The representation of women decreases with the level of seniority. This vertical segregation can be encountered in almost every country and not only in science. Although data by seniority are available for only a score of countries and comparisons of women by seniority grade are unreliable owing to variations across countries, the data available clearly point to this trend, with a few notable exceptions such as Mozambique and Myanmar (Figure 3.9).

Considered a world leader in innovation, Switzerland is still mired in gender inequality. By 2016, the country’s 12 universities had established equality action plans with the explicit goal of increasing the percentage of women on different rungs of the academic ladder (Figure 3.9). Most Swiss universities have introduced gender-specific requests in advertising positions, minimum quotas and at least one equality delegate on appointment committees. Most have also introduced preference rules favouring the less-represented gender in the hiring process, as long as both candidates are equally competent. Despite these efforts, the target set in the Federal Equal Opportunity Programme of having women make up 25% of full professors by 2017 has been missed. The trend for new appointments offers cause for optimism, however, since women represented 33% of new hires in 2016, according to swissuniversities, a lobby group for 14 Swiss universities.9

Gillian Norton, chair of the trust that runs St George’s University Hospital in London, one of the largest in Europe, observed in 2020 that ‘if you are a woman even now, I would say you have to work harder, be more on the ball and be more persistent to get to senior levels than men have had to be in the past’. In 2020, women represented 77% of the National Health Service’s 1.4 million employees and 46% of those in executive roles but only 29% of medical directors – albeit an improvement on 25% in 2017 (NHS Confederation, 2020).

Tougher standards for women

Career prospects for female researchers remain daunting. Women are held to tougher standards for funding applications, peer review, tenure review and job applications (Brower and James, 2020; Witteman et al., 2019; Kaatz et al., 2016; Hengel, 2017).

The calibre of women is often underestimated, even though they show greater and faster rates of improvement throughout their career, in terms of writing standards and contributions to research (Brower and James, 2020; Hengel, 2017). They are typically given smaller research grants. In Argentina, for instance, female researchers who led scientific projects in 2015 tended to request and receive 25% less in funding than their male counterparts (UNESCO, 2018).

It has been demonstrated that women are as productive as men in terms of research output but tend to have shorter careers, with greater rates of departure at each stage of their career (Huang et al., 2020). The difficulty in balancing work and family has been documented as one reason why women cut short their research career.

The gender pay gap in academia may be another reason (Box 3.7). In October 2020, Princeton University in the USA agreed to award backpay totalling US$ 925 000 to 106 women occupying the position of full professor, in a settlement with the Department of Labor over alleged gender pay discrimination. The university considered that its pay model by academic discipline accurately reflected the labour market but agreed to conduct annual equity reviews of salaries for all full professors over the years to 2025 (Tomlinson, 2020).

Article 24 of the UNESCO Recommendation on Science and Scientific Researchers (2017) urges member states to ensure that scientific researchers enjoy equitable conditions of work, recruitment and promotion, appraisal, training and pay without discrimination on the basis of their sex.

Box 3.7: This unique scheme can track the gender pay gap among researchers

New Zealand is the only country that scores the research performance of every academic using a common metric.

The government’s Performance-based Research Fund tracks an academic’s publication record alongside factors that include peer esteem, student supervision, public dissemination and non-publication contributions to research. The scores are calibrated to account for potential variations among academic fields.

In parallel, New Zealand uses a clear pay scale across all universities. Although both an academic’s pay and score are confidential, the standardized metrics make it possible to analyse the impact of a researcher’s career and their quality of life within the science system.

Brower and James (2020) were, thus, able to analyse data from 2003 to 2012 for all researchers in New Zealand. They found that each female academic was paid, on average, NZ$ 400 000 less than her male colleague over the course of her career. About half of this gap could be explained by differences in age, research prowess and field of expertise.

However, men still progressed farther in their career and earned greater pay than women who obtained the same score, with the pay gap varying among fields. In engineering, for example, 58% of the pay gap was unexplained by research performance.

Brower and James (2020) tested several common explanations for the gender pay gap at university. They found that effort alone did not suffice for a woman to catch up. Among researchers at an early stage of their career, women improved their research scores by 13 points more than men, on average between 2003 and 2012, but still stood a lesser chance of being promoted.

The authors found that ‘a man’s odds of being ranked professor or associate professor were more than double a woman’s with a similar recent research score, age, field and university’. They concluded that no field of science would achieve gender parity by 2070 under current hiring practices.

Source: Brower and James (2020)

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