observed inequality will fade automatically as time progresses and cohorts of women get promoted.

Using the data from Lundberg and Stearns (2019), one can carry out some back-of-the-envelope calculations to scrutinize this argument. In their study, they observe a stable women's ratio of around 28% for Ph.D. graduates since 1993 in the U.S. Furthermore, we observe 22% female professors in European institutions in 2020.

We can calculate the necessary ratio of entering women between 1979 and 1993 (for which we do not have comprehensive data for the number of Ph.D. graduates) such that the cohort explanation was able to rationalize the current women's ratio for professors. Assume the following:

1. Ph.D. graduates equally enter the academic market at the age of 25 years.
2. It takes at least 5 years to become full professor (age of 30 years).
3. Tenured positions are kept for 35 years until retirement at the age of 65 years.
4. The number of staffed positions is constant over time.
5. There are as many female market entrants as on the U.S. job market.

Figure 5 visualizes the relevant years to explain the ratios with persistent cohort effects. The oldest observed person in our data set became full professor in 1984 and graduated in 1979. The youngest full professor in our data set graduated in 2014. On average 28% of Ph.D. graduates between 1993 and 2014 that had become full professors between 1998 and 2019 were female. If institutions equally staffed full professorships, the necessary gender distribution of Ph.D. graduates to explain the current share of women would have been on average 10.2% between 1984 and 1998. This number is much lower than the reported shares of women in the literature. For instance, Hale and Regev (2011) collected information on female graduates for ten U.S. institutions and determine a share of women of 23.4% for the period between 1988 and 1993.

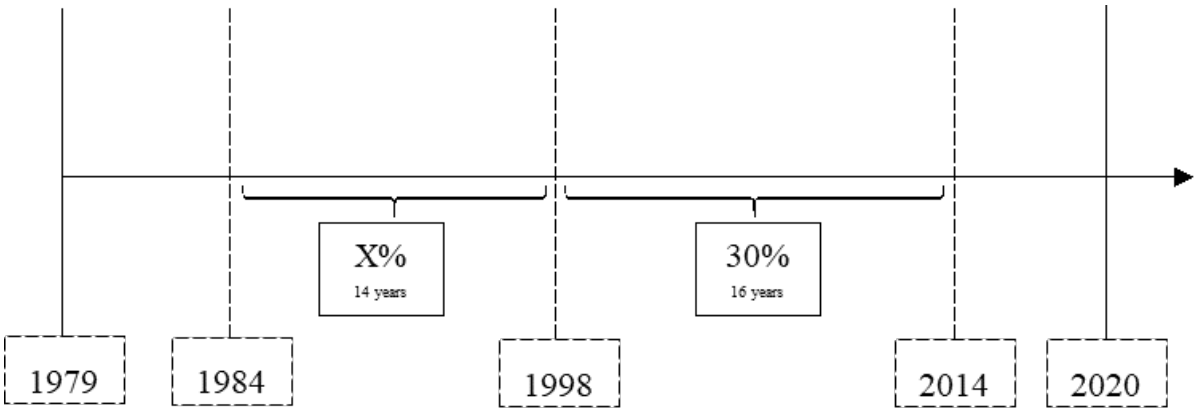


Figure 5: Timeline of the Cohort Explanation

How would our estimate change without our assumptions? To get an understanding for that question, we release each assumption by its own and conclude that assumptions that are more realistic would lead to an even lower number than our estimate and strengthen our argument. First, if Ph.D. students enter the job market later than by 25 years or if it took more than five years to become a full professor, we would have to shorter average unknown period before 1993, which decreases the necessary share. If any, the number of vacant positions in academia has increased during the past 35 years, hence, relaxing this assumption would yield to a higher weighting of the last years, and lowers necessary graduation shares for women. The number of graduates is, of course, different between the European and U.S. market, but, as we observe more female Ph.D. students in the European job market today, we expect a similar relation for the past, leading to lower necessary female ratios before 1993. The cohort explanation is hence not able to explain the current low share of women in the economic profession entirely.

Table A: Women in RePEc's Top 300 Ranked Institutions as of January 2020

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
1	International Monetary Fund (IMF)	International Organization	74	38%			2020-01-31	Organization*
2	World Bank Group	International Organization	152	28%			2020-01-31	Bank*
3	National Bureau of Economic Research (NBER)	International Organization	1551	22%			2020-01-31	Organization*
4	London School of Economics (LSE)	United Kingdom	453	26%	124	21%	2020-10-30	University
5	European Central Bank	International Organization	133	21%	68	21%	2020-10-20	Bank*
6	Department of Economics, Harvard University	United States of America	341	29%	53	9%	2020-01-31	University
7	Economics Department, Massachusetts Institute of Technology (MIT)	United States of America	211	24%	46	15%	2020-02-18	University
8	Department of Economics, University of California-Berkeley	United States of America	50	16%	42	12%	2020-01-31	University
9	Paris School of Economics	France	297	34%	102	29%	2020-10-28	University
10	Federal Reserve Board (Board of Governors of the Federal Reserve System)	United States of America	267	25%			2020-01-31	Organization*
11	Department of Economics, University of Chicago	United States of America	57	14%	30	10%	2020-01-31	University
12	Bank for International Settlements (BIS)	Switzerland	139	22%	17	18%	2020-10-20	Bank*
13	Institute of Labor Economics (IZA)	Germany	13	8%	3	0%	2020-10-20	Organization*

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
14	Banca d'Italia	Italy	7	14%	7	14%	2020-10-21	Bank*
15	Università Commerciale Luigi Bocconi	Italy	572	32%	312	27%	2020-10-28	University
16	Booth School of Business, University of Chicago	United States of America	232	20%	105	11%	2020-01-31	Business School
17	Department of Economics, Princeton University	United States of America	63	24%	37	16%	2020-01-31	University
18	Department of Economics, Stanford University	United States of America	67	15%	32	16%	2020-01-31	University
19	Barcelona Graduate School of Economics (Barcelona GSE)	Spain	153	26%	27	15%	2020-10-20	Business School
20	Organisation de Coopération et de Développement Économiques (OCDE)	International Organization	50	20%	16	19%	2020-10-26	Organization*
21	Economics Department, Brown University	United States of America	116	20%	24	21%	2020-01-31	University
22	Department of Economics, Oxford University	United Kingdom	145	24%	75	19%	2020-10-20	University
23	Bank of England	United Kingdom	91	29%	77	25%	2020-10-23	Bank*
24	Federal Reserve Bank of New York	United States of America	52	19%			2020-01-31	Bank*
25	ifo Institut - Leibniz-Institut für Wirtschaftsforschung an der Universität München e.V.	Germany	129	45%	12	17%	2020-10-28	Organization*
26	Wirtschaftswissenschaftliche Fakutät, Universität Zürich	Switzerland	380	31%	74	16%	2020-10-20	University
27	Toulouse School of Economics (TSE)	France	237	28%	59	20%	2020-10-20	University

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
28	Department of Economics, University College London (UCL)	United Kingdom	112	29%	44	18%	2020-10-20	University
29	Sciences économiques, Sciences Po	France	96	26%	19	11%	2020-10-20	University
30	Department of Economics, University of California-San Diego (UCSD)	United States of America	58	19%	36	11%	2020-01-31	University
31	Graduate School of Business, Stanford University	United States of America	322	22%	110	16%	2020-01-31	Business School
32	Monash Business School, Monash University	Australia	297	37%	107	29%	2020-01-31	Business School
33	Kennedy School of Government, Harvard University	United States of America						Business School*
34	DIW Berlin (Deutsches Institut für Wirtschaftsforschung)	Germany	184	41%	9	22%	2020-10-22	Organization*
35	International Food Policy Research Institute (IFPRI)	International Organization	272	46%			2020-01-31	Organization*
36	Department of Economics, New York University (NYU)	United States of America	78	12%	50	8%	2020-02-05	University
37	Department of Economics, School of Arts and Sciences, Columbia University	United States of America	76	16%	44	16%	2020-02-05	University
38	Economics Department, University of California-Davis	United States of America	119	35%	25	28%	2020-02-05	University
39	Centre for Economic Policy Research (CEPR)	International Organization	1476	25%	1	100%	2020-11-05	Organization*
40	Banque de France	France	91	30%	31	16%	2020-11-06	Bank*
41	Deutsche Bundesbank	Germany	92	27%	26	15%	2020-10-20	Bank*

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
42	Stern School of Business, New York University (NYU)	United States of America	422	23%	186	21%	2020-01-31	Business School
43	Department of Economics, University of Notre Dame	United States of America	43	26%	23	26%	2020-02-05	Business School
44	Department of Economics, Boston University	United States of America	54	20%	28	7%	2020-01-31	Business School
45	Faculteit Economie en Bedrijfskunde, Rijksuniversiteit Groningen	Netherlands						Universiy*
46	Economics Department, Yale University	United States of America	55	18%	41	17%	2020-01-31	University
47	Federal Reserve Bank of St. Louis	United States of America	28	18%			2020-02-05	Bank*
48	Department of Economics, University of Pennsylvania	United States of America	136	20%	23	13%	2020-01-31	University
49	Federal Reserve Bank of Chicago	United States of America	57	26%	40	23%	2020-01-31	Bank*
50	Federal Reserve Bank of San Francisco	United States of America	77	21%			2020-01-31	Bank*
51	Department of Economics, University of California-Los Angeles (UCLA)	United States of America	49	18%	31	16%	2020-02-05	University
52	Wharton School of Business, University of Pennsylvania	United States of America	421	21%	217	17%	2020-02-05	Business School
53	Kellogg Graduate School of Management, Northwestern University	United States of America	354	22%	126	24%	2020-02-05	Business School
54	Department of Economics, Northwestern University	United States of America	50	16%	38	11%	2020-02-05	University

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
55	Solvay Brussels School of Economics and Management, Université Libre de Bruxelles	Belgium	150	42%	62	29%	2020-10-21	University
56	Sloan School of Management, Massachusetts Institute of Technology (MIT)	United States of America	278	24%	120	24%	2020-02-05	Business School
57	Banco de España	Spain	99	31%	41	17%	2020-10-21	Bank*
58	Economics Department, University of Michigan	United States of America	221	26%	27	19%	2020-02-05	University
59	Federal Reserve Bank of Dallas	United States of America	41	15%	2	0%	2020-01-31	Bank*
60	Bank of Canada	Canada	124	22%	2	50%	2020-01-31	Bank*
61	Department of Economics, University of Texas-Austin	United States of America	53	25%	22	27%	2020-02-05	University
62	W.P. Carey School of Business, Arizona State University	United States of America	308	27%	158	25%	2020-02-05	Business School
63	Faculteit Economie en Bedrijfswetenschappen, KU Leuven	Belgium	149	34%	87	36%	2020-11-05	University
64	Economics Department, Dartmouth College	United States of America	38	32%	24	21%	2020-02-01	University
65	Department of Economics, Boston College	United States of America	63	16%	26	8%	2020-02-05	University
66	School of Economics and Management, Universiteit van Tilburg	Netherlands	340	24%	130	13%	2020-10-28	University
67	UNSW Business School, UNSW Sydney	Australia	317	33%	138	25%	2020-10-28	Business School

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
68	School of Economics, University of Nottingham	United Kingdom	134	25%	56	20%	2020-10-28	University
69	Federal Reserve Bank of Minneapolis	United States of America	1	100%			2020-01-31	Bank*
70	Department of Economics, University of Toronto	Canada	121	14%	64	17%	2020-02-05	University
71	National Research University Higher School of Economics	Russian Federation					2020-10-28	University
72	Crawford School of Public Policy, Australian National University	Australia	311	34%	47	28%	2020-10-28	Business School
73	Harvard Business School, Harvard University	United States of America	341	24%	138	26%	2020-02-05	Business School
74	Walter A. Haas School of Business, University of California-Berkeley	United States of America	138	22%	72	18%	2020-02-05	Business School
75	Centre de Recherche en Économie et Statistique (CREST)	France	205	26%	87	17%	2020-10-28	University
76	Banco de la Republica de Colombia	Colombia					2020-02-07	Bank*
77	Department of Commerce, Government of the United States	United States of America					2020-02-05	Organization*
78	Department of Economics, University of Warwick	United Kingdom	120	23%	49	16%	2020-10-28	University
79	Inter-American Development Bank	United States of America	20	15%			2020-01-31	Bank*
80	Vancouver School of Economics, University of British Columbia	Canada	160	23%	31	23%	2020-02-05	University

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
81	Faculty of Business and Economics, University of Melbourne	Australia	305	33%	120	29%	2020-02-05	University
82	Faculteit der Economische Wetenschappen, Erasmus Universiteit Rotterdam	Netherlands	261	28%	91	15%	2020-10-28	University
83	Joint Research Centre, European Commission	International Organization	82	33%	8	0%	2020-10-29	Organization*
84	Department of Economics, University of Maryland	United States of America	78	27%	33	27%	2020-02-05	University
85	Graduate School of Business, Columbia University	United States of America	307	20%	119	16%	2020-02-05	Business School
86	Dipartimento di Scienze Economiche, Alma Mater Studiorum - Università di Bologna	Italy	247	28%	78	24%	2020-10-28	University
87	Faculty of Economics, University of Cambridge	United Kingdom	140	21%	23	13%	2020-10-27	University
88	Volkswirtschaftliche Fakultät, Ludwig-Maximilians-Universität München	Germany	142	34%	26	15%	2020-10-28	University
89	École des Sciences Économiques de Louvain, Université Catholique de Louvain	Belgium	42	14%	19	16%	2020-10-26	University
90	School of Economics and Finance, Queen Mary University of London	United Kingdom	127	29%	40	23%	2020-10-26	University
91	Department of Economics, University of California-Irvine	United States of America	53	19%	34	12%	2020-02-05	University
92	Sussex Business School, University of Sussex	United Kingdom	290	41%	61	28%	2020-10-28	Business School

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
93	Business School, Deakin University	Australia	177	29%	47	11%	2020-02-05	Business School
94	Department of Economics, University of Virginia	United States of America	108	27%	36	19%	2020-02-05	University
95	School of Business and Economics, Vrije Universiteit Amsterdam	Netherlands					2020-10-28	University
96	School of Management, Yale University	United States of America	130	28%	56	20%	2020-02-05	Business School
97	Academia de Studii Economice din Bucureşti	Romania	256	58%	155	55%	2020-10-30	University
98	Økonomisk Institut, Københavns Universitet	Denmark	220	20%	55	11%	2020-10-28	University
99	Handelshögskolan i Stockholm	Sweden	308	31%	80	23%	2020-10-26	University
100	Norges Handelshøyskole (NHH)	Norway	390	27%	172	24%	2020-10-28	University
101	Department of Economics, Duke University	United States of America	114	18%	71	14%	2020-02-05	University
102	Peter G. Peterson Institute for International Economics (IIE)	United States of America	39	15%			2020-01-31	Organization*
103	Leibniz-Zentrum für Europäische Wirtschaftsforschung (ZEW)	Germany	212	27%	3	33%	2020-10-28	Organization*
104	Institut for Økonomi, Aarhus Universitet	Denmark	188	23%	96	22%	2020-10-27	University
105	London Business School (LBS)	United Kingdom	152	26%	70	24%	2020-10-27	Business School

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
106	Dipartimenti e Istituti di Scienze Economiche, Università Cattolica del Sacro Cuore	Italy	132	38%	88	35%	2020-10-28	University
107	École d'Économie d'Aix-Marseille, Aix-Marseille Université	France	197	32%	42	21%	2020-10-27	University
108	Department of Management, Technology and Economics (D-MTEC), Eidgenössische Technische Hochschule Zürich (ETHZ)	Switzerland	236	33%	20	10%	2020-10-28	University
109	Department of Economics, University of Southern California	United States of America	98	19%	49	16%	2020-02-05	University
110	Institut ekonomických studií, Univerzita Karlova v Praze	Czechia	49	22%	20	10%	2020-10-28	University
111	Wirtschaftswissenschaftlicher Fachbereich, Rheinische Friedrich-Wilhelms-Universität Bonn	Germany	82	13%	28	7%	2020-10-28	University
112	Økonomisk institutt, Universitetet i Oslo	Norway	68	26%	23	17%	2020-10-28	University
113	Facoltà di Economia, Università degli Studi di Roma "Tor Vergata"	Italy	222	33%	91	30%	2020-10-28	University
114	Economics Department, Georgetown University	United States of America	130	32%	26	19%	2020-02-05	University
115	School of Economics, University of Queensland	Australia	81	27%	23	22%	2020-02-05	University
116	Faculteit Economie en Bedrijfskunde, Universiteit van Amsterdam	Netherlands	74	7%	74	7%	2020-10-28	University

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
117	Economics Department, University of Wisconsin-Madison	United States of America	156	34%	35	14%	2020-02-05	University
118	School of Economics, Faculty of Arts and Social Sciences, University of Sydney	Australia	65	37%	30	20%	2020-02-05	University
119	Ekonomihögskolan, Lunds Universitet	Sweden	319	33%	115	29%	2020-10-28	University
120	Centre d'Économie de la Sorbonne, Université Paris 1 (Panthéon-Sorbonne)	France	197	33%	30	27%	2020-10-28	University
121	Österreichisches Institut für Wirtschaftsforschung (WIFO)	Austria	62	35%	1	0%	2020-10-29	Organization*
122	CESifo	Germany	86	40%	13	8%	2020-10-29	Organization*
123	Department of Economics, Cornell University	United States of America	48	19%	35	11%	2020-02-05	University
124	Abteilung für Volkswirtschaftslehre, Universität Mannheim	Germany	80	25%	30	27%	2020-10-29	University
125	Institut für Weltwirtschaft (IfW)	Germany	91	33%	20	15%	2020-10-29	Organization*
126	Fachbereich Wirtschaftswissenschaft, Goethe Universität Frankfurt am Main	Germany	66	18%	53	15%	2020-10-25	University
127	de Nederlandsche Bank	Netherlands	50	24%	5	40%	2020-10-23	Bank*
128	Rotman School of Management, University of Toronto	Canada	243	28%	142	24%	2020-02-05	Business School
129	Department of Economics, Texas A&M University	United States of America	71	30%	28	29%	2020-02-05	University
130	EconomiX, Université Paris-Nanterre (Paris X)	France	169	36%	38	47%	2020-10-29	University

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
131	Institutul National de Cercetari Economice (INCE), Academia Romana	Romania	93	67%	8	50%	2020-10-29	University
132	Federal Reserve Bank of Philadelphia	United States of America	11	0%			2020-01-31	Bank*
133	School of Business and Economics, Maastricht University	Netherlands	79	13%	64	14%	2020-10-23	University
134	Andrew Young School of Policy Studies, Georgia State University	United States of America	164	44%	77	34%	2020-02-05	University
135	Business School, University of Technology Sydney	Australia	221	41%	61	28%	2020-02-05	Business School
136	Facultat d'Economia i Empresa, Universitat de Barcelona	Spain	322	39%	246	39%	2020-10-29	University
137	Anderson Graduate School of Management, University of California-Los Angeles (UCLA)	United States of America	152	24%	67	21%	2020-02-05	Business School
138	Harris School of Public Policy, University of Chicago	United States of America	70	23%	35	9%	2020-02-05	Business School
139	Department of Agricultural and Resource Economics, University of California-Berkeley	United States of America	95	32%	20	15%	2020-02-05	University
140	Economics Department, University of Essex	United Kingdom	66	26%	20	25%	2020-10-29	University
141	Department of Economics, Vanderbilt University	United States of America	106	32%	17	18%	2020-02-05	University
142	Institutet för Näringslivsforskning (IFN)	Sweden	82	22%	21	10%	2020-10-25	Organization*

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
143	Economics Department, Michigan State University	United States of America	48	19%	40	18%	2020-02-05	University
144	Department of Economics, University of Minnesota	United States of America	36	19%	16	19%	2020-02-05	University
145	Department of Economics and Related Studies, University of York	United Kingdom	108	39%	27	26%	2020-10-29	University
146	Institut de Préparation à l'Administration et à la Gestion (IPAG)	France	90	52%	33	21%	2020-10-26	University
147	Adam Smith Business School, University of Glasgow	United Kingdom	196	40%	66	26%	2020-10-29	Business School
148	Departamento de Economía, Universidad Carlos III de Madrid	Spain	79	24%	38	21%	2020-10-29	University
149	College of Business and Economics, Australian National University	Australia	334	40%	72	25%	2020-02-05	University
150	Handelshögskolan, Göteborgs Universitet	Sweden	179	36%	32	22%	2020-10-29	University
151	Economics Department, Queen's University	Canada	54	20%	25	20%	2020-02-05	University
152	Copenhagen Business School	Denmark	327	36%	241	32%	2020-10-29	Business School
153	Faculté des Hautes Études Commerciales (HEC), Université de Lausanne	Switzerland	282	31%	129	30%	2020-10-29	University
154	Economics Department, University of California-Santa Cruz (UCSC)	United States of America	34	21%	11	27%	2020-02-05	University

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
155	Groupe d'Analyse et de Théorie Économique Lyon St-Étienne (GATE Lyon St-Étienne), Université de Lyon	France	85	38%	28	39%	2020-10-29	University
156	Center for Energy and Environmental Policy Research (CEEP), Beijing Institute of Technology	China	114	47%	21	33%	2020-02-05	University
157	Joint Research Centre, European Commission	International Organization						Organization*
158	Department of Policy Analysis and Management, College of Human Ecology, Cornell University	United States of America	27	37%	19	37%	2020-02-05	University
159	Dipartimento di Economia, Management e Metodi Quantitativi (DEMM), Università degli Studi di Milano	Italy	102	39%	42	29%	2020-10-29	University
160	School of Economics and Political Science, Universität St. Gallen	Switzerland	100	27%	23	9%	2020-10-29	University
161	Department of Economics, University of Western Ontario	Canada	115	21%	26	23%	2020-02-05	University
162	Business School, Imperial College	United Kingdom	107	26%	61	25%	2020-10-25	Business School
163	Federal Reserve Bank of Cleveland	United States of America	30	7%	1	0%	2020-01-31	Bank*
164	International Economics Section, The Graduate Institute of International and Development Studies	Switzerland	22	23%	13	23%	2020-10-29	University

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
165	Woodrow Wilson School of Public and International Affairs, Princeton University	United States of America						Business School*
166	WU Wirtschaftsuniversität Wien	Austria	193	34%	150	29%	2020-10-29	University
167	Ross School of Business, University of Michigan	United States of America	269	30%	87	21%	2020-02-21	Business School
168	Department of Economics, National University of Singapore (NUS)	Singapore	85	39%	19	16%	2020-02-05	University
169	Economic Research Service, Department of Agriculture, Government of the United States	United States of America	4	25%	4	25%	2020-01-31	Organization*
170	Wirtschafts- und Sozialwissenschaftliche Fakultät, Universität zu Köln	Germany	92	20%	76	14%	2020-10-29	University
171	Faculteit Economie en Bedrijfskunde, Universiteit Gent	Belgium	165	43%	51	45%	2020-10-29	University
172	Gaidar Institute for Economic Policy	Russian Federation	42	48%	9	33%	2020-10-29	Organization*
173	Tinbergen Instituut	Netherlands	186	13%			2020-10-29	University
174	Department of Economics, Pennsylvania State University	United States of America	151	22%	26	15%	2020-02-10	University
175	United Nations University-Maastricht Economic Research Institute of Innovation and Technology (UNU-MERIT)	Netherlands	146	49%	30	17%	2020-10-26	University
176	Schweizerische Nationalbank (SNB)	Switzerland						Bank*

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
177	Charles H. Dyson School of Applied Economics and Management, Cornell University	United States of America	87	29%	38	21%	2020-02-05	Business School
178	School of Economics, University of Surrey	United Kingdom	60	27%	21	14%	2020-10-29	University
179	Department of Economics, Ohio State University	United States of America	109	26%	21	14%	2020-02-05	University
180	HEC Paris (École des Hautes Études Commerciales)	France	114	20%	80	21%	2020-10-30	University
181	Krannert School of Management, Purdue University	United States of America	161	21%	62	21%	2020-02-05	Business School
182	Department of Economics, University of Colorado	United States of America	119	29%	20	20%	2020-02-05	University
183	Department of Economics, University of California-Santa Barbara (UCSB)	United States of America	145	28%	38	11%	2020-02-05	University
184	Department of Economics, Rutgers University-New Brunswick	United States of America	156	42%	52	27%	2020-02-05	University
185	School of Economics, Finance and Management, University of Bristol	United Kingdom	177	37%	50	38%	2020-10-29	University
186	Université Paris-Dauphine (Paris IX)	France	404	42%	130	35%	2020-10-29	University
187	Department of Agricultural, Food and Resource Economics, College of Agriculture and Natural Resources, Michigan State University	United States of America	181	28%	56	21%	2020-02-05	University
188	Economic and Social Research Institute (ESRI)	Ireland	63	49%	15	60%	2020-10-29	Organization*

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
189	Department of Economics, University of Pittsburgh	United States of America	89	33%	20	30%	2020-02-05	University
190	Centro de Estudios Monetarios y Financieros (CEMFI)	Spain	48	25%	16	19%	2020-11-18	University
191	Faculty of Economics, University of Tokyo	Japan	43	7%	43	7%	2020-02-05	University
192	Russian Presidential Academy of National Economy and Public Administration (RANEPA)	Russian Federation					2020-10-29	University
193	Nationalekonomiska Institutionen, Uppsala Universitet	Sweden	105	30%	19	21%	2020-10-29	University
194	Centro Studi di Economia e Finanza (CSEF)	Italy	52	21%			2020-10-29	University
195	Department of Economics, Hebrew University of Jerusalem	Israel	35	6%	19	11%	2020-02-05	University
196	Istituto Einaudi per l'Economia e la Finanza (EIEF)	Italy	20	20%	4	25%	2020-10-29	Organization*
197	Banco de Portugal	Portugal	59	49%	12	25%	2020-10-25	Bank*
198	Wirtschaftswissenschaftliche Fakultät, Heinriche-Heine-Universität Düsseldorf	Germany	42	21%	19	21%	2020-10-29	University
199	School of Economics, University of Edinburgh	United Kingdom	75	24%	21	24%	2020-10-27	University
200	RWI - Leibniz-Institut für Wirtschaftsforschung	Germany	41	20%	19	11%	2020-10-29	Organization*
201	Wirtschaftswissenschaftliche Fakultät, Humboldt-Universität Berlin	Germany	148	34%	63	21%	2020-10-29	University

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
202	Eitan Berglas School of Economics, Tel Aviv University	Israel	37	11%	16	13%	2020-02-05	University
203	Federal Reserve Bank of Boston	United States of America	31	29%	2	0%	2020-01-31	Bank*
204	Institute for International Economic Studies (IIES), Stockholms Universitet	Sweden	57	32%	12	17%	2020-10-29	University
205	Dipartimento di Economia, Università Ca' Foscari Venezia	Italy	159	37%	66	38%	2020-10-29	University
206	Federal Reserve Bank of Richmond	United States of America	79	19%			2020-01-31	Bank*
207	Département Sciences Sociales, Agriculture et Alimentation, Espace et Environnement (SAE2), Institut National de la Recherche Agronomique (INRA)	France						University*
208	University of Piraeus	Greece	159	22%	107	20%	2020-10-29	University
209	Lille Économie et Management (LEM)	France	218	40%	104	32%	2020-10-29	University
210	Federal Reserve Bank of Atlanta	United States of America	34	18%			2020-01-31	Bank*
211	Wydział Nauk Ekonomicznych, Uniwersytet Warszawski	Poland	117	40%	31	39%	2020-10-29	University
212	Fakultät für Wirtschaftswissenschaften, Universität Wien	Austria	163	30%	56	29%	2020-10-29	University
213	Management School, Lancaster University	United Kingdom	299	36%	72	22%	2020-10-29	Business School
214	Judge Business School, University of Cambridge	United Kingdom	110	31%	35	14%	2020-10-26	Business School

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
215	Tuck School of Business, Dartmouth College	United States of America	108	25%	46	22%	2020-02-05	Business School
216	Department of Agricultural Economics, Purdue University	United States of America	88	33%	35	17%	2020-02-05	University
217	School of Economics, University College Dublin	Ireland	59	42%	11	27%	2020-10-26	University
218	Dipartimento di Economia e Statistica "Cognetti de Martiis", Università degli Studi di Torino	Italy	123	51%	37	46%	2020-10-26	University
219	Fakultät für Wirtschafts- und Sozialwissenschaften, Ruprecht-Karls-Universität Heidelberg	Germany	43	21%	26	19%	2020-10-29	University
220	Escola de Economia de São Paulo (EESP), Fundação Getúlio Vargas (FGV)	Brazil	38	26%			2020-02-05	University
221	School of Business and Economics, Universidade Nova de Lisboa	Portugal	129	44%	19	42%	2020-10-27	University
222	Facoltà di Economia "Giorgio Fuà", Università Politecnica delle Marche	Italy	85	36%	62	29%	2020-10-27	University
223	Department of Economics, McGill University	Canada	45	20%	24	17%	2020-02-05	University
224	Centre d'études prospectives et d'informations internationales (CEPII)	France	31	32%	2	0%	2020-10-29	Organization*
225	School of Economics, University of Manchester	United Kingdom	85	25%	33	6%	2020-10-28	University

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
226	Scuola di Economia e Management, Università degli Studi di Firenze	Italy	248	38%	135	38%	2020-02-05	University
227	Economics Department, Williams College	United States of America	31	19%	20	25%	2020-02-05	University
228	LeBow College of Business, Drexel University	United States of America	223	43%	89	31%	2020-02-05	Business School
229	Department of Economics, Washington University in St. Louis	United States of America	98	27%	26	4%	2020-02-05	University
230	School of Economics, University of Kent	United Kingdom	83	35%	30	30%	2020-10-29	University
231	Institut für Arbeitsmarkt- und Berufsforschung (IAB)	Germany	57	42%	22	18%	2020-10-29	Organization*
232	Warwick Business School, University of Warwick	United Kingdom	227	36%	163	33%	2020-10-29	Business School
233	Department of Economics, George Washington University	United States of America	48	29%	33	27%	2020-02-05	University
234	Institute for Fiscal Studies (IFS)	United Kingdom	236	33%	21	43%	2020-11-12	Organization*
235	Türkiye Cumhuriyet Merkez Bankası	Turkey						Bank*
236	Faculté de droit, d'économie et de finance, Université du Luxembourg	Luxembourg	120	39%	39	18%	2020-10-29	University
237	Leibniz-Institut für Wirtschaftsforschung Halle (IWH)	Germany	106	25%	36	8%	2020-10-29	Organization*
238	Division of Social Sciences, California Institute of Technology	United States of America	151	35%	42	26%	2020-02-05	University

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
239	Laboratory of Economics and Management (LEM), Scuola Superiore Sant'Anna	Italy	25	40%	12	33%	2020-10-29	University
240	Economics Department, University of Rochester	United States of America	84	20%	14	29%	2020-02-05	University
241	Argyros School of Business and Economics, Chapman University	United States of America	102	21%	45	13%	2020-02-05	University
242	Directorate-General Economic and Financial Affairs, European Commission	International Organization					2020-10-29	Organization*
243	Wirtschaftswissenschaftliche Fakultät, Georg-August-Universität Göttingen	Germany	37	22%	32	22%	2020-10-29	University
244	Fachbereich Wirtschaftswissenschaften, Universität Konstanz	Germany	83	30%	19	21%	2020-10-29	University
245	BI Handelshøyskolen	Norway	501	31%	249	29%	2020-10-29	University
246	Institutet för Social Forskning (SOFI), Stockholms Universitet	Sweden	93	48%	7	29%	2020-10-29	University
247	Oesterreichische Nationalbank	Austria	40	33%	4	50%	2020-11-05	Bank*
248	Facultad de Economía, Universidad de los Andes	Colombia	42	21%	33	24%	2020-02-05	University
249	Department of Economics, University of Oregon	United States of America	107	26%	16	19%	2020-02-05	University
250	Center for Economic Research and Graduate Education and Economics Institute (CERGE-EI)	Czechia	62	19%	29	3%	2020-10-29	University
251	Institut für Volkswirtschaftslehre, Johannes-Kepler-Universität Linz	Austria	36	25%	13	31%	2020-10-29	University

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
252	Department of Economics, Simon Fraser University	Canada	34	21%	27	22%	2020-02-05	University
253	Department of Economics, University of Sheffield	United Kingdom	45	31%	21	24%	2020-10-29	University
254	Central University of Finance and Economics (CUFE)	China	9	33%	8	38%	2020-02-07	University
255	Department of Economics and Business, Central European University	Hungary	51	20%	16	6%	2020-10-29	University
256	Economics, New York University Abu Dhabi	United Arab Emirates	34	26%	14	7%	2020-02-05	University
257	Waikato Management School, University of Waikato	New Zealand	88	39%	41	24%	2020-02-05	Business School
258	Department Volkswirtschaftlehre, Universität Bern	Switzerland	56	18%	16	13%	2020-10-29	University
259	Wirtschaftswissenschaftliche Fakultät, Leibniz Universität Hannover	Germany	192	43%	55	24%	2020-10-29	University
260	École d'Économie, Université Clermont Auvergne	France	22	41%	9	33%	2020-10-29	University
261	Facultad de Economía y Empresa, Universidad de Zaragoza	Spain	267	47%	217	45%	2020-10-30	University
262	School of International and Public Affairs (SIPA), Columbia University	United States of America	563	34%	176	30%	2020-02-05	Business School
263	Department of Economics, Trinity College Dublin	Ireland	38	32%	6	50%	2020-10-29	University
264	Resources for the Future (RFF)	International Organization	38	29%	2	50%	2020-01-31	Organization*

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
265	Department of Economics, Emory University	United States of America	79	34%	16	38%	2020-02-05	University
266	Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign	United States of America	117	29%	27	30%	2020-02-05	University
267	Max-Planck-Institut zur Erforschung von Gemeinschaftsgütern, Max-Planck-Gesellschaft	Germany	149	46%	12	33%	2020-10-29	Organization*
268	Athens University of Economics and Business (AUEB)	Greece	207	18%	126	18%	2020-10-29	University
269	Fisher College of Business, Ohio State University	United States of America	288	29%	75	27%	2020-02-05	Business School
270	HEC Montréal (École des Hautes Études Commerciales)	Canada	323	32%	189	32%	2020-02-05	University
271	Wirtschaftswissenschaftlichen Fakultät, Eberhard-Karls-Universität Tübingen	Germany	47	28%	22	23%	2020-10-29	University
272	Department of Economics, Johns Hopkins University	United States of America	58	19%	25	8%	2020-02-05	University
273	Department of Economics, Iowa State University	United States of America	162	28%	22	14%	2020-10-30	University
274	Nationalekonomiska institutionen, Stockholms Universitet	Sweden	39	23%	25	20%	2020-11-18	University
275	Faculty of Economic and Management Sciences, University of Pretoria	South Africa	160	61%	45	58%	2020-02-05	University

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
276	Institut Supérieur d'Économie et Management (ISEM), Université de Nice-Sophia Antipolis	France	66	44%	25	36%	2020-10-26	University
277	Geneva School of Economics and Management, Université de Genève	Switzerland	97	24%	52	31%	2020-10-29	University
278	Carey Business School, Johns Hopkins University	United States of America	132	28%	48	27%	2020-02-05	Business School
279	Faculty of Business and Economics, University of Hong Kong	China	138	26%	70	19%	2020-02-05	University
280	Facultad de Ciencia Económicas y Administrativas, Pontificia Universidad Católica de Chile	Chile	45	13%	25	12%	2020-02-05	University
281	Instituto Superior de Economia e Gestão (ISEG), Universidade de Lisboa	Portugal	244	34%	94	32%	2020-10-26	University
282	Singapore Management University	Singapore	6	33%	3	33%	2020-02-05	University
283	Department of Economics, International Business School, Brandeis University	United States of America	83	31%	26	35%	2020-02-05	University
284	Cass Business School, City University	United Kingdom	188	30%	89	26%	2020-10-29	Business School
285	College of Business and Behavioral Science, Clemson University	United States of America	136	35%	56	27%	2020-02-05	University
286	Department of Economics, Tufts University	United States of America	45	31%	20	35%	2020-02-05	University
287	Szkoła Główna Handlowa w Warszawie	Poland	31	42%	28	43%	2020-10-29	University

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
288	École des Sciences de la Gestion (ESG), Université du Québec à Montréal (UQAM)	Canada	328	41%	280	42%	2020-02-05	University
289	Department of Economics, University of Illinois at Urbana-Champaign	United States of America	139	27%	20	10%	2020-02-05	University
290	Groupe de Recherche en Économie Théorique et Appliquée (GREThA), Université de Bordeaux	France	132	31%	19	16%	2020-10-29	University
291	Dipartimento di Scienze Economiche "Marco Fanno", Università degli Studi di Padova	Italy	67	25%	54	19%	2020-10-29	University
292	Dipartimento di Economia e Finanza (DEF), Libera Università Internazionale degli Studi Sociali Guido Carli (LUISS)	Italy	31	19%	21	19%	2020-10-29	University
293	Business School, University of Sydney	Australia	455	35%	115	36%	2020-10-26	Business School
294	Department of Economics, University of Alberta	Canada	28	29%	18	39%	2020-02-05	University
295	Fuqua School of Business, Duke University	United States of America	117	22%	75	21%	2020-02-05	Business School
296	Scuola di Economia e Statistica, Università degli Studi di Milano-Bicocca	Italy	295	43%	86	44%	2020-10-29	University
297	Théorie Économique, Modélisation, Application (THEMA), Université de Cergy-Pontoise	France	117	32%	28	25%	2020-10-29	University

Rank	Institution	Country	Research Positions	Female Positions	Senior Positions	Female Senior Positions	As of	Type
298	Brookings Institution	United States of America	257	27%	2	50%	2020-01-31	Organization*
299	Rechts- und Wirtschaftswissenschaftliche Fakultät, Universität Bayreuth	Germany	20	10%	7	0%	2020-10-29	University
300	Facoltà di Economia, "Sapienza" Università di Roma	Italy	201	39%	124	39%	2020-10-29	University

Notes: Institutions marked with an * are excuded from out main data set consisting of 238 universities and business schools. *Senior positions* cover full professors and associate professors.

Table B: Percentage of Women on Different Levels, by Country

Country	Senior Level	Entry Level	Research Fellow	Research Associate	All Levels	Positions	Institutions
Australia	29.9%	41.8%	30.9%	46.2%	36.9%	3343	20
Austria	26.0%	39.1%	32.1%	40.2%	32.0%	1018	38
Belgium	31.6%		28.8%	43.4%	33.1%	829	18
Brazil	24.5%	23.3%			23.9%	113	1
Canada	30.7%	34.6%	17.6%	28.6%	28.0%	2626	26
Chile	10.3%				10.3%	87	3
China	23.8%	33.1%	16.9%	56.2%	28.5%	596	9
Czechia	9.8%		16.3%		13.8%	159	6
Denmark	26.4%	31.9%	25.7%	38.0%	29.4%	1603	21
Finland	30.7%	44.1%	35.5%	51.3%	38.9%	745	15
France	32.6%	45.7%	26.9%	36.7%	36.1%	6277	78
Germany	21.1%	32.9%	32.2%	45.2%	28.8%	7772	238
Greece	17.5%	28.7%			21.2%	501	20
Hungary		43.1%	28.4%		35.2%	125	6
Iceland		23.4%			23.4%	64	4
International Organization	22.3%		25.5%	61.0%	26.7%	4247	18
Ireland	31.8%	42.1%	38.2%	33.3%	37.0%	622	17
Italy	32.6%	46.5%	31.9%	40.0%	35.5%	5613	65
Japan	16.1%		17.2%		16.7%	126	2
Korea (Republic of)	0.0%				0.0%	51	2
Luxembourg			40.0%	48.8%	46.2%	184	4
Netherlands	16.5%	32.7%	28.6%	42.3%	27.4%	3358	47
New Zealand	26.6%	51.6%	28.1%		38.0%	361	4
Norway	28.7%	31.5%	36.7%	46.7%	33.5%	1840	25
Poland	39.4%	42.5%	53.5%	54.7%	50.5%	1700	50
Portugal	29.7%	40.1%	47.0%	44.2%	39.4%	1159	18
Romania	56.7%	60.1%	63.8%		58.8%	707	25
Russia	33.5%	47.9%	44.5%		41.3%	578	9
South Africa	38.5%	53.0%			47.6%	319	7
Spain	35.7%	40.8%	38.6%	30.9%	37.4%	4219	51
Sweden	25.6%	38.1%	34.9%	43.1%	35.3%	2294	33
Switzerland	19.9%	24.0%	30.6%	36.8%	28.8%	4082	51
Turkey	38.4%	41.8%			39.2%	390	21
United Kingdom	29.3%	44.0%	40.1%	39.3%	38.2%	14614	190
United States of America	21.4%	33.6%	22.2%	34.9%	26.7%	22367	217
Total	26.8%	39.6%	30.4%	39.8%	32.5%	94924	1360

Notes: We report cells where the level is represented by at least 50 positions. *Senior Level* refers to full professors and associate professors; *Entry Level* refers to assistant professors and lecturers.

Table C: Percentage of Women on Different Levels, by Country, Main Data Set

Country	Senior Level	Entry Level	Research Fellow	Research Associate	All Levels	Positions	Institutions
Australia	27.1%	40.5%	28.2%	45.0%	35.2%	2563	10
Austria	29.2%	37.5%	12.5%	31.9%	31.4%	392	3
Belgium	34.2%	47.2%	26.7%	49.6%	37.5%	506	4
Brazil				26.3%	26.3%	38	1
Canada	31.1%	33.4%	15.0%	25.0%	28.7%	1451	10
Chile	12.0%	17.6%			14.3%	42	1
China	23.2%	34.8%	26.1%	56.2%	35.6%	261	3
Colombia	24.2%	12.5%			22.0%	41	1
Czechia	6.1%	34.4%	31.0%		20.9%	110	2
Denmark	26.8%	36.0%	22.4%	28.8%	27.9%	735	3
France	27.5%	45.4%	28.8%	36.0%	34.4%	2646	16
Germany	18.4%	30.6%	27.6%	42.0%	28.7%	1074	13
Greece	18.9%	23.0%	12.5%		19.5%	365	2
Hungary	6.3%			27.6%	20.0%	45	1
Ireland	35.3%	50.0%		34.0%	39.4%	94	2
Israel	11.4%		0.0%	28.6%	8.3%	72	2
Italy	32.2%	47.3%	34.1%	37.1%	35.6%	2561	14
Japan	7.0%				7.0%	43	1
Luxembourg	17.9%		41.2%	52.5%	39.3%	117	1
Netherlands	12.9%	32.8%	22.5%	44.4%	24.4%	1086	5
New Zealand	24.4%	53.7%	40.0%		39.1%	87	1
Norway	26.4%	31.5%	20.3%	45.0%	29.4%	959	3
Poland	40.7%	40.4%			40.5%	148	2
Portugal	33.6%	33.5%		48.0%	37.5%	371	2
Romania	54.6%	71.4%	64.8%	37.5%	60.5%	349	2
Singapore	18.2%	34.8%		54.8%	40.2%	87	2
South Africa	57.8%	64.5%			62.6%	155	1
Spain	38.6%	40.5%	35.4%	29.5%	36.9%	869	5
Sweden	24.5%	32.0%	37.9%	40.8%	33.5%	1100	7
Switzerland	23.2%	22.8%	28.3%	36.3%	29.6%	1173	7
United Arab Emirates	7.1%	30.0%	50.0%		26.5%	34	1
United Kingdom	23.8%	38.0%	30.3%	32.4%	30.9%	3499	23
United States of America	20.3%	32.1%	21.7%	34.8%	26.2%	11265	82
Total	25.2%	36.7%	26.6%	36.9%	30.5%	34338	233

Notes: We report cells where the level is represented by at least five positions. *Senior Level* refers to full professors and associate professors; *Entry Level* refers to assistant professors and lecturers.

Table D: EuroVoc Defintion of Regions

Central and Eastern Europe	Northern Europe	Southern Europe	Western Europe
Albania	Denmark	Cyprus	Andorra
Armenia	Estonia	Greece	Austria
Azerbaijan	Finland	Holy See	Belgium
Belarus	Iceland	Italy	France
Bosnia and Herzegovina	Latvia	Malta	Germany
Bulgaria	Lithuania	Portugal	Ireland
Czech Republic	Norway	San Marino	Liechtenstein
Croatia	Sweden	Spain	Luxembourg
Georgia			Monaco
Hungary			Netherlands
Moldova			Switzerland
Montenegro			United Kingdom
North Macedonia			
Poland			
Romania			
Russia			
Serbia			
Slovakia			
Slovenia			
Ukraine			

Notes: Source: EuroVoc https://publications.europa.eu/en/web/eu-vocabularies/th-concept-scheme/-/resource/eurovoc/100277

Table E: U.S. Census Bureau Defintion of Regions

Midwest	Northeast	South	West
Illinois	Connecticut	Alabama	Alaska
Indiana	Maine	Arkansas	Arizona
Iowa	Massachusetts	Delaware	California
Kansas	New Hampshire	District of Columbia	Colorado
Michigan	New Jersey	Florida	Hawaii
Minnesota	New York	Georgia	Idaho
Missouri	Pennsylvania	Kentucky	Montana
Nebraska	Rhode Island	Louisiana	Nevada
North Dakota	Vermont	Maryland	New Mexico
Ohio		Mississippi	Oregon
South Dakota		North Carolina	Utah
Wisconsin		Oklahoma	Washington
		South Carolina	Wyoming
		Tennessee	
		Texas	
		Virginia	
		West Virginia	

Notes: Source: U.S. Census Bureau, https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf

Table F: Institutions Excluded from the Data Set, and Reasons

Institution	**Country**	**Reason**
Département Sciences Sociales, Agriculture et Alimentation, Espace et Environnement (SAE2), Institut National de la Recherche Agronomique (INRA)	France	Does not provide information about researchers' identity
Woodrow Wilson School of Public and International Affairs, Princeton University	United States of America	Decided to opt out of our data collection
Kennedy School of Government, Harvard University	United States of America	Decided to opt out of our data collection
Faculteit Economie en Bedrijfskunde, Rijksuniversiteit Groningen	Netherlands	Decided to opt out of our data collection
Schweizerische Nationalbank (SNB)	Switzerland	Does not provide information about researchers' identity
Türkiye Cumhuriyet Merkez Bankası	Turkey	Does not provide information about researchers' identity
The following institutions provided us with aggregate data only:		
School of Business and Economics, Vrije Universiteit Amsterdam	Netherlands	Only shares were communicated
WU Wirtschaftsuniversität Wien	Austria	Aggregate data only
Bank of England	United Kingdom	Aggregate data only

Table G: Ranking in Global Gender Gap Report 2020, Percentage Women on All Levels, Percentage Women Senior Level

Country	Rank Gender Gap Index	Rank, Percentage Women on All Levels	Rank, Percentage Women Senior Level
Australia	44	13	12
Austria	34	16	10
Belgium	27	8	6
Brazil	92	24	
Canada	19	20	9
Chile	57	31	27
China	106	11	20
Colombia	22	27	17
Czechia	78	28	32
Denmark	14	22	13
France	15	14	11
Germany	10	21	23
Greece	84	30	22
Hungary	105	29	31
Ireland	7	5	5
Israel	64	32	28
Italy	76	12	8
Japan	121	33	30
Luxembourg	51	6	25
Netherlands	38	26	26
New Zealand	6	7	16
Norway	2	19	14
Poland	40	3	3
Portugal	35	9	7
Romania	55	2	2
Singapore	54	4	24
South Africa	17	1	1
Spain	8	10	4
Sweden	4	15	15
Switzerland	18	18	19
United Arab Emirates	120	23	29
United Kingdom	21	17	18
United States of America	53	25	21

Notes: The "Global Gender Gap Report 2020" is available under https://www.weforum.org/reports/gender-gap-2020-report-100-years-pay-equality. *Senior Level* refers to full professors and associate professors.

Table H: Percentage of Women on Research Ranking, Global Top 400

Variables % of Women	(1) All Levels	(2) All Levels	(3) Senior Level	(4) Senior Level	(5) Entry Level	(6) Entry Level
Ranking Toplist	0.0173***	0.0187***	0.0195***	0.0181***	0.0174**	0.0150**
	(0.00457)	(0.00567)	(0.00501)	(0.00319)	(0.00693)	(0.00626)
Constant	25.44***	25.16***	19.14***	19.43***	31.96***	32.44***
	(0.956)	(1.152)	(0.970)	(0.653)	(1.520)	(1.271)
Observations	385	385	342	342	278	278
Individual Positions	50,428	50,428	17,273	17,273	10,654	10,654
Adjusted R^2	0.034	0.059	0.038	0.044	0.017	0.015
Country FE		39		37		32

Notes: The observations number denotes the number of institutions within the global top 400 as of January 2020 out of which the top 238 universities and business schools form our main data set. At least five identified positions per institution. *Senior Level* refers to full professors and associate professors; *entry Level* refers to assistant professors and lecturers. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table I: Percentage of Women on Research Ranking, Top 300 Europe

Variables % of Women	(1) All Levels	(2) All Levels	(3) Senior Level	(4) Senior Level	(5) Entry Level	(6) Entry Level
Ranking	0.0166**	0.0151	0.0139	0.0136	0.0379***	0.0279***
	(0.00826)	(0.0101)	(0.00903)	(0.00957)	(0.0118)	(0.00901)
Constant	28.44***	28.65***	22.19***	22.24***	32.57***	33.96***
	(1.202)	(1.451)	(1.276)	(1.367)	(1.934)	(1.247)
Observations	272	272	249	249	174	174
Individual Positions	31,962	31,962	12,001	12,001	6,810	6,810
Adjusted R^2	0.012	0.012	0.005	0.008	0.045	0.025
Country FE		25		25		22

Notes: The observations number denotes the number of included institutions out of the initial top 300 Europe we investigated in Auriol et al. (2020). At least five identified positions per institution. *Senior Level* refers to full professors and associate professors; *Entry Level* refers to assistant professors and lecturers. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table J: Share of Women in Central and Federal Banks and Other Organizations

Level	Banks	Positions	Women	Organizations and Networks	Positions	Women
Senior Level	20.90%	335	70	20.78%	255	53
Entry Level	23.08%	91	21	39.29%	56	22
Research Fellow	25.66%	1,099	282	25.80%	4,675	1,206
Research Associate	53.85%	13	7	45.60%	728	332
Total	24.71%	1,538	380	28.23%	5,714	1,613

Notes: The group *Organizations and Networks* refers to institutions such as the IMF, Federal Reserve Board, NBER or CEPR. Since many of the researchers are affiliated research fellows, they count towards this category and positions such as directors of research in these institutions are referred to as the senior positions. *Senior level* refers to positions equivalent to full professors and associate professors; *entry level* refers to positions equivalent to assistant professors and lecturers.

Table K: Share of Women, Private vs. Public Universities in the U.S. (Main Data Set)

Level	Private	Positions	Women	Public	Positions	Women
Senior Level	19.72%	2,687	530	21.34%	1,443	308
Entry Level	31.31%	1,715	537	33.40%	1,024	342
Research Fellow	22.10%	1,534	339	20.66%	668	138
Research Associate	32.68%	921	301	36.29%	1,273	462
Total	24.89%	6,857	1,707	28.36%	4,408	1,250

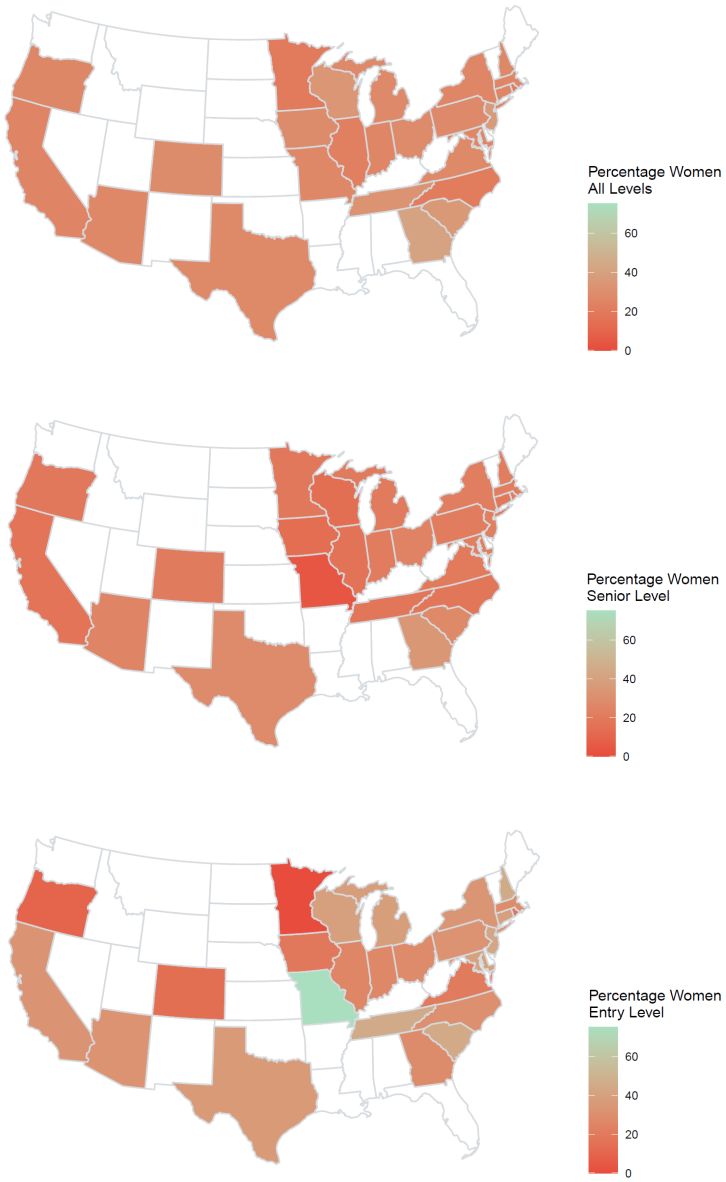
Notes: Main data set refers to 238 universities and business schools globally.

Table L: Percentage of Women on Research Ranking, Private Universities in the U.S. Only (Main Data Set)

Variables % of Women	(1) All Levels	(2) All Levels	(3) Senior Level	(4) Senior Level	(5) Entry Level	(6) Entry Level
Ranking	0.0423***	0.0487***	0.0546***	0.0735***	0.0554**	0.0333*
	(0.0113)	(0.0152)	(0.0151)	(0.0143)	(0.0229)	(0.0167)
Constant	20.20***	19.61***	14.24***	12.50***	27.20***	29.23***
	(1.146)	(1.399)	(1.309)	(1.317)	(2.040)	(1.535)
Observations	47	47	47	47	47	47
Individual Positions	6,857	6,857	2,687	2,687	1,715	1,715
Adjusted R^2	0.225	0.267	0.239	0.409	0.109	0.040
State FE		16		16		16

Notes: The observations number denotes the number of private U.S.-American universities within our main data set (i.e. 238 universities and business schools globally). In the specification with state fixed effects, we control for states in the U.S. At least five identified positions per institution. *Senior Level* refers to full professors and associate professors; *Entry Level* refers to assistant professors and lecturers. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Figure 6: Percentage of Women per U.S.-State (Main Data Set)



Notes: Missouri with the particular high share of women at the entry level is an outlier in the data since we only have one institution in our main data set in this state.