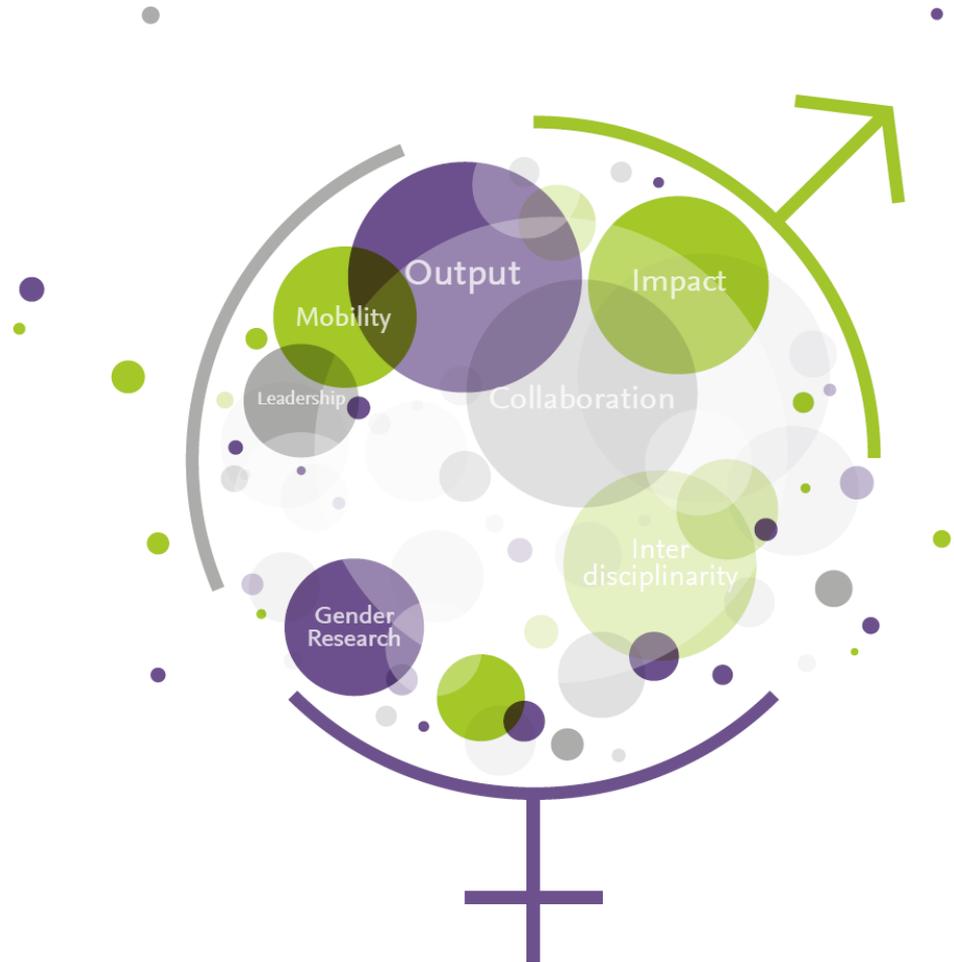


ELSEVIER

Gender in the Global Research Landscape

Analysis of research performance through a gender lens – across 20 years, 12 geographies, and 27 subject areas

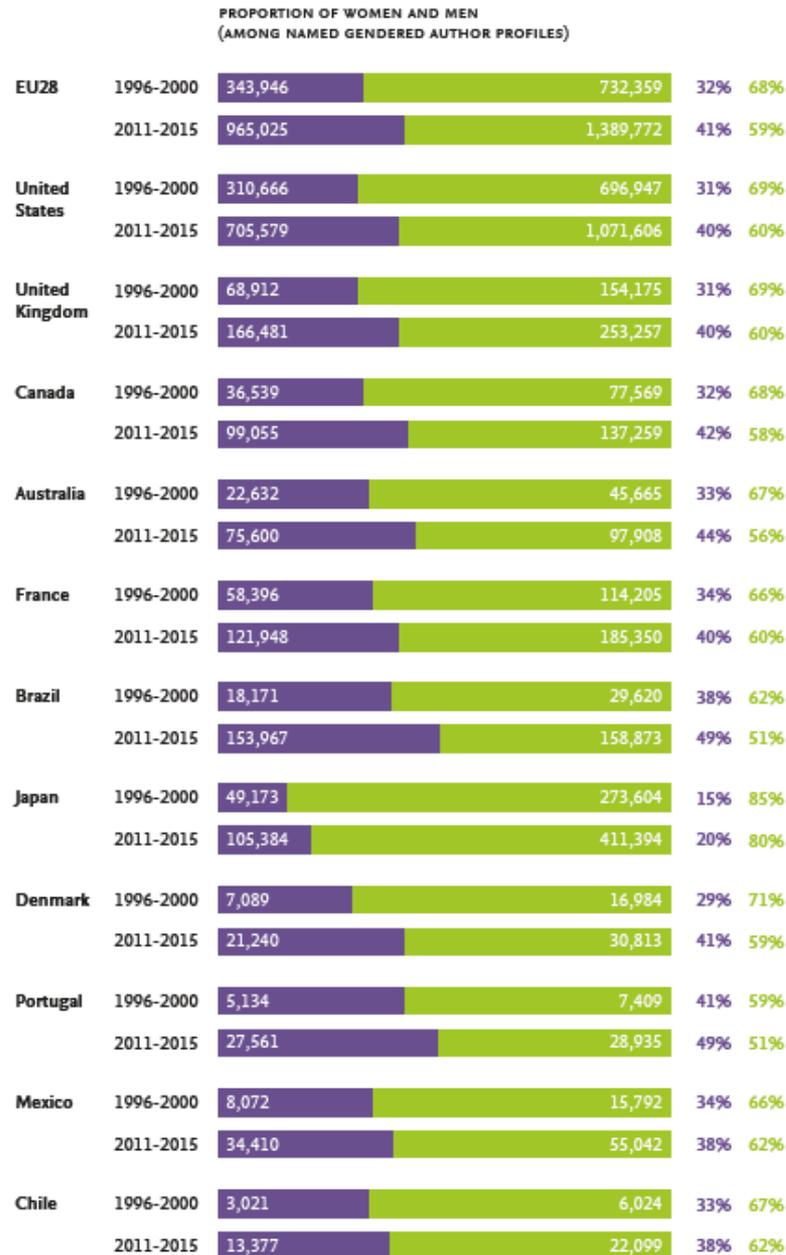
REPORT RELEASE EARLY 2017



The background features a collection of overlapping circles in various shades of purple, green, and grey, creating a dynamic, abstract pattern. The circles vary in size and opacity, with some appearing as solid colors and others as semi-transparent washes. The overall composition is centered and balanced, framing the text.

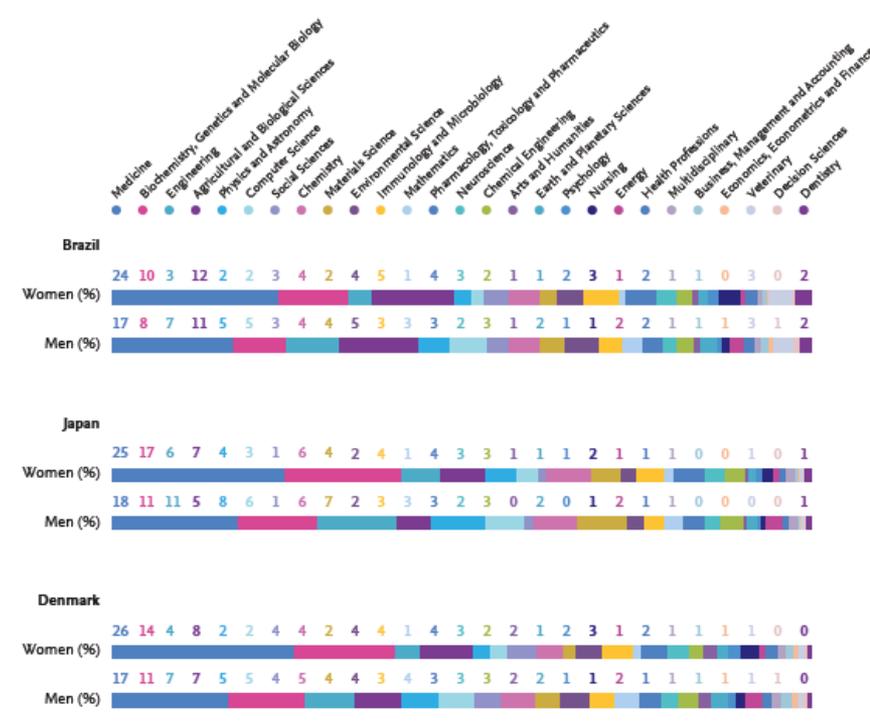
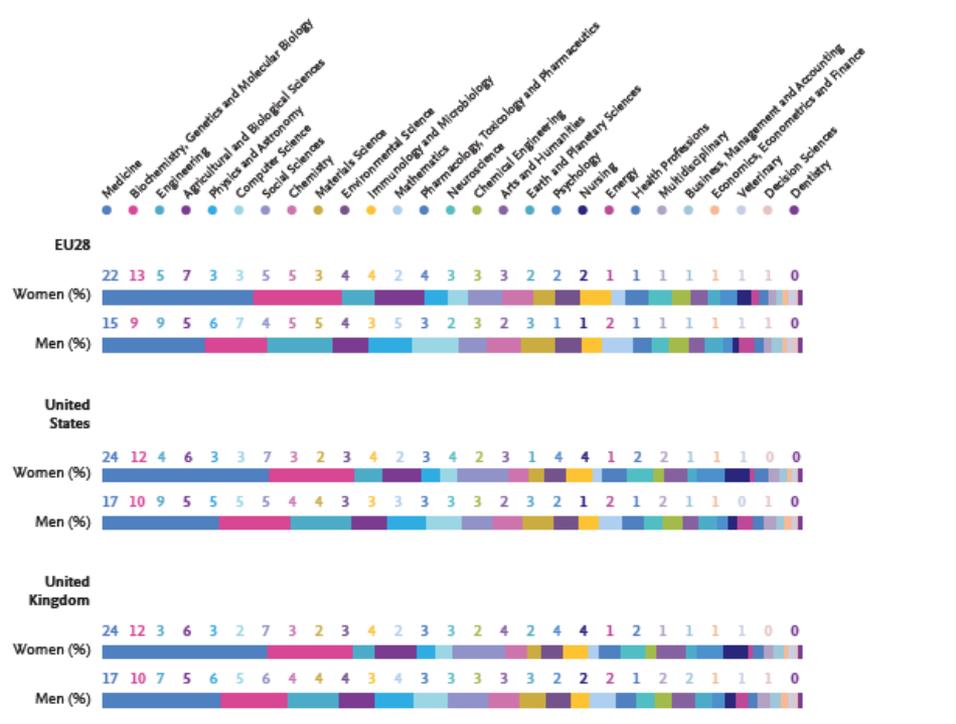
CHAPTER 1
The global research
landscape through
a gender lens

■ Women ■ Men



The proportion of women among researchers in the UK is 40%, similar to the EU, US, France, Denmark. It has increased by 9 percentage points between 1996-2000 and 2011-2015.

During the latter period in Brazil and Portugal, women constitute 49% of the researcher population. Women comprise more than 40% of researchers in the same period in the United States, European Union, United Kingdom, Canada, Australia, France, and Denmark. Mexico and Chile are not far behind, each with 38% women among researchers. All countries and regions show a greater share of women among researchers in the more recent period.



There tend to be larger proportions of women researchers than men researchers in the Health and Life sciences. In 2011-2015 in the UK, 24% of women authors published in journals in the Medicine category, compared to 17% of men authors.

By contrast, there tend to be larger proportions of men researchers in the Physical Sciences fields. For example 7% of men authors in the UK published in journals belonging to the Engineering subject category compared to 3% of women authors.



In the UK, the proportion of women among researchers are lower in fields that are more generally dominated by men in most comparator countries and regions: Energy (19% women), Mathematics (20% women), Engineering (21% women), Computer Science (22% women) and Physics & Astronomy (22% women). For four of these five fields, women still represent at least one fifth of researchers.

In contrast, the majority of researchers are women in Nursing (57% women) and Psychology (56% women). In a couple of other fields in the UK, women make up nearly half of researchers: the Veterinary Sciences (47% women) and Medicine (45% women).

■ Women ■ Men

SCHOLARLY OUTPUT PER RESEARCHER
(AMONG NAMED GENDERED AUTHOR PROFILES)



In general, men publish slightly more papers on average than women in the five-year windows of publication examined in this report. The difference is small for all comparators, so that it's difficult to draw conclusions from it.

The UK, Canada, Denmark, and Portugal see the highest differences in number of papers per researchers for 2011-2015. Among publishing researchers in the UK, women see a small decline in average number of papers per researcher between the earliest and latest periods.

■ Women ■ Men

FIELD-WEIGHTED CITATION IMPACT



For most comparators the differences in FWCI for women and men among researchers are so small that their significance is unclear.

In the UK and EU, the FWCI is about equal for men and women.

In the US, the FWCI for women is higher than for men. Brazil, Portugal, Mexico, and Chile all show slightly higher FWCI values for men researchers than for women researchers.

■ Women ■ Men

FIELD-WEIGHTED DOWNLOAD IMPACT

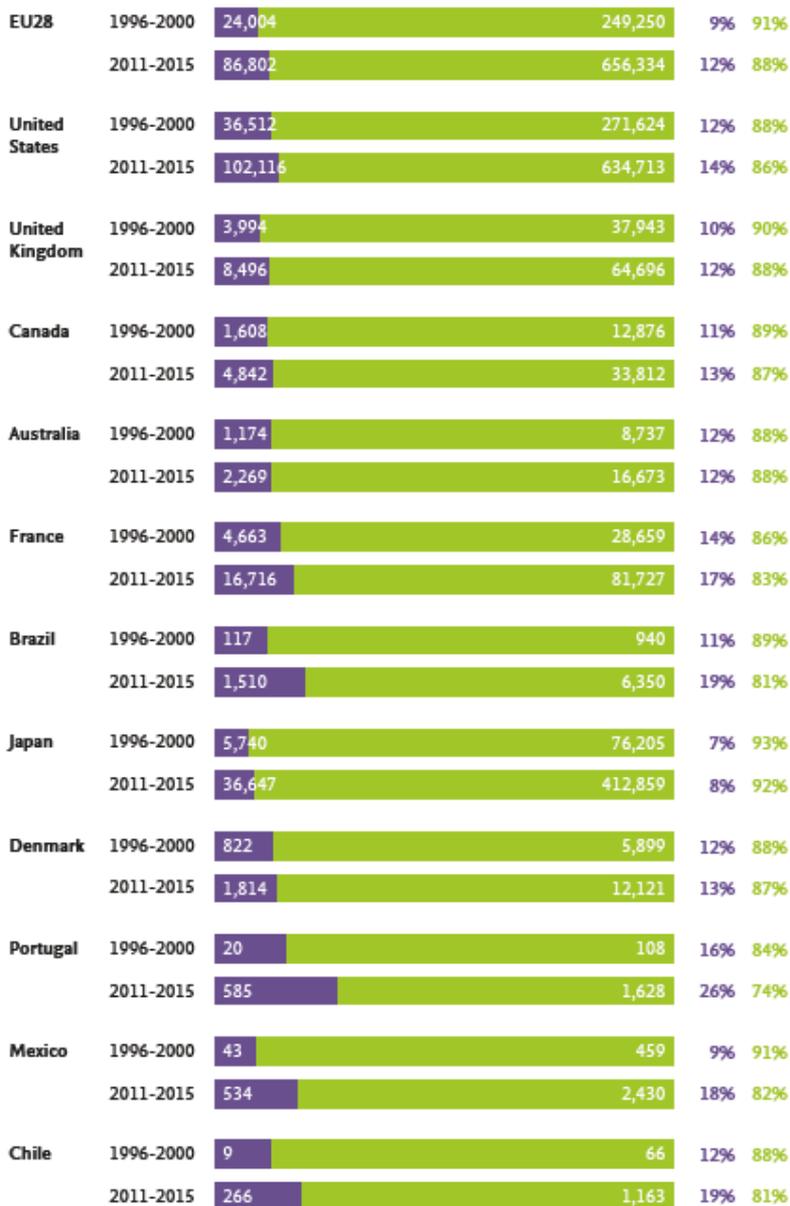


For most comparators, there is little difference between the FWDI for women and men researchers, but in contrast to FWCI, FWDI values tend to be slightly higher for women than for men. Similar to FWCI, we do not observe drastic differences in the FWDI between men and women, nor in trends over the two time periods.

We see no evidence that the inequalities in the representation of women researchers across countries and fields and in their scholarly output affect how their research is read or built on by others.

■ Women ■ Men

PROPORTION OF WOMEN AND MEN
(AMONG NAMED GENDERED INVENTORS)

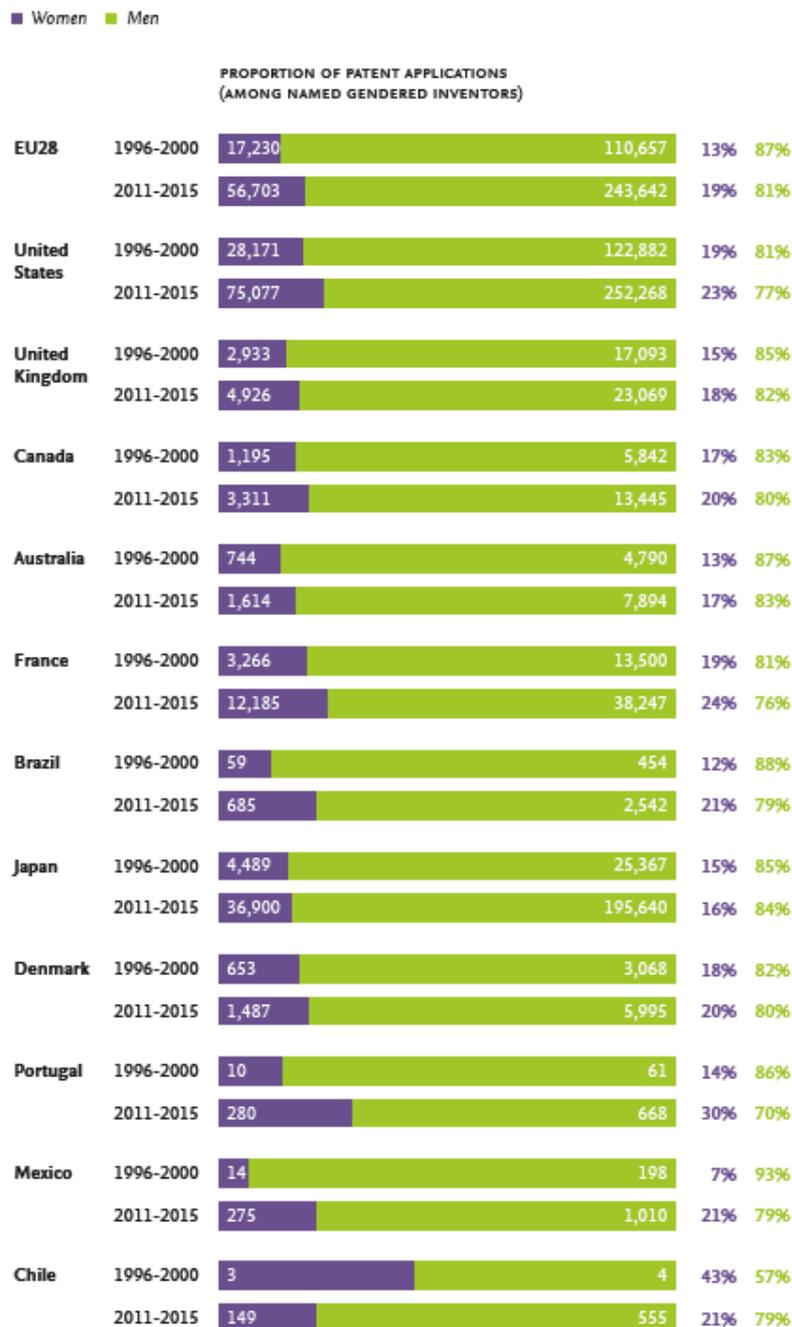


Amongst inventors, women are generally under-represented.

In the UK, there are 12% of women among inventors in 2011-2015, up from 10% in 1996-2000. In absolute terms, the number of women named on patent applications is more than twice as high in 2011-2015 as in 1996-2000 for the UK.

For all reported comparators, there is an improvement in gender balance between the analyzed periods.

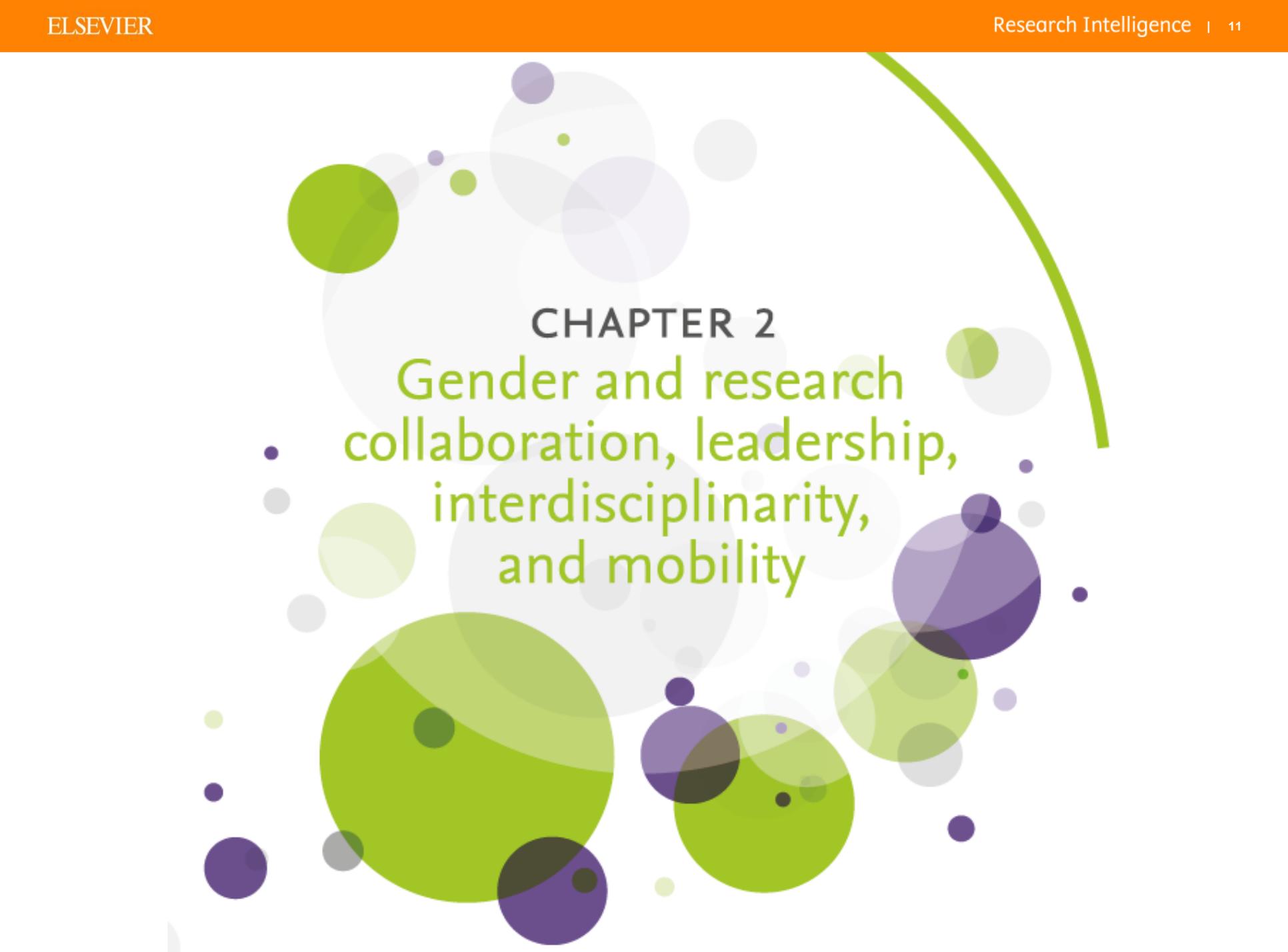
The data also reveal that the global share of women named as inventors in PCT applications increases from 10% in 1996-2000 to 14% in 2011-2015.



In the UK, the percentage of patent applications that include at least one woman among inventors also increases, from 15% in 1996-2000 to 18% in 2011-2015. This is a slightly higher proportion than Australia and Japan. Globally, these percentages are 19% in 1996-2000 and 28% in 2011-2015.

We observe an increase for all comparator countries and regions, and particularly so for Brazil, Portugal, and Mexico, which all have a low number of patent applications in the earlier period.

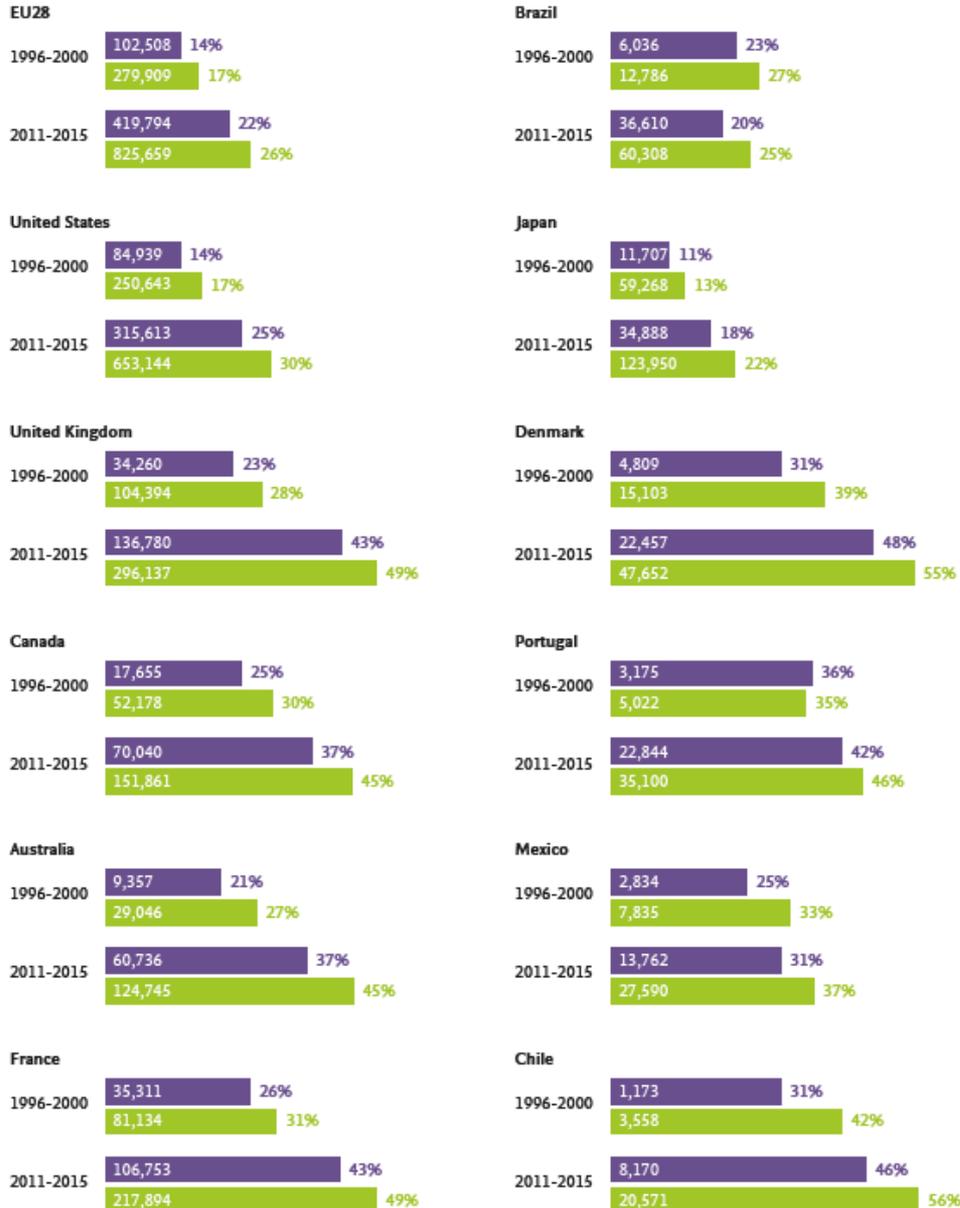
For most comparators, the share of patents with at least one woman named among the inventors is about one and a half times as high as the share of women among inventors, reflecting the high prolificacy of women in terms of patent applications.



CHAPTER 2
Gender and research
collaboration, leadership,
interdisciplinarity,
and mobility

■ Women ■ Men

SCHOLARLY OUTPUT RESULTING FROM INTERNATIONAL COLLABORATION AS A SHARE OF TOTAL SCHOLARLY OUTPUT



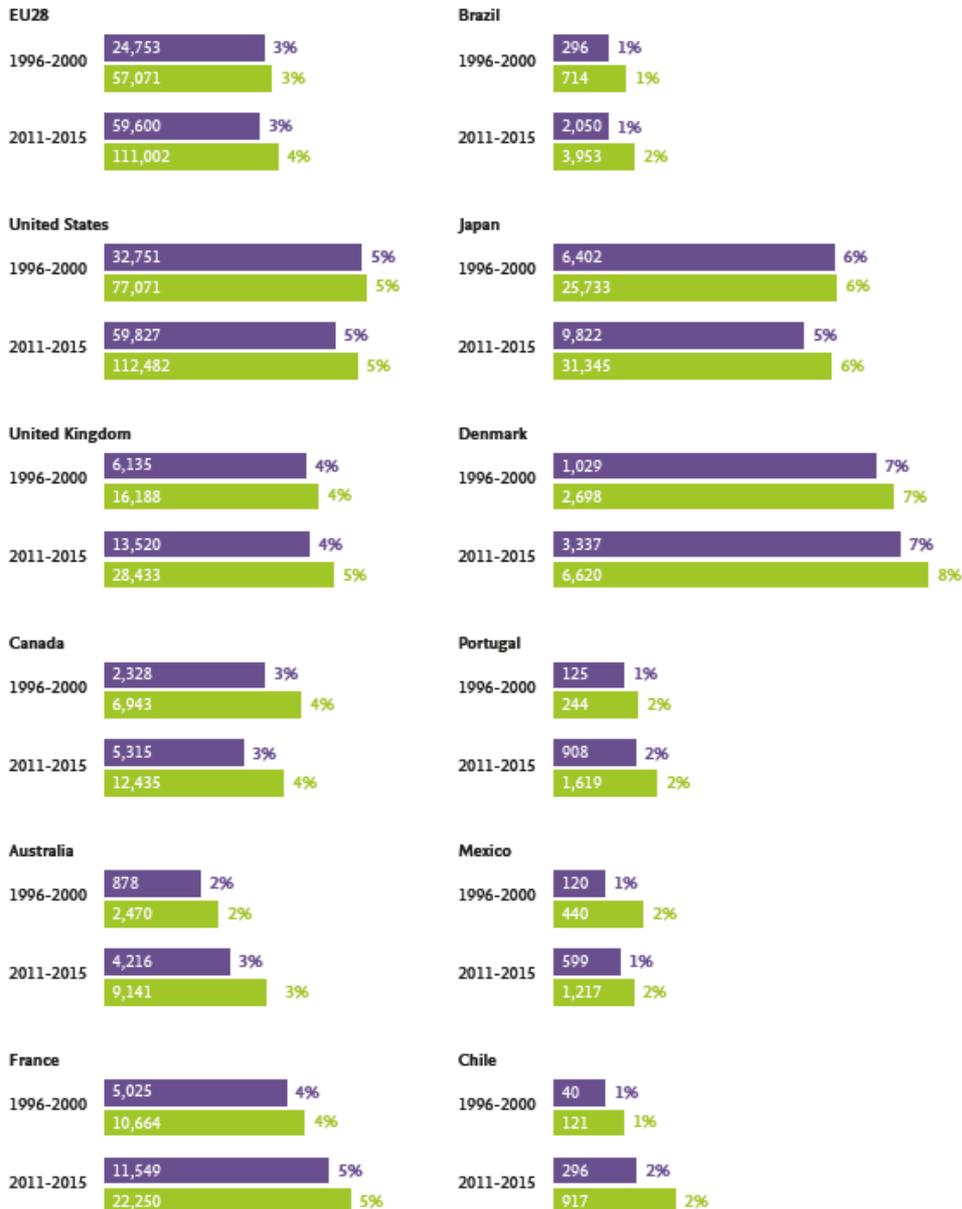
The UK has relatively high shares of papers reflecting international collaboration for both men (49%) and women (43%).

In line with global patterns, scholarly output reflecting international collaboration increased between 1996-2000 and 2011-2015 as a proportion of total scholarly output

For all comparators, women’s scholarly output is less likely to result from international collaboration than men’s. For the UK, the difference is 6 percentage points, similar to France and Mexico.

■ Women ■ Men

SCHOLARLY OUTPUT RESULTING FROM ACADEMIC-CORPORATE COLLABORATION AS A SHARE OF TOTAL SCHOLARLY OUTPUT



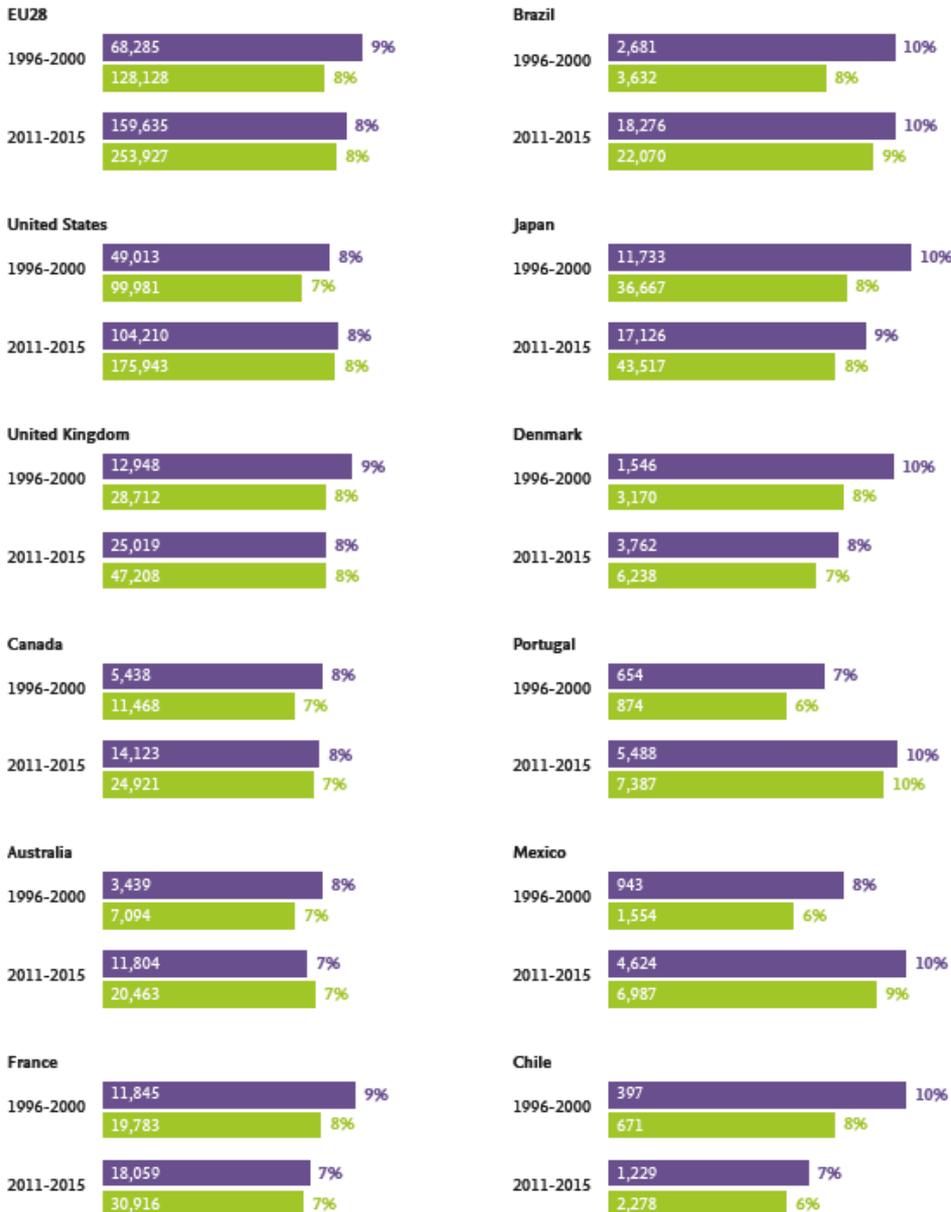
The UK has relatively high shares of papers reflecting academic-corporate collaboration for both men and women, lower only than Denmark, Japan, France, and the US among our comparators.

As for most comparators, in the UK, the proportion of scholarly output resulting from academic-corporate collaboration is similar for women (4%) and men (5%).

For most comparators, the proportion of cross-sector collaboration increases between periods for both men and women. For the UK, it remains similar for women and increases for men.

■ Women ■ Men

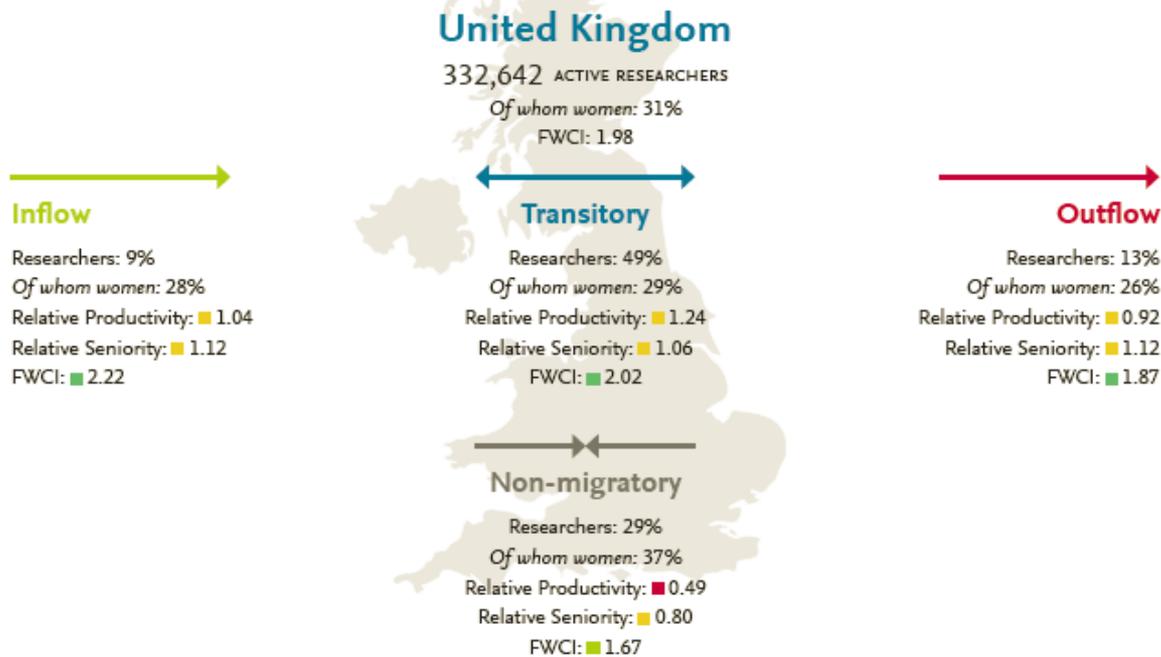
TOP 10% INTERDISCIPLINARY SCHOLARLY OUTPUT AS A SHARE OF TOTAL SCHOLARLY OUTPUT



For the UK, the proportion of scholarly output that belongs to the top 10% interdisciplinary output is 8% for both women and men, stable for men and decreasing by one percentage point for women since 1996-2000.

The differences across gender are overall limited; however, for most comparators, women tend to have a slightly higher share than men of the top 10% of interdisciplinary scholarly output relative to their total scholarly output. In most comparators, the proportion decreases for women and increases for men between 1996-2000 and 2011-2015.

Relative Productivity, Relative Seniority, and FWCI: ■ < 0.50 ■ 0.50–0.75 ■ 0.75–1.25 ■ 1.25–1.75 ■ > 1.75



If women are less internationally mobile, it may restrict their network and international collaboration opportunities. If international collaboration occurs less frequently for women than men, their networks may remain small and this may negatively affect opportunities for career progression and mobility.

In the UK, the proportion of women researchers classified as migratory (in any one of the three classes: outflow, transitory, or inflow) is lower than the share of active women researchers overall. The share of non-migratory women researchers is higher than the share of women researchers overall: this indicates that women researchers may be less internationally mobile than men researchers. The highest impact research comes from the transitory group. Although research from the outflow group has a lower impact than that of all active researchers, the FWCI is lowest for the non-migratory researchers.

Key Findings

- The proportion of women among researchers in the UK is 40%, similar to the EU, US, France, Denmark.
- Among comparators and in the UK, among researchers, women tend to specialize in the life and health sciences; men tend to specialize in the technical fields. There are proportionally fewer women among researchers in the technical fields than in the life and health sciences.
- Among comparators and in the UK, women tend to publish slightly fewer papers than men on average; however, in the UK their citation impact is similar to men's and their download impact slightly higher.
- Although the proportion of women among inventors in the UK is 12%, 18% of patent applications list a woman among their authors – a higher proportion than Australia and Japan.
- Among comparators and in the UK, women seem to collaborate internationally less than men on papers: in the UK, 43% of their output result from international collaboration compared to 49% for men. In the UK, women also appear to be less internationally mobile than men.
- Among comparators and in the UK, women seem to collaborate across the academic and corporate sectors on papers at a slightly lower rate than men (4% vs 5% of their scholarly output in the UK).
- In the UK, 8% of women's scholarly output belongs to the top 10% interdisciplinary papers, which is similar to men's.

Research Intelligence

Thank you
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