

WOMEN PROFESSORS MONITOR 2023



A publication of the
Dutch Network of Women Professors

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ABOUT THE MONITOR

This is the 2023 Women Professors Monitor. In a fixed number of annually recurring chapters, this Monitor provides insight into the current male-female distribution in science in the Netherlands and the percentages of women scientists and administrators at Dutch universities, university medical centres and other scientific organisations.

In the previous Monitor, we raised the alarm 🚨. The reason for this was to call attention to the worrying decline in the percentage growth of women full professors. At a mere 1.0 percentage point, it had reached its lowest point in 8 years.

On this subject, this Monitor has no better news: once again there was a decline in growth of the share of women full professors. In this Monitor, the growth rate of 0.9 percentage point does not even equal the low figure for last year. This must and can be improved. To this end, the Dutch Network of Women Professors (LNVH) calls for a new kind of incentive, comparable to the Westerdijk Talent Impulse. You can read more about these plans in this Monitor.

In the past few years, the LNVH called for a sharpening of the focus on the inflow and advancement of women in job categories other than that of full professor, and for guaranteeing a well-stocked 'pool'. Fortunately, for the second consecutive year we have seen an increase in the share of women associate professors and assistant professors. For the first time the share of women assistant professors has even surpassed that of women PhD graduates. This is a noteworthy development 💡.

What is also striking is the increased outflow of men in the 60-plus age category. The rather large-scale exit of this group, which has been expected for some time now, seems to have started. This, and the fact that the pool is amply stocked, means future prospects look exceptionally good. Of course, it remains for the institutions to seize this opportunity and to ensure that the working culture is one focused on attracting as well as retaining women.

In this Monitor, we also direct our readers' attention to women in academic management. What we notice is that while this is increasing in some places, there is a sharp decrease in others. These are significant developments that are worth keeping an eye on.

Finally, of course, this Monitor once again provides data on the composition of academic personnel with an international background, compared to the data presented last year, the first year in which these were included in the Monitor. You will also find broader data in this Monitor than the binary data we had at our disposal until recently. First steps in terms of registering data in new ways are allowing us to do this.

We invite you all to take cognisance of the Monitor's contents and to make others aware of it too. All the graphs and tables are available on our website as downloadables, and we urge you to use the data in this Monitor to initiate debate and, each in their own way, to contribute to promoting gender equality and achieving a safe and inclusive academic environment in which equal pay is the norm.

We would like to take this opportunity to thank everyone – academics, administrators, policymakers, support staff, Diversity Officers, ambassadors or otherwise – who is engaged in talent retention and gender equality in the sciences, or who, after reading this publication, feels compelled to become engaged. We would also like to express our gratitude to the Ministry of Education, Culture and Science, without whose financial contribution this Monitor could not have been realised.

Dutch Network of Women Professors

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— 1 —

THE DISTRIBUTION OF MEN AND **WOMEN** SCIENTISTS IN THE NETHERLANDS

GROWTH PERCENTAGE ALARMINGLY LOW ONCE AGAIN

At the end of 2022, on average, 27.6% of full professors at Dutch universities were women. This represents an increase of 0.9 percentage points compared to the end of 2021, when the average percentage was 26.7%. The growth percentage of 0.9 percentage points is lower than average. Last year, the Dutch Network of Women Professors (LNVH) voiced its alarm at the disappointing growth percentage of 1.0 percentage points. The end of 2022 again shows a decrease in the growth percentage. The average growth percentage for the past five years was 1.4 percentage points. The growth percentage of 0.9 percentage points at the end of 2022 is the very lowest level it has reached in the past five years 📉.

Figure 1.1 shows the development in growth percentages in the past five years. It shows that between the end of 2018 and the end of 2022 the average growth was 1.4 percentage points per year. The growth percentages of 1.0 and 0.9¹ percentage points are much lower than this.

The positive effect the Westerdijk Talent Impulse² had on the growth of the percentage of women full professors is clear from the above-average growth from the end of 2017 to the end of 2018.

The percentage of women full professors concerns regular full professorships and personal professorships with paid employment contracts. At the end of 2022, there were 605 individual professors occupying endowed chairs at the universities in the Netherlands. Of these professors, 193 were women. This amounts to 31.9%³. This is an increase of 2.1 percentage points compared to the previous Monitor.

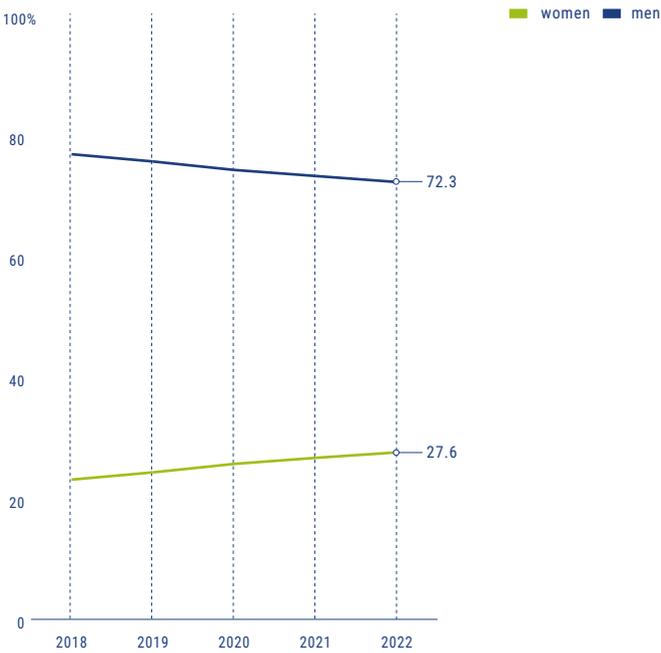
1. You may have noticed that the growth percentage in the text deviates from that in Figure 1.1 on page 8. That is correct. We base the growth percentage for women full professors on the difference between the rounded percentage of women full professors for the year in question and the rounded percentage of women full professors for the previous year. For the 2023 Monitor, these figures are 27.6% (end of 2022) and 26.7% (end of 2021), respectively, the difference being 0.9 percentage points. If we use the unrounded percentages for both years, we arrive at 1.0 percentage point (rounded up). The figures and tables in the Monitor always show the growth based on unrounded percentages.

2. See Chapter 2, p. 10 for further information about the Westerdijk Talent Impulse and its effects on the gender distribution in various job categories.

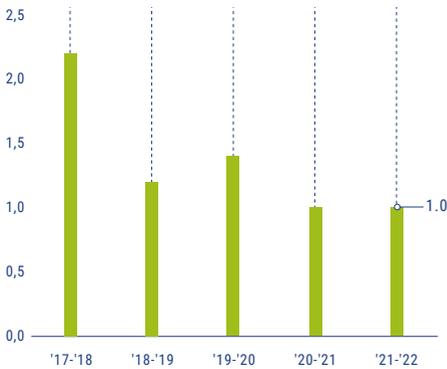
3. This refers to data from 14 universities. Between 2017 and 2021, Utrecht University did not provide UNL with data on professors occupying endowed chairs. This year, however, we are again able to report on all of the universities.

FIGURE 1.1

Proportional distribution of professors by gender, and percentage of growth in the share of women full professors, end of 2018 through end of 2022, in FTE.



Growth in percentage points relative to the previous year



Source: UNL, WOPI, reference date 31 December, in FTE. Excluding the scientific field of Healthcare.

FULL PROFESSORS IN FTE

The total size of the population of full professors increased from 3,060.3 FTE at the end of 2021 to 3,108.4 FTE at the end of 2022. Of the total 3,108.4 FTE, 858.6 were filled by women, and 2,247.8 were filled by men. The total population increased by 48 FTE within the space of one year, of which 42.5 went to women and 4.5 to men. There was an increase of 1.0 FTE in the category 'Other'⁴. This means that 88.5% of the total increase was awarded to women, as opposed to 82% last year.

FULL PROFESSORS IN NUMBER OF PEOPLE

At the end of 2022, there were 3,612 full professors working at Dutch universities. Of this number, 976 were women, 2,634 were men and 2 persons belonged in the category 'Other'. In number of people, this puts the percentage of women full professors at 27.0%, a growth rate of 1.1 percentage points relative to the end of 2021, as opposed to last year's figure of 0.9 percentage points. From the end of 2021 to the end of 2022, on balance the population of full professors increased by 34 persons. The number of women increased by 48 and the category 'Other' increased by 1, while the number of men declined by 15.

It is striking that, for the second successive year, there is a decline in numbers of men full professors. This seems to suggest that the expected marked outflow of men in the highest age category has now well and truly begun 📉. See page 28 for more information. This presents opportunities for the promotion of women to these positions. More information about the replacement potential is given on page 30.

4. Given the sector-wide presentation and slightly greater availability of data, the UNL WOPI category 'Other' is also included here. Due to possible traceability this has not been done in all data presentation in this Monitor. See Appendix 1 for further explanation regarding this category. The LNVH calls for this category to be renamed, as 'Other' reads as 'extra normal'.

WORSENING PROGNOSIS ISSUED AGAIN. WILL WE HAVE TO WAIT UNTIL 2045?

At the end of 2022, 27.6% of full professors were women. At an alarming 0.9 percentage points, the growth in the percentage of women full professors from the end of 2021 to the end of 2022 was below the average for the past 8 years 📉. According to the prognosis, which is based on the average growth of the past ten years, the 30% threshold is expected to be reached in 2024. The 50% threshold is only expected to be reached in 2041. Compared to that given in the 2022 Monitor, this prognosis remains unchanged. If, however, we base our prognosis on the past two years, the 50% threshold is only expected to be reached in 2045 📉. For this reason, the LNVH reiterates its call for a second solid incentive, comparable to the Westerdijk Talent Impulse in 2017 – see the box in this respect.

Westerdijk Talent Impulse & Planning

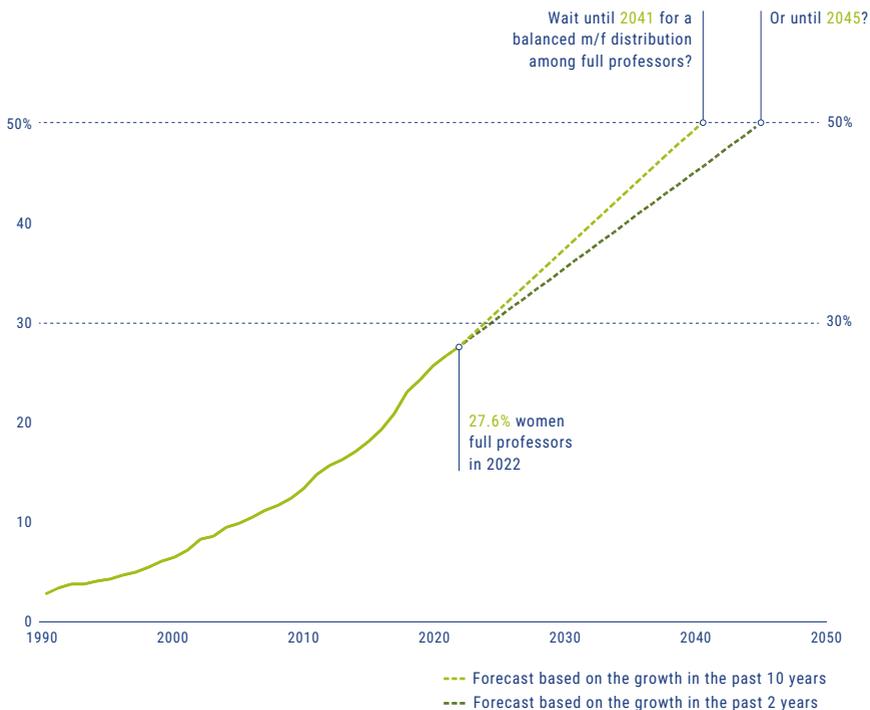
On 10 February 2017, we celebrated the fact that the first woman full professor, Prof. Johanna Westerdijk, was appointed in the Netherlands 100 years ago. Jet Bussemaker, then Minister of Education, Culture and Science, made a one-time sum of €5 million available for the appointment of 100 women professors. This extra investment allowed universities to do more to increase the number of women professors, in addition to the target figures that they had set for themselves for 2020. The idea for the 100 additional women full professors in the Westerdijk Year came from Athena's Angels. This programme was carried out by the Dutch Research Council (NWO) on behalf of the Ministry. The Impulse worked. It had a significant effect on increasing the share of women full professors.

This effect seems now to have run its course. At the current pace, a 50/50 male-female ratio of full professors will only be achieved in 2041, or even possibly only in 2045 (Figure 1.2). For this reason, Athena's Angels and the LNVH have made a joint call for a second incentive aimed at reaching parity by 2036. In that year it will be exactly 400 years since the first woman student, Anna Maria van Schurman, was admitted to a Dutch university. To be able to achieve this, 200 extra women full professors will have to be appointed in the years ahead. In other words: 'Done in 400 years'. This is not an overly ambitious goal.

The fact that we currently have a demissionary government means that discussions around the Anna Maria van Schurman Impulse are now on hold.

FIGURE 1.2

Percentage of women full professors, in FTE (1990–2022) and prognosis for 2022–2041, and percentage of women full professors, in FTE (1990–2022) and prognosis for 2022–2045.



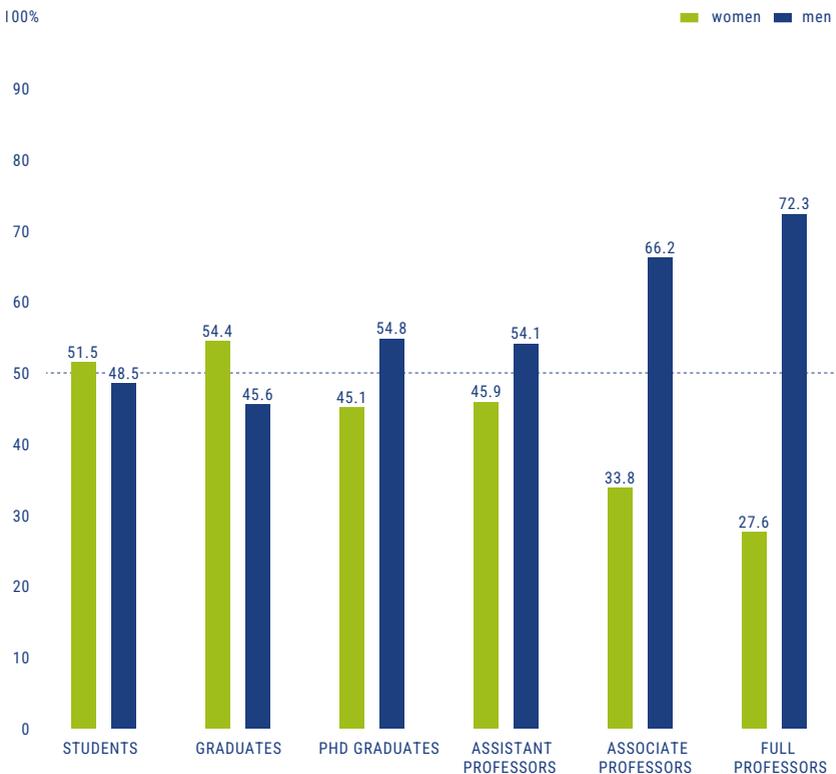
Source: UNL, WOPI, reference date 31 December, in FTE. Excluding the scientific field of Healthcare

PROPORTION OF WOMEN BY SUCCESSIVE JOB CATEGORY

At the end of 2022, the share of women students had increased slightly to 51.5%. The share of women students remains higher than that of men students. This is also true for the share of women graduates, which likewise increased slightly to 54.4%. The share of women PhD graduates also increased from 44.5% to 45.1%. What is striking this year is that for the first time at 45.9% the share of women assistant professors is 0.8 percentage points higher than the share of women PhD graduates 📌. However, there was still a sharp decline in the share of women for each successive job category, from 45.9% of assistant professors to 33.8% of associate professors and 27.6% of full professors.

FIGURE 1.3

Percentage of women and men from student to full professor, in FTE and in number of people, end of 2022.



Source students and graduates: 1cH02022, October 2022, in number of people. Excluding the scientific field of Healthcare.

Source personnel: UNL, WOPi, end of 2022, in FTE. Excluding the scientific field of Healthcare.

INSIGHT INTO THE DEVELOPMENTS FOR EACH JOB CATEGORY

Developments in the percentages of women in the job categories of full professor, associate professor, assistant professor and PhD graduate for the period from the end of 2018 to the end of 2022 are presented in the following tables and figures. This year we also present developments among students and graduates 📍.

For students and graduates, both the share and the number of men have decreased. For women on the other hand, both categories show slight growth, as Figure 1.4.1 shows. If this trend continues in terms of numbers of PhD graduates, the share of women PhD graduates should also increase visibly in the years ahead 📍.

If we consider the difference between the number of women and men amongst graduates over a longer period, it is striking that this difference is getting bigger over the years, and in favour of women: from 822 in the 2005 diploma year to 4,175 in the 2021 diploma year.

TABLE 1.1

Development of graduates according to gender and difference in numbers of persons, by gender, diploma year 2005-2006 to diploma year 2021-2022

	'05-'06	'10-'11	'15-'16	'16-'17	'17-'18	'18-'19	'19-'20	'20-'21	'21-'22
M	13,148	14,821	17,256	17,987	18,308	19,574	19,712	22,243	21,796
W	13,970	17,069	19,890	20,259	21,404	22,033	22,671	25,492	25,971
Total	27,118	31,890	37,146	38,246	39,714	41,607	42,384	47,737	47,768
Difference between number of women and men graduates	822	2,248	2,634	2,272	3,096	2,459	2,959	3,249	4,175

Source for graduates: 1cHQ, reference date 1 October, in number of people. Excluding the scientific field of Healthcare.

If, with reference to Figure 1.4.2, we consider the developments in respect of PhD graduates and assistant professors, we see the following: with an increase of 1.4 percentage points, the share of women among assistant professors grew considerably. As mentioned before, the share of women assistant professors is greater than the share of women PhD graduates, which is currently 45.1%. The growth in the share of women PhD graduates (0.9 percentage points) seems to be improving a little after the meagre 0.2 percentage points of growth at the end of 2021.

The following can be observed for the categories of associate professor and full professor:

For the second successive year, the share of women in the job category associate professor has grown considerably. However, at 1.4 percentage points at the end of 2022, the growth is not as strong as at the end of 2021, when it stood at 2.0 percentage points. Figure 1.4.3 clearly shows a shift in the decline in the share of women associate professors which was occasioned by the thinning of the pool following the appointment of 100 women full professors as part of the Westerdijk Talent Impulse.

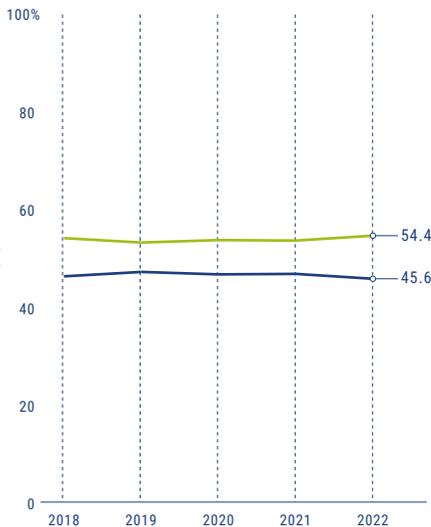
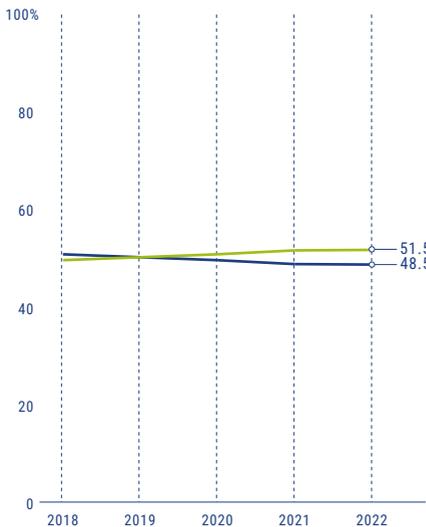
The proportion of women full professors increased from 23.1% at the end of 2018 to 27.6% at the end of 2022. As mentioned before, striking growth (2.2 percentage points) was observed in the year 2017/2018 due to the Westerdijk Talent Impulse. In the following year, however, we observed low average growth (1.2 percentage points). In 2019/2020, growth once again increased to 1.5 percentage points. At the end of 2021, the strikingly low growth percentage of 1.0 percentage point was already pointed out. However, the decline in growth is continuing. The increase in the percentage of women full professors from the end of 2021 to the end of 2022 is a mere 0.9 percentage points, which is the lowest in eight years 📉. Figure 1.4.3 clearly shows the growth increase in the share of women associate professors and the decrease in growth of the share of women among full professors.

FIGURE 1.4.1

Proportional distribution of students and graduates by gender and growth in the percentage of women students and graduates, 2018 through 2022, in number of people.

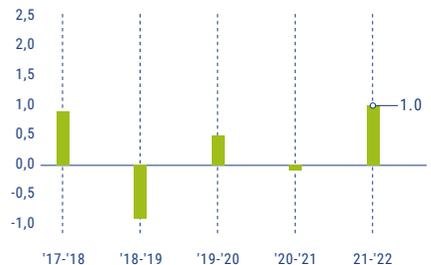
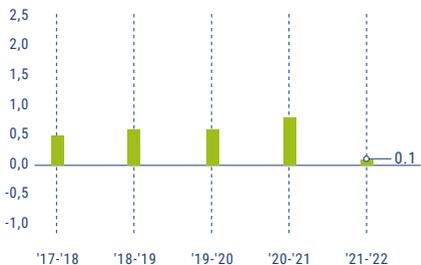
STUDENTS

GRADUATES



Growth in percentage points relative to the previous year

Growth in percentage points relative to the previous year



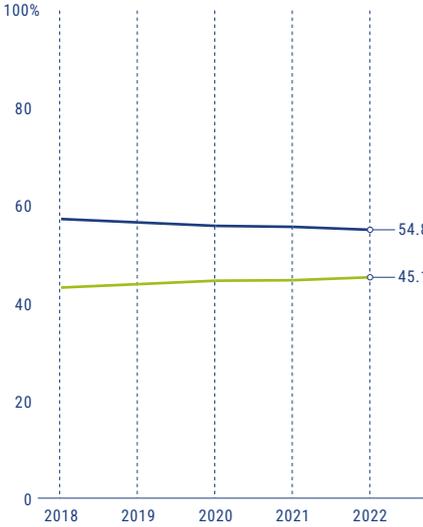
Source students and graduates: 1cH02017 - 1cH02022, reference date 1 October, in number of people. Excluding the scientific field of Healthcare.

■ women ■ men

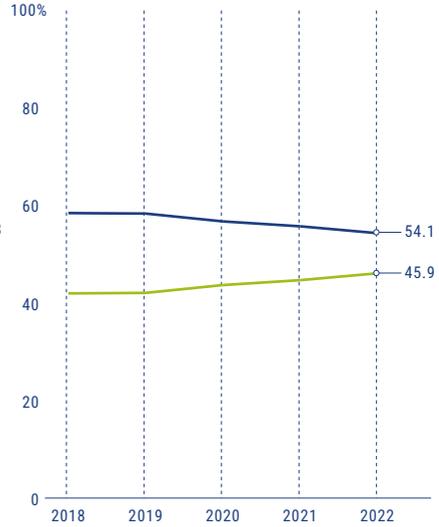
FIGURE 1.4.2

Proportional distribution of PhD graduates and assistant professors by gender and growth in the percentage of women PhD graduates and assistant professors, end of 2018 through end of 2022, in FTE.

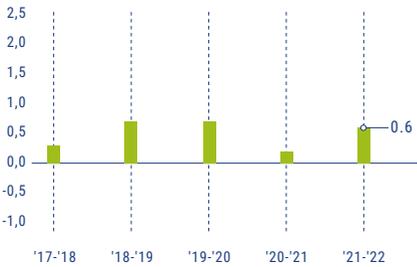
PHD GRADUATES



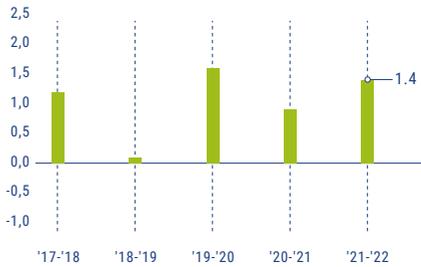
ASSISTANT PROFESSORS



Growth in percentage points relative to the previous year



Growth in percentage points relative to the previous year



Source: UNL, WOPI, reference date 31 December, in FTE. Excluding the scientific field of Healthcare.

■ women ■ men

FIGURE 1.4.3

Proportional distribution of associate professors and full professors by gender and growth in the percentage of women associate professors and full professors⁵, end of 2018 through end of 2022, in FTE.



Source: UNL, WOPI, reference date 31 December, in FTE. Excluding the scientific field of Healthcare.

■ women ■ men

5. You may have noticed that the growth percentage in the text deviates from that in the figure. That is correct. We base the growth percentage for women full professors on the difference between the rounded percentage of women full professors for the year in question and the rounded percentage of women full professors for the previous year. For the 2023 Monitor, these figures are 27.6% (end of 2022) and 26.7% (end of 2021), respectively, the difference being 0.9 percentage points. If we use the unrounded percentages for both years, we arrive at 1.0 percentage point (rounded up). The figures and tables in the Monitor always show the growth based on unrounded percentages.

GLASS CEILING INDEX FOR MEN AND WOMEN UNCHANGED

Since the publication of the first Monitor, we have included a section on the Glass Ceiling Index (GCI). See the text box for further explanation regarding this index.

With reference to GCIs at the end of 2021, at the sector level, the GCIs for all job transitions remained unchanged for both men and women.

The GCI for the transition from assistant professor to associate professor and the GCI for the transition from associate professor to full professor remain consistently above 1.0 for women and under 1.0 for men. This implies that the step from assistant professor to associate professor and from associate professor to full professor is accompanied by more obstacles for women than for men.

The GCI for the transition from PhD graduate to assistant professor is 1.0 – a neutral GCI, in other words – for both men and women.

In this chapter we address the GCIs at the sector level; we notice that these have remained unchanged compared with the previous Monitor. Addressing the GCIs per university, however, results in a more diverse picture. Please refer to Chapter 2 in this regard.

The Glass Ceiling Index

The Glass Ceiling Index (GCI) is an indicator of the advancement, or lack thereof, of women to higher job categories. The GCI will be greater than 1.0 when there is less representation of women at the higher level, compared to the level below. If the proportion of women is the same in two consecutive job categories, the GCI is equal to 1.0. This is referred to as a neutral GCI.

GCI > 1.0: impeded transition

GCI = 1.0: normal transition

GCI < 1.0: easy transition

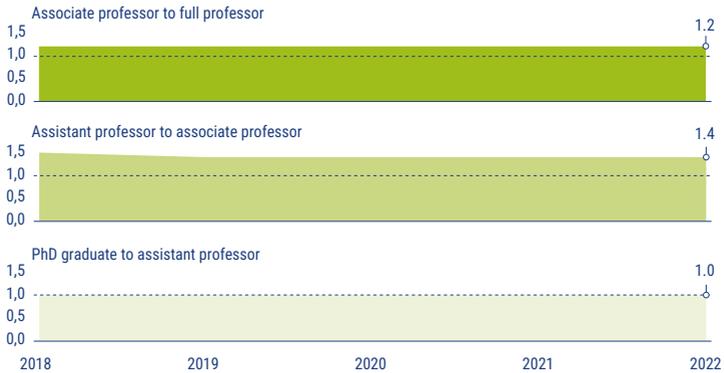
The GCI is calculated by dividing the percentage of women in job category x-1 by the percentage of women in job category x.

The GCI does not provide information about actual transitions, and it is not the same as the probability of transition. The GCI was developed by research agency SEOR in 2002 on behalf of the Ministry of Social Affairs and Employment, as part of the development of a benchmark for identifying the position of women in senior and management positions.

FIGURE 1.5

Glass Ceiling Index (GCI) women and men by job transition, in FTE, end of 2018 through end of 2022.

GCI for women



GCI for men



Source: UNL, WOPI, reference date 31 December, in FTE. Excluding the scientific field of Healthcare.

SLIGHT INCREASE IN SCOPE OF THE EMPLOYMENT CONTRACT FOR WOMEN. DIFFERENCE IN SCOPE OF THE EMPLOYMENT CONTRACT BETWEEN WOMEN AND MEN REDUCED.

To determine the scope of the employment contract, we compare the number of FTE within a job category with the number of people in this job category. This shows that for associate professors, assistant professors and PhD graduates, the scope of the employment contract has increased slightly for women between the end of 2021 and the end of 2022. For men it has remained unchanged. This means that the difference in scope of the employment contract between women and men in these positions has shrunk 📉. However, the scope of the employment contract for women remains slightly smaller than for men, except for full professors. Among women full professors, scope of the employment contract is slightly larger than among men full professors: 0.88 FTE compared to 0.85 FTE.

TABLE 1.2

Average scope of the employment contract by position and gender, end of 2022 and end of 2021.

	2022		2021	
	W	M	W	M
FULL PROFESSORS	0.88	0.85	0.88	0.85
ASSOCIATE PROFESSORS	0.90	0.92	0.89	0.92
ASSISTANT PROFESSORS	0.91	0.92	0.90	0.92
PHD GRADUATES	0.97	0.98	0.96	0.98

Source: UNL, WOPI, reference date 31 December, in FTE and number of people. Excluding the scientific field of Healthcare.

MARKED INCREASE IN NUMBER OF PERMANENT CONTRACTS. WOMEN SCIENTISTS STILL MORE LIKELY TO HAVE TEMPORARY APPOINTMENTS. DIFFERENCE VIS-À-VIS MEN SMALLER.

The end of 2022 shows a striking increase in the total share of permanent contracts compared to temporary contracts⁶. What is striking is the increase in permanent contracts among assistant professors: from 67.2% to 79.6% for women and from 71.6% to 80.3% for men. This means that the difference between the share of women and men with a temporary contract has decreased from 4.4 percentage points at the end of 2021 to 0.7 percentage points at the end of 2022.

In all job categories (full professor, associate professor and assistant professor), women are still slightly more likely to have temporary contracts than men, but compared to the end of 2021 the difference vis-à-vis men has narrowed .

TABLE 1.3

Proportional distribution of permanent and temporary employment by position and gender, in FTE, end of 2022.

	W		M	
	Permanent	Temporary	Permanent	Temporary
FULL PROFESSORS	97.5	2.5	98.0	2.0
ASSOCIATE PROFESSORS	97.6	2.4	98.0	2.0
ASSISTANT PROFESSORS	79.6	20.4	80.3	19.7

Source: UNL, WOPI, end of 2022, in FTE. Excluding the scientific field of Healthcare.

6. The decline in the number of temporary contracts is the result of several agreements made by the universities in recent years. Together with the unions, in the collective labour agreement for 2021, the universities included the agreement that subject to good performance assistant and associate professors, full professors and support and management staff are given a permanent contract after one year. For the job category of lecturer, in this year's collective labour agreement the unions and universities agreed to further reduce the number of temporary lecturers. The universities have used the significant investments by the demissionary government flowing from the 2022 Administrative Agreement to realise more permanent employment, among others through the use of starter's grants or incentive grants (source: UNL 04-09-2023).

The Monitor mainly focuses on the categories of PhD graduates, assistant professors, associate professors and full professors. We would also like to provide more insight into the category of post-doctoral researchers as, in many respects, this is a vulnerable group of researchers. Unfortunately the UNL⁷ WOPI data collection provides very little information on this subject. This is because the category of post-doctoral researchers is not included as such in WOPI. They are included in the umbrella category of 'researchers' and cannot be selected from this category as a group. This makes it impossible for us to distil and present complete and unambiguous data about postdocs from the WOPI data. Last year, however, we chose to include the available data in respect of the gender distribution and distribution of permanent and temporary contracts within the adjacent categories of 'lecturer' and 'researcher', which this year again paints an interesting picture.

For lecturers, it is clear that at the end of 2022 the share of permanent contracts was substantially larger than at the end of 2021. For women, this share increased by 8.8 percentage points from 33.7% to 42.4%. For men, it increased by 6.4 percentage points from 44.4% to 50.8%.

For researchers, there was a slight shift towards permanent contracts. The shift is considerably smaller than for lecturers though. For women, it increased by 1.9 percentage points from 8.2% to 10.1%, and for men by 0.6 percentage points from 10.7% to 11.3%.

If we consider the share of women among lecturers and researchers, the majority of lecturers are women (53.2%). For researchers, women are still the minority (41%) 📌. There is an increase in the proportion of women researchers though: from 39.9% at the end of 2021 to 41% at the end of 2022.

7. UNL = Universities of the Netherlands (formerly VSNU).

TABLE 1.4

Proportional distribution of lecturers and researchers by contract and gender, end of 2021 and end of 2022, in FTE.

	Lecturers		Researchers	
	W	M	W	M
2021				
Temporary	66.3	55.6	91.8	89.3
Permanent	33.7	44.4	8.2	10.7
2022				
Temporary	57.6	49.2	89.9	88.7
Permanent	42.4	50.8	10.1	11.3

Source: UNL, WOPI, reference date 31 December, in FTE. Excluding the scientific field of Healthcare.

POSTDOCS: A VULNERABLE JOB CATEGORY

In the past, UNL equated the category of postdoc with the group of 'researchers 3, 4 with temporary contracts'. From our enquiries to UNL, and using this approach, we have learnt that approximately 95% of the category of 'researcher with a temporary contract' are postdocs. With reference to the data available to the Monitor, the best approach therefore seems to be to consider only those researchers who have a temporary contract. In that case, about the same image emerges as for the total population of researchers: here too the percentage of women is smaller than the percentage of men, i.e. 41.3% versus 58.6%. The proportion of women did increase slightly from 39.7% to 41.3% between the end of 2018 and the end of 2022.

TABLE 1.5

Distribution of women and men among researchers with a temporary contract, end of 2018 through end of 2022, in FTE

	2018	2019	2020	2021	2022
Women	39.7	38.8	39.6	40.5	41.3
Men	60.3	61.2	60.4	59.4	58.6 ⁸

Source: UNL, WOPI, reference date 31 December, in FTE. Excluding the scientific field of Healthcare.

8. In Table 1.5, the percentages do not add up to 100. This is because we do not show the category 'Other' here, but we do determine the percentages based on the total, including the category 'Other'. For more details see Appendix 1.

DIFFERENCE IN SALARY SCALE CLASSIFICATION OF MEN AND WOMEN HAS DECREASED SLIGHTLY. WOMEN STILL HAVE A LOWER SALARY CLASSIFICATION IN ALMOST ALL JOB CATEGORIES.

The salary classification of women full professors at the end of 2022 is still lower than that of men full professors. For women, the percentage in the highest scale category increased by 0.6 percentage points between the end of 2021 and the end of 2022 from 20.8% to 21.4%. For men, it decreased from 37.2% to 36%.

In the lowest scale category, 15-16, the proportion of women full professors decreased slightly and that of men increased slightly.

In the lowest scale category, the number of FTE for women full professors increased by 27.9 FTE and in the highest scale category by 14.2 FTE. For men, the number of FTE in the lowest scale category increased by 30.7 FTE and in the highest scale category the number decreased by 25.8 FTE. It is safe to assume that the decline for men in the highest scale category can be explained in part by the outflow of men in the highest age categories – see page 28 and 29 for more details.

For associate professors, we observe a less marked difference in salary classification between men and women. The difference is also minimal for assistant professors.

In respect of PhD graduates, the salary classification of women and men PhD graduates at the end of 2022 remains almost the same as at the end of 2021. Even now, women PhD graduates are allocated to a somewhat slightly lower salary scale than men PhD graduates. We find 96.7% of women PhD graduates in the highest salary category, 10-12, as opposed to 98.3% of men PhD graduates.

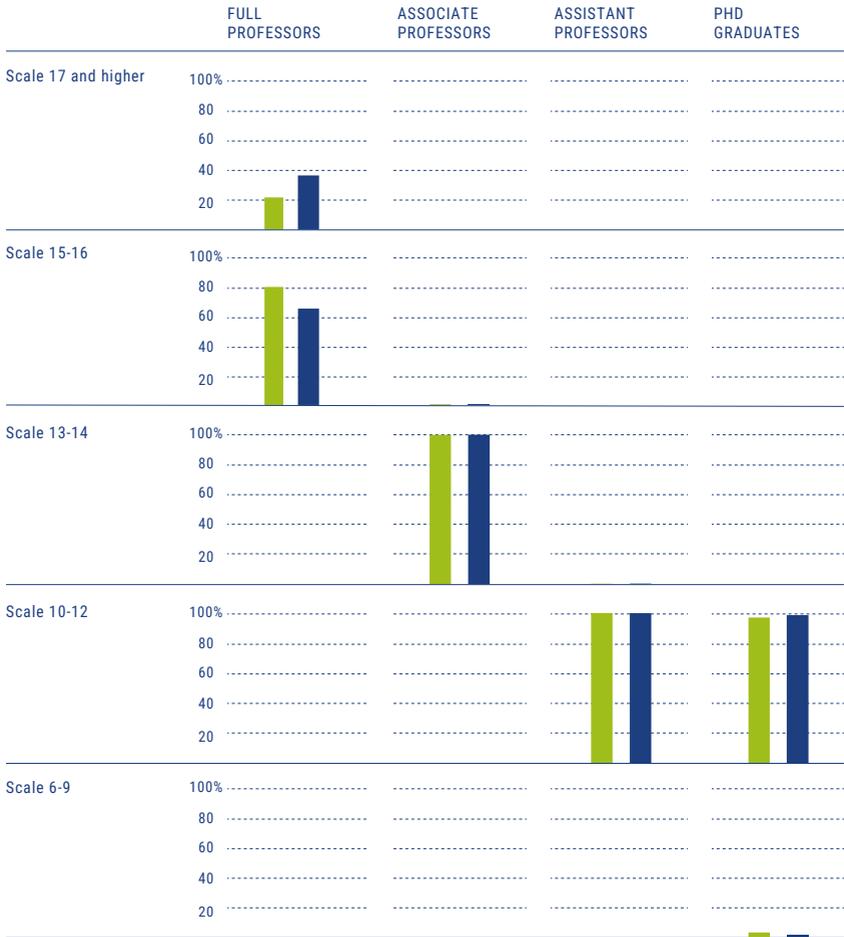
Correction to supplied data regarding salary scale groups in previous Monitors

Due to a number of retroactive corrections in the data supplied by UNL regarding full professors' allocation to salary scale groups, the Monitors for 2017 through 2022 show variously incorrect percentages. In the Monitors for 2017 through 2021, for example, the share of women full professors in the highest salary scale group (17 and higher) should have been smaller and that in the lowest salary scale group (15-16) should have been larger.

In general, one could say that for women full professors the percentages in the highest salary scale groups were overstated and for those in the lowest salary scale groups these were understated.

FIGURE 1.6

Percentage of women and men scientists, by salary group, in FTE, end of 2022.



Source: UNL, WOPI, end of 2022, in FTE. Excluding the scientific field of Healthcare.

■ women ■ men

In this Monitor we would once more like to emphasise the importance of looking at the differences in salary scale allocation in a more focused manner. However, due to the lack of access to more detailed-level data than allocation to salary categories, the LNVH is currently unable to do so. We call on individual institutions to do their own analysis of remuneration and salary classification systems, and to detect possible differences between men and women, remedy these differences and prevent them in the future.

NOTICEABLE INCREASE IN NUMBER OF WOMEN ASSOCIATE PROFESSORS, ASSISTANT PROFESSORS AND PHD GRADUATES. SIGNIFICANT DELAY IN GROWTH OF WOMEN FULL PROFESSORS.

It is not only looking at the share of women by job category that yields insights. We also keep an eye on changes in the numbers (in number of people and in FTE). The following picture emerges from scrutiny of the numbers (see also Figure 1.7):

In number of people, the number of full professors at the end of 2022 has increased by 34 (48 FTE) compared to the end of 2021 – a decrease of 15 (+ 4.5 FTE) men full professors, an increase of 1 (1.0 FTE) person in the 'Other' category and an increase of 48 (42.5 FTE) persons among women full professors.

For associate professors, again we see a sharp increase, in terms of people as well as FTE: the number of persons increased by 178 (169.7 FTE) of which 79 (73.4 FTE) were men, 1 (1.0 FTE) person in the 'Other' category and 98 (95.3 FTE) were women.

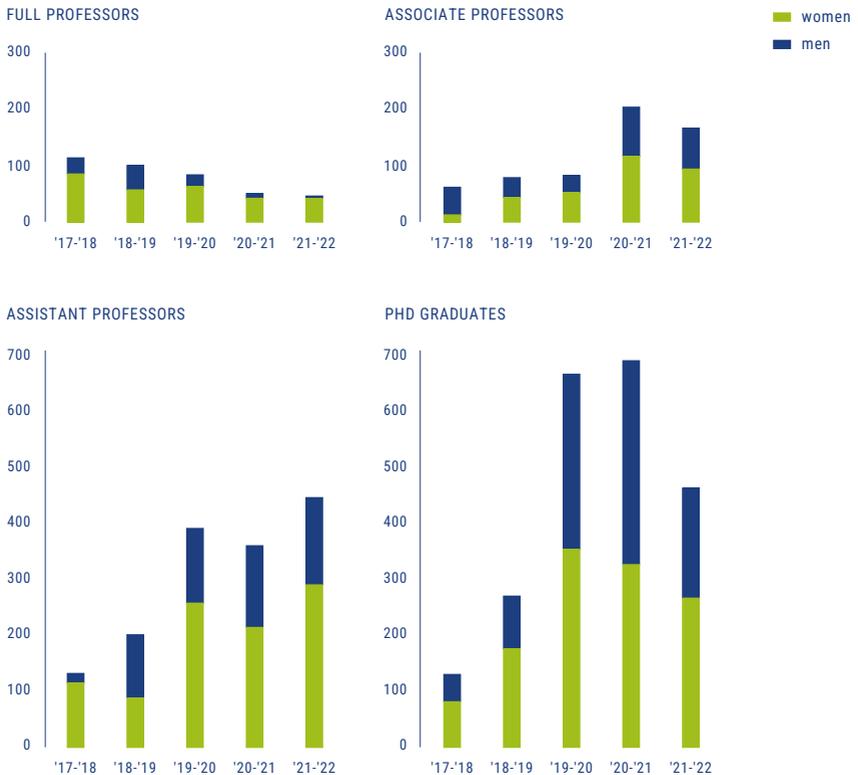
For assistant professors, the increase was 452 persons (449.7 FTE), of which 160 were men (156.3 FTE), 2 in the 'Other' category (2 FTE) and 290 (291.5 FTE) were women.

For PhD graduates there was an increase in number of people of 456 (468.2 FTE). Of these, 193 were men (197 FTE), 4 belonged in the 'Other' category (3.6 FTE) and 259 were women (267.6 FTE).

As mentioned before, the relatively strong growth in the last three years in the share of women in the job categories of PhD graduate, assistant professor and associate professor is – potentially – good news in terms of the pool and potential for replacement. It is important, though, that these women not be lost to academia 💡.

FIGURE 1.7

Increase in FTE by position and gender, 2017-2018 to 2021-2022



Source: UNL, WOPI, reference date 31 December, in FTE. Excluding the scientific field of Healthcare.

OUTFLOW OF LARGE PROPORTION OF MEN IN HIGHEST AGE CATEGORY SEEMS TO HAVE BEGUN. WOMEN FULL PROFESSORS AND ASSOCIATE PROFESSORS ARE STILL CONSIDERABLY YOUNGER THAN MALE COLLEAGUES.

For the second successive year there is a marked decline in the number of men full professors. Between the end of 2021 and the end of 2022 this number declined by 15 persons. Between the end of 2020 and the end of 2021 the number of men full professors was already shrinking, by 17 persons at that time.

What can also be seen is a decline in the age category up to 60 years of age and an increase in the age category of 60 years and over. The proportion of men full professors over 60 years of age increased from 23.4% at the end of 2012 to 32.1% at the end of 2022.

Both of these facts seem to point to an acceleration of the expected strong outflow of a large group of men in the highest echelons of academia, informally referred to as the 'grey-haired log jam' blocking the advancement of women to higher job levels.

For women full professors, the number of individual full professors, conversely, increased by 48 from the end of 2021 to the end of 2022. Contrary to the development among the men, among women there is also an increase in the younger age categories, with the exception of the 35-39 age category.

Similar to the situation with men full professors, there is also an increase in the number of women in the category 60 years and over. The proportion of women full professors in the age category 60 years and over increased from 14.2% at the end of 2012 to 19.4% at the end of 2022. This increase of 5.2 percentage points in ten years is smaller than the 8.7 percentage points in the same period for men.

It is currently quite obvious that the population of women full professors is younger than the population of men full professors. Moreover, as shown in Table 1.6, there is a considerable pool of young women who could potentially replace the outgoing group of full professors now and in the future. See also Table 1.7 for further information.

TABLE 1.6

Number of full professors and associate professors by age category and gender, end of 2022 and end of 2021, in number of people.

	Full professors				Associate professors			
	2022		2021		2022		2021	
	W	M	W	M	W	M	W	M
30-34	1	1		2	14	27	14	35
35-39	26	36	30	40	164	269	156	247
40-44	125	214	122	216	321	494	288	487
45-49	190	370	190	380	235	378	237	339
50-54	248	522	246	539	175	278	123	271
55-59	197	646	174	646	98	279	113	293
60-64	150	623	131	608	79	282	60	270
>=65	39	222	35	218	15	102	12	88
Total	976	2,634	928	2,649	1,101	2,109	1,003	2,030

Source: UNL, WOPI, reference date 31 December, in number of people. Excluding the scientific field of Healthcare.

REPLACEMENT POTENTIAL NEARLY 100%

To determine the extent of the outflow of full professors that is to be expected, we focus on full professors in the age category 60 years and over. To determine the total replacement potential for compensating the outflow of full professors, we focus on associate professors in the age category up to 60 years.

Without distinguishing between scientific fields, almost 100% (97.4%)  of the expected departing full professors can be replaced by women associate professors. This means that the replacement potential has increased by 3.5 percentage points within the space of a year. The previous Monitor also showed a remarkably strong increase in this replacement potential; last year's figure was 13 percentage points in one year.

TABLE 1.7

Potential of women associate professors who could replace full professors aged 60 and over.

Full professors >=60		Total full professors >=60	Associate professors up to 60 years of age		Percentage of the total outflow that could be replaced by women associate professors
women	men		women	men	
189	845	1,034	1,007	1,725	97.4

Source: UNL, WOPI, end of 2022, in number of people. Excluding the scientific field of Healthcare.

PERCENTAGES OF WOMEN FULL PROFESSORS AND WOMEN STUDENTS IN EACH SCIENTIFIC FIELD

In addition to the picture for the sector as a whole, it is interesting to consider the distribution across various scientific fields. The following section shows the ratio between the percentage of women students and the percentage of women full professors for each scientific field. A ratio of 2 means that the percentage of women among the students is twice as large as the percentage of women among full professors. This ratio could be an indication of the probabilities of advancement within a scientific field. In Chapter 2, we provide more information about the percentage of women in each scientific field at the various institutions.

The ratio of the percentage of women students to that of women full professors improved for all scientific fields except Law. In the scientific field of Law this ratio is the same as it was last year. While this ratio had deteriorated slightly last year in the scientific field of Technology, it has now returned to the same level as at the end of 2020.

Please note: a ratio of 1.0, which means the percentage of women students is just as large (or as small) as the percentage of women full professors, is what we call a favourable ratio. However, a ratio of 1.0 does not give any indication about reaching proportionality (50/50 ratio between men and women) for women students and for women full professors. In the scientific field of Technology, which at 1.5 has the most favourable ratio, increasing both the percentage of women full professors and the percentage of women students remains necessary.

The difference between the percentage of women students and the percentage of women full professors is largest in the scientific fields of Behavioural & Social Sciences and Agriculture. For Behavioural & Social Sciences, at 32.3 percentage points, the difference is a little smaller than it was last year (33.8 percentage points). For Agriculture, the difference at the end of 2022 is 30.8 percentage points whereas last year it had been 35.1 percentage points. This is thanks in particular to the increase in the percentage of women full professors in Agriculture from 22% to 25.3%.

TABLE 1.8

Percentage of women students and women full professors by scientific field, and the ratio between the percentage of women students and the percentage of women full professors within a scientific field, end of 2022 and end of 2021.

	Women students 2022	Women full professors end of 2022	Ratio of women students/women full professors at end of 2022	Ratio of women students/women full professors at end of 2021
AGRICULTURE	56.2	25.3	2.2	2.5
NATURAL SCIENCES	40.7	20.4	2.0	2.1
TECHNOLOGY	28.4	18.7	1.5	1.6
ECONOMICS	35.6	16.2	2.2	2.3
LAW	63.6	34.0	1.9	1.9
BEHAVIOURAL & SOCIAL SCIENCES	72.2	39.9	1.8	1.9
LANGUAGE & CULTURE	62.7	38.4	1.6	1.7

Source: UNL, WOPI, end of 2021 and end of 2022, in FTE.

Source of information on students: 1cHO2021, October 2021 and 1cHO2022, October 2022, in number of people.

COMPOSITION OF ACADEMIC STAFF BY ORIGIN

The 2022 Monitor was the first monitor in which we presented information on the gender distribution in the composition of academic staff with reference to the UNL WOPI variable known as 'Origin'⁹. In this Monitor, we do this once again, comparing the data from the end of 2022 with those from the end of 2021, among other things. This allows us to draw the following picture:

TABLE 1.9.1

Number of FTE by position and origin at end of 2022 and end of 2021.

	Full professors		Associate professors		Assistant professor		PhD graduates	
	2022	2021	2022	2021	2022	2021	2022	2021
Dutch	2,395.1	2,372.4	1,919.4	1,849.7	3,384.8	3,289.1	4,770.1	4,648.1
EEA excl. Dutch	535.6	515.9	694.6	628.2	1,960.2	1,756.6	2,543.9	2,469.8
European non-EEA	71.2	74.0	110.4	90.7	330.6	294.6	593.8	537.4
Non-European	106.5	98.0	195.4	181.5	901.6	788.2	2,686.4	2,469.8
Unknown					4.0	3.0	2.0	3.0
Total	3,108.4	3,060.3	2,919.8	2,750.1	6,581.2	6,131.5	10,596.2	10,128.1

Source: UNL, WOPI, reference date 31 December, in FTE. Excluding the scientific field of Healthcare.

TABLE 1.9.2

Proportional distribution by position and origin, in FTE, at end of 2022 and end of 2021.

	Full professors		Associate professors		Assistant professor		PhD graduates	
	2022	2021	2022	2021	2022	2021	2022	2021
Dutch	77.1	77.5	65.7	67.3	51.4	53.6	45.0	45.9
EEA excl. Dutch	17.2	16.9	23.8	22.8	29.8	28.6	24.0	24.4
European non-EEA	2.3	2.4	3.8	3.3	5.0	4.8	5.6	5.3
Non-European	3.4	3.2	6.7	6.6	13.7	12.9	25.4	24.4
Unknown					0.1	0.0	0.0	0.0

Source: UNL, WOPI, reference date 31 December, in FTE. Excluding the scientific field of Healthcare.

Between the end of 2021 and the end of 2022, the percentage of academics of international origin increased slightly in all job categories. In each successive job category from PhD graduate to full professor, the proportion of international origin decreased. This went from 55% of PhD graduates to 22.9% of men full professors.

9. Reference to 'Origin' is a reference to the UNL WOPI variable. This variable pertains to the nationality as per passport. Further details about this variable are given in Appendix 1.

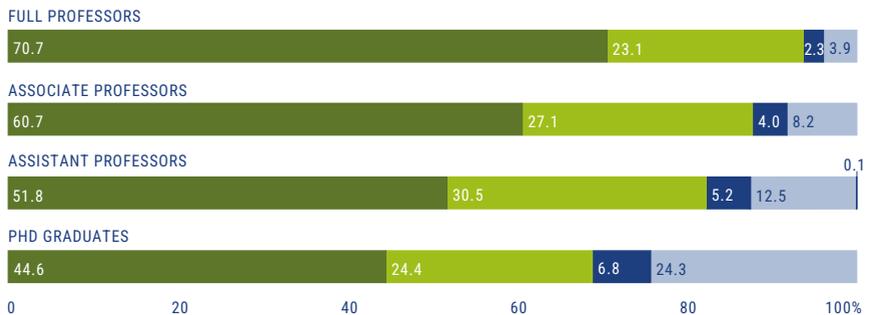
The percentage of academics of non-European origin decreased from 25.4% of PhD graduates to 13.7% of assistant professors, 6.7% of associate professors and 3.4% of full professors. The difference between this percentage for PhD graduates and full professors has thus increased from 21.2 percentage points from the end of 2021 to 22 percentage points at the end of 2022.

The following can be observed with regard to the distribution per origin for men and women by position:

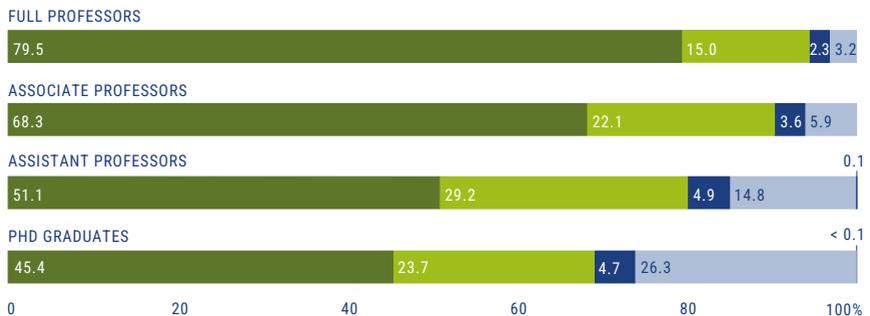
FIGURE 1.8

Gender distribution by position and origin, in FTE, at end of 2022.

women



men



- Dutch
- EEA excl. Dutch
- European non-EEA
- Non-European
- Unknown

Source: UNL, WOPI, end of 2022, in FTE. Excluding the scientific field of Healthcare

Among full professors, associate professors and PhD graduates, there is a larger proportion of women than men of international origin. Among assistant professors, the proportion of women of international origin is slightly less than that of men.

The fact that the proportion of academics of non-European origin in the successive job categories is shrinking is notable, for women as well as for men. For example, 24.3% of women PhD graduates are of non-European origin while this figure is 3.9% for women full professors. For men PhD graduates, 26.3% are of non-European origin as opposed to 3.2% for men full professors.

Another notable aspect regarding full professors is that 23.1% of the women are from the EEA¹⁰ (excluding the Netherlands) as opposed to 15.0% of the men.

Looking more broadly at developments of the past five years, the following picture emerges:

TABLE 1.9.3

Percentage of full professors, associate professors, assistant professors and PhD graduates of international origin (= not Dutch) by position, end of 2018 through end of 2022, in FTE.

	2018	2019	2020	2021	2022
Full professors	19.2	20.3	21.5	22.5	22.9
Associate professors	26.3	29.3	31.0	32.7	34.3
Assistant professors	38.8	40.5	43.4	46.4	48.6
PhD graduates	50.1	51.5	52.6	54.1	55.0

Source: UNL, WOPI, reference date 31 December, in FTE. Excluding the scientific field of Healthcare.

10. EEA stands for European Economic Area. The European Economic Area (EEA) comprises all the EU Member States plus Liechtenstein, Norway and Iceland (source: Dutch Government).

TABLE 1.9.4

Percentage of full professors, associate professors, assistant professors and PhD graduates of international origin (= not Dutch), end of 2018 through end of 2022, in number of people.

	2018	2019	2020	2021	2022
Full professors	18.7	19.9	21.0	21.9	22.3
Associate professors	25.5	28.4	30.2	31.7	33.2
Assistant professors	36.8	38.4	41.2	44.1	46.3
PhD graduates	49.4	50.8	51.9	53.5	54.5

Source: UNL, WOPI, reference date 31 December, in number of people. Excluding the scientific field of Healthcare.

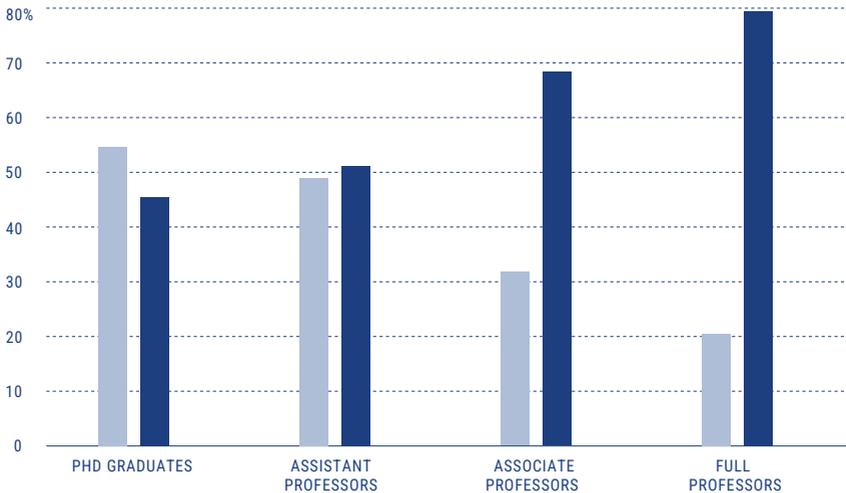
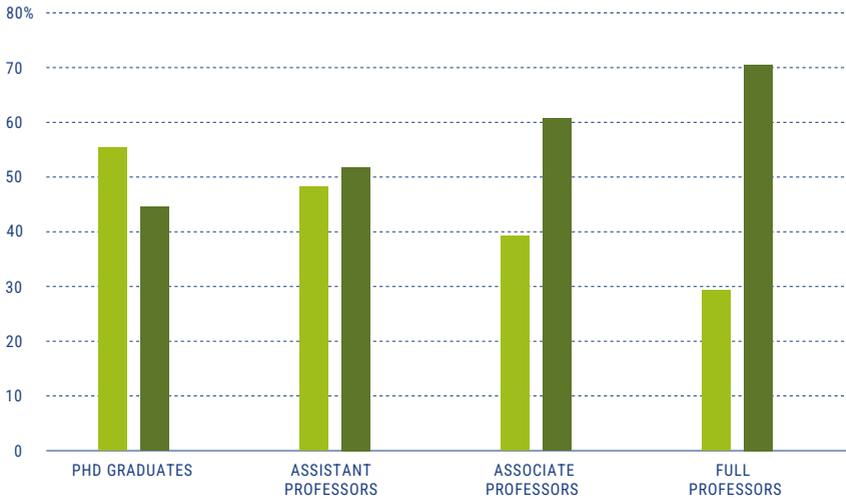
In the past five years the percentage of FTE of international origin increased in all job categories. The increase in this percentage in the past five years was sharpest for assistant professors: from 38.8% to 48.6%. In number of people, among assistant professors the percentage of academics of international origin increased from 36.8% to 46.3% in the past five years.

The percentage of academics of international origin is higher when measured in FTE than when measured in number of people. This suggests that the average number of working hours of full professors, associate professors, assistant professors and PhD graduates of international origin is higher than for academics of Dutch origin in the same job categories.

Naturally, it is interesting to consider the male-female ratio here too. The following becomes apparent:

FIGURE 1.9.1

Proportional distribution of Dutch and non-Dutch origin, by position and gender, at end of 2022, in FTE.



■ women non-Dutch
■ women Dutch
■ men non-Dutch
■ men Dutch

Source: UNL, WOPI, end of 2022, in FTE. Excluding the scientific field of Healthcare

In the past five years the percentage of academics of international origin increased in all job categories for both men and women. The increase is greatest for men assistant professors, with the percentage of academics of international origin increasing with 11.7 percentage points, from 37.2% at the end of 2018 to 48.9% at the end of 2022.

FIGURE 1.9.2

Percentage of PhD graduates, assistant professors, associate professors and full professors of international origin by gender, end of 2018 through end of 2022, in FTE.



Source: UNL, WOPI, reference date 31 December, in FTE. Excluding the scientific field of Healthcare.

— 2 —

THE SHARE OF WOMEN SCIENTISTS AT UNIVERSITIES

LIMITED GROWTH IN THE PERCENTAGE OF WOMEN FULL PROFESSORS AT MOST UNIVERSITIES

As described in Chapter 1, at the end of 2022, the average percentage of women full professors was 27.6%. This translates to a growth rate of 0.9 percentage points relative to the end of 2021, when the percentage was 26.7%.

The Monitor for 2022 showed a decline in the percentage of women full professors at 3 of the 14 universities . At 10 universities the percentage of women occupying full professorships increased (albeit slightly). At one university, the percentage remained unchanged.

The following picture emerges from the Monitor for 2023:

At 12 of the 14 universities, the proportion of women full professors grew between the end of 2021 and the end of 2022. This growth varies from 0.4 percentage points at Delft University of Technology (TU Delft) and the Open University to 3.4 percentage points at Wageningen University & Research. At Leiden University, the percentage of women full professors remained unchanged. At VU Amsterdam, the percentage of women full professors shrank by 0.1 percentage points compared to the end of 2021. Besides the growth of 3.4 percentage points at Wageningen University & Research, the above-average growth of 2.4 percentage points at Tilburg University and 2.1 percentage points at Radboud University are also striking.

Leiden University, Utrecht University and the University of Groningen dropped in the rankings. Their percentage of women full professors remained unchanged or increased minimally.

Whereas last year three universities had crossed the threshold of 30% women full professors, this year there are five that have done so 📌: the Open University, Maastricht University, Leiden University, Radboud University Nijmegen and Utrecht University. This means that Radboud University Nijmegen has converted the decrease from the end of 2020 through 2021, which had put them under the 30% threshold, into an increase.

This year again, the Open University¹ leads the ranking with a percentage of 40.9% of women full professors at the end of 2022. This is a slight increase of 0.4 percentage points compared to the end of 2021. The Open University thus still remains above the 40% threshold for women full professors. Maastricht University follows, with the share of women full professors increasing from 35.1% to 36.0%.

Finally, TU Delft, where the increase was an under-average 0.4 percentage points from 17.7% to 18.1%, remains in last place. Consequently, for TU Delft the discrepancy between its percentage of women full professors and the average percentage of 27.6% of women full professors has become even greater than it was last year.

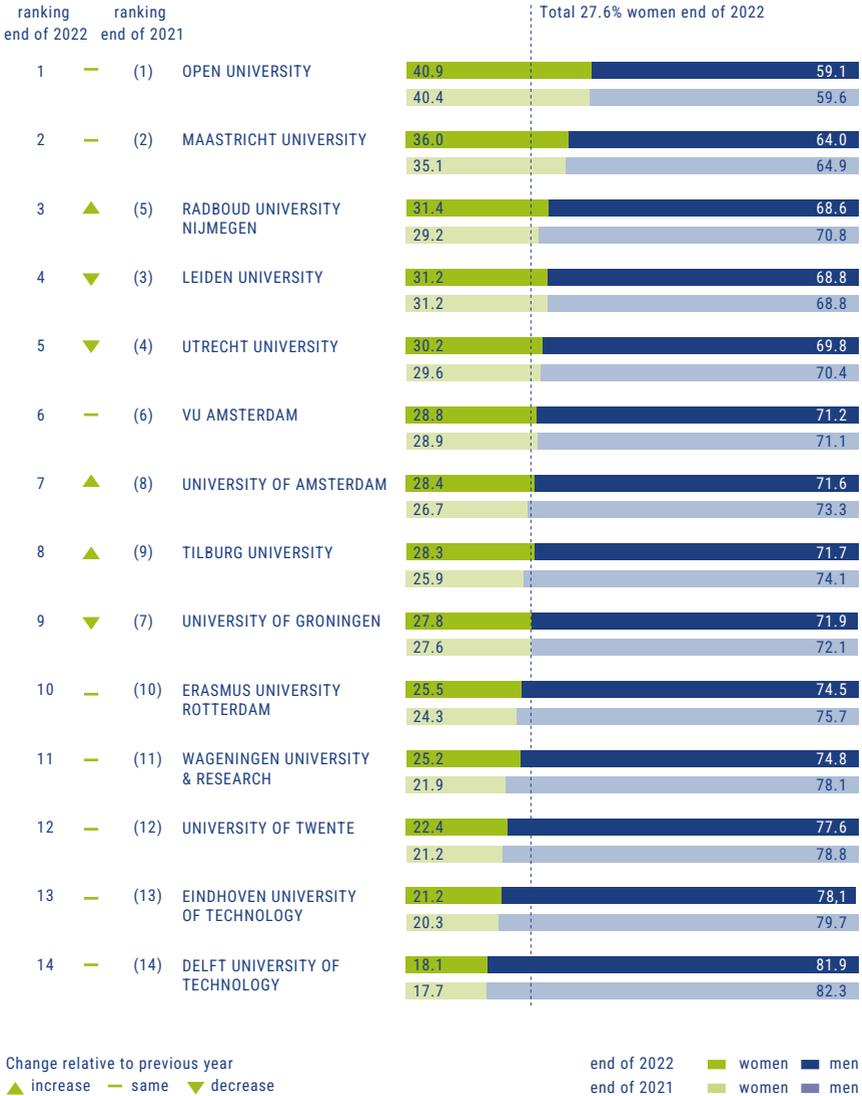
At the end of 2022, 9 full professors were employed at the University of Humanistic Studies: 8 women and 1 man. In terms of FTE, this is a total of 7.8, of which 6.8 were women and 1.0 were men. This means the University of Humanistic Studies has 87.2% women full professors (in FTE)².

1. It should be noted that the Open University's staff numbers are very small in comparison with those of the other institutions. For this reason, even a small change in the numbers will result in a large change in the percentages.

2. **Source:** requested from the Executive Board of the University of Humanistic Studies, September 2023, reference date 31 December 2022. The personnel data of the University of Humanistic Studies are not included in the WOPI data of UNL. Therefore, they cannot be included in the regular data analysis underlying the representations in this Monitor.

FIGURE 2.1

Percentage of men and women full professors at universities, in FTE, end of 2021 and end of 2022. From high to low, by percentage of women full professors, end of 2022



Source: UNL, WOPI, end of 2021 and end of 2022, in FTE. Excluding the scientific field of Healthcare.

The percentages of women full professors at all universities at the end of 2021 and the end of 2022 are presented in Table 2.1, along with the growth rate in percentage points. The low average growth rate of 0.9 percentage points is worrying 🚩.

What is striking in this Monitor is the limited growth in the percentage of women full professors at seven of the fourteen universities; at these institutions the growth percentage is exactly 1 percentage point or lower. Moreover, there is only one 🚩 single outlier this year, with a growth percentage above 3 percentage points: Wageningen University & Research.

TABLE 2.1

Percentage of women full professors at each university, end of 2021 and end of 2022, in FTE, and growth in the percentage of women full professors (in percentage points) between end of 2021 and end of 2022.

	Percentage of women at end of 2022	Percentage of women at end of 2021	Growth in percentage points of percentage of women full professors end of 2021 - end of 2022
LEIDEN UNIVERSITY	31.2	31.2	0.0
UTRECHT UNIVERSITY	30.2	29.6	0.6
UNIVERSITY OF GRONINGEN	27.8	27.6	0.2
ERASMUS UNIVERSITY ROTTERDAM	25.5	24.3	1.2
MAASTRICHT UNIVERSITY	36.0	35.1	0.9
UNIVERSITY OF AMSTERDAM	28.4	26.7	1.7
VU AMSTERDAM	28.8	28.9	-0.1
RADBOD UNIVERSITY NIJMEGEN	31.4	29.2	2.1
TILBURG UNIVERSITY	28.3	25.9	2.4
DELFT UNIVERSITY OF TECHNOLOGY	18.1	17.7	0.4
EINDHOVEN UNIVERSITY OF TECHNOLOGY	21.2	20.3	1.0
UNIVERSITY OF TWENTE	22.4	21.2	1.2
WAGENINGEN UNIVERSITY & RESEARCH	25.2	21.9	3.4
OPEN UNIVERSITY	40.9	40.4	0.4
Total	27.6	26.7	1.0³

Source: UNL, WOPI, end of 2021 and end of 2022, in FTE. Excluding the scientific field of Healthcare.

3. We base the growth percentage for women full professors on the difference between the rounded percentage of women full professors for the year in question and the rounded percentage of women full professors for the previous year. For the 2023 Monitor, these figures are 27.6% (end of 2022) and 26.7% (end of 2021), respectively, the difference being 0.9 percentage points. If we use the unrounded percentages for both years, we arrive at 1.0 percentage point (rounded up). The figures and tables in the Monitor always show the growth based on unrounded percentages.

TOTAL POPULATION OF FULL PROFESSORS AT UNIVERSITIES IN FTE

For more insight into the decline of or increase in the percentages of women full professors, it is interesting to consider developments in the total numbers of full professors. From the end of 2021 to the end of 2022, the total size of the population of full professors increased from 3,060.3 FTE to 3,108.4 FTE. This is an increase of 48 FTE.

Focusing on where the growth took place, we see that at 11 universities there was an increase in the total number of full professors in FTE. At three universities (Utrecht University, Erasmus University Rotterdam and Eindhoven University of Technology) there was a decline in the total number of FTE of full professors of 4.7, 5.9 and 5.2 FTE, respectively. Relatively speaking, Wageningen University & Research has the largest growth in the number of FTE of full professors: 14.6 percentage points.

There was a decline in the population of full professors at Tilburg University in previous Monitors. However, from the end of 2021 to the end of 2022 this changed into modest relative growth of 2.7 percentage points.

TABLE 2.2

Total population of full professors and growth between end of 2021 and end of 2022, by institution and gender, and percentage growth in total number of full professors, in FTE.

	Total FTE of full professors end of 2022	Growth W end of '21-'22	Growth M end of '21-'22	Percentage growth in the total number of FTE of full professors end of '21-'22
LEIDEN UNIVERSITY	287.9	0.1	0.5	0.2
UTRECHT UNIVERSITY	333.8	0.7	-5.4	-1.4
UNIVERSITY OF GRONINGEN	315.9	0.9	-0.5	0.1
ERASMUS UNIVERSITY ROTTERDAM	187.3	0.8	-6.8	-3.1
MAASTRICHT UNIVERSITY	151.0	3.3	2.2	3.8
UNIVERSITY OF AMSTERDAM	312.1	6.9	-1.1	1.9
VU AMSTERDAM	296.6	0.9	3.5	1.5
RADBOD UNIVERSITY NIJMEGEN	254.5	6.3	-3.2	1.3
TILBURG UNIVERSITY	152.6	4.7	-0.6	2.7
DELFT UNIVERSITY OF TECHNOLOGY	288.2	2.3	4.7	2.5
EINDHOVEN UNIVERSITY OF TECHNOLOGY	163.8	0.5	-6.7	-3.1
UNIVERSITY OF TWENTE	174.4	4.2	5.9	6.1
WAGENINGEN UNIVERSITY & RESEARCH	145.5	8.9	9.6	14.6
OPEN UNIVERSITY	45.0	2.0	2.5	11.0
Total	3,108.4	42.5	4.5	1.6

Source: UNL, WOPI, end of 2021 and end of 2022, in FTE. Excluding the scientific field of Healthcare.

TOTAL POPULATION OF FULL PROFESSORS AT UNIVERSITIES IN NUMBER OF PEOPLE

Between the end of 2021 and the end of 2022, the population of full professors in number of people increased by 34. This comprises an increase of 48 individual women full professors, an increase of one individual in the 'Other' category and a decrease of 15 individual men full professors⁴.

At four of the fourteen universities there was a decline in the total number of full professors: Utrecht University, University of Groningen, Erasmus University Rotterdam and Eindhoven University of Technology. This was caused by the decrease in the number of men at all four universities.

At nine of the fourteen universities there was a decline in the total number of men full professors. The number of women full professors is increasing at 12 of the 14 universities.

At the University of Groningen and Eindhoven University of Technology, the number of women remained unchanged.

The largest increase in the population of full professors in number of people, as in FTE, is at Wageningen University & Research. There, the population increased by 18 individual full professors, 9 of whom were women and 9 were men.

4. In this context, the growth and/or decline is determined by the sum of intake, exit and transition.

TABLE 2.3

Total population of full professors and growth between end of 2021 and end of 2022, by institution and gender, and percentage growth in the population of full professors, in number of people.

	Total population of full professors end of 2022	W	M	Growth W '21-'22	Growth M '21-'22	Percentage growth in total number of individual full professors end of '21-'22
LEIDEN UNIVERSITY	332	103	229	1	-1	0.0
UTRECHT UNIVERSITY	385	117	268	1	-4	-0.8
UNIVERSITY OF GRÖNINGEN	346	94	251	0	-3	-0.9
ERASMUS UNIVERSITY ROTTERDAM	223	54	169	2	-10	-3.5
MAASTRICHT UNIVERSITY	181	59	122	3	-1	1.1
UNIVERSITY OF AMSTERDAM	357	98	259	8	-2	1.7
VU AMSTERDAM	368	103	265	1	1	0.5
RADBOUD UNIVERSITY NIJMEGEN	286	89	197	7	-5	0.7
TILBURG UNIVERSITY	194	54	140	9	-1	4.3
DELFT UNIVERSITY OF TECHNOLOGY	342	60	282	3	4	2.1
EINDHOVEN UNIVERSITY OF TECHNOLOGY	189	41	147	0	-7	-3.1
UNIVERSITY OF TWENTE	204	46	158	2	4	3.0
WAGENINGEN UNIVERSITY & RESEARCH	151	38	113	9	9	13.5
OPEN UNIVERSITY	54	20	34	2	1	5.9
Total	3,612	976	2,634	48	-15	1.0

Source: UNL, WOPI, end of 2021 and end of 2022, in number of people. Excluding the scientific field of Healthcare.

PROPORTION OF WOMEN SCIENTISTS AT UNIVERSITIES IN EACH JOB CATEGORY

For proper advancement to the highest echelons of the academic world, one needs insight into the state of play in the job categories leading up to this. As such, we include the entire pipeline in our analysis.

We already noted earlier in this Monitor, the growth among women associate professors is considerable across the sector. When we examine the growth in the number of associate professors and the proportion of that growth among women associate professors, we see that more than half of the growth (56.1%) is attributed to them.

However, there are big differences between the universities. For example, the proportion of the growth going to women associate professors varied from 1.7% at Leiden University to 106.4% and 120.9% at VU Amsterdam and the University of Twente, respectively.

On average, the proportion of women associate professors increased by 1.4 percentage points. Examining this increase per university shows that from the end of 2021 to the end of 2022, this proportion grew fastest at Utrecht University, VU Amsterdam and the University of Twente, by 2.4, 3.9 and 5.8 percentage points, respectively. At Leiden University, Erasmus University Rotterdam, Maastricht University and the Open University, the proportion of women associate professors has conversely declined slightly, by 1.7, 1.0, 0.2 and 0.1 percentage points, respectively 📉.

TABLE 2.4

Number of associate professors, total growth and growth of women and men associate professors and proportion of the growth going to women, by university, end of 2021 to end of 2022, in FTE.

	Number of associate professors in FTE end of 2022	Total growth '21-'22	Growth W '21-'22	Growth M '21-'22	Share of the growth that has gone to women	Percentage point growth share of women associate professors '21-'22
LEIDEN UNIVERSITY	216.1	9.8	0.2	9.6	1.7	-1.7
UTRECHT UNIVERSITY	316.1	36.4	22.2	14.3	60.8	2.4
UNIVERSITY OF GRÖNINGEN	277.1	12.3	5.8	6.4	47.5	0.5
ERASMUS UNIVERSITY ROTTERDAM	192.5	5.9	0.4	5.5	6.8	-1.0
UNIVERSITEIT MAASTRICHT	134.1	5.2	1.8	2.4	34.5	-0.2
UNIVERSITY OF AMSTERDAM ⁵	295.0	-0.3	3.2	-3.5	-	1.1
VU AMSTERDAM	242.2	12.8	13.6	-0.8	106.4	3.9
RADBOUD UNIVERSITY NIJMEGEN	186.2	27.3	10.8	16.6	39.3	0.6
TILBURG UNIVERSITY	133.3	17.2	7.8	9.4	45.3	2.0
DELFT UNIVERSITY OF TECHNOLOGY	342.2	28.5	12.1	16.4	42.3	1.6
EINDHOVEN UNIVERSITY OF TECHNOLOGY	147.7	7.3	1.9	5.4	25.9	0.4
UNIVERSITY OF TWENTE	180.5	10.4	12.6	-2.2	120.9	5.8
WAGENINGEN UNIVERSITY & RESEARCH ⁵	223.8	-7.9	1.5	-9.4	-	1.8
OPEN UNIVERSITY	33.1	4.7	1.5	3.2	31.9	-0.1
Total	2,919.8	169.7	95.3	73.4	56.1	1.4

Source: UNL, WOPI, end of 2021 and end of 2022, in FTE. Excluding the scientific field of Healthcare.

For assistant professors, the percentage of women increased by 1.4 percentage points between the end of 2021 and the end of 2022 from 44.5% to 45.9%. A striking aspect is the above-average growth in the share of women assistant professors at Leiden University, Erasmus University Rotterdam and Radboud University Nijmegen of 2.6, 4.7 and 2.6 percentage points, respectively. At Maastricht University, VU Amsterdam and Wageningen University & Research, the percentage of women assistant professors declined 📉 by 0.3, 0.3 and 0.8 percentage points, respectively.

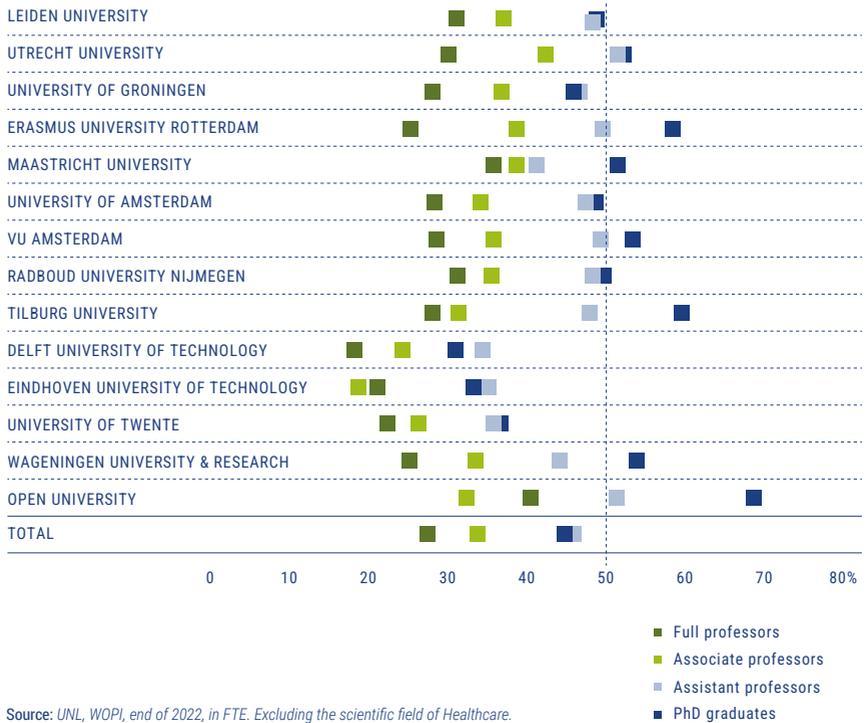
The proportion of women PhD graduates increased slightly by 0.6 percentage points from 44.5% to 45.1%. This means that the recovery of the growth of the share of women PhD graduates has continued in the past year.

5. In the event of negative total growth (= decline), consisting of an increase of one part and a greater decrease of another part, calculating the share in the growth of the part that increased yields results that are hard to interpret. For this reason, for the University of Amsterdam and Wageningen University & Research, women's share in the growth is not included in this table.

Focusing on the proportion of women PhD graduates, we notice a decline at five universities: Leiden University (0.5), University of Groningen (0.3), Maastricht University (2.3), VU Amsterdam (1.0) and the Open University (2.1) 📉. Then again, at Erasmus University Rotterdam, Utrecht University, Tilburg University and Eindhoven University of Technology, there was above-average growth of 3.6, 1.9, 2.8 and 1.8 percentage points, respectively.

FIGURE 2.2

Percentage of women by job category at each university, in FTE, end of 2022.



Source: UNL, WOPI, end of 2022, in FTE. Excluding the scientific field of Healthcare.

What is striking in Figure 2.2 is that at Leiden University the share of women is above average in all job categories. At the University of Groningen, TU Delft and Eindhoven University of Technology, the share of women assistant professors is greater than the share of women PhD graduates, which aligns with sector-wide developments. Another striking aspect is that, at 18.6%, the share of women associate professors at Eindhoven University of Technology is way below the average of 33.8% and, incidentally, is the smallest proportion of associate professors of all of the universities.

As supplementary detail to Figure 2.2, Table 2.5 presents the relative differences between the percentages of women in the job categories of PhD graduate, assistant professor and associate professor, and the percentage of women full professors at each university.

On average, the difference between the percentage of women PhD graduates and the percentage of women full professors at the end of 2022 was 17.5 percentage points, a reduction that is continuing. At the end of 2021, the difference was 17.9 percentage points.

There are five universities that have a difference of more than 25 percentage points: Erasmus University Rotterdam, VU Amsterdam, Tilburg University, Wageningen University & Research and the Open University. The largest discrepancy is that at Erasmus University Rotterdam: 33.4 percentage points. The smallest discrepancy is that at Eindhoven University of Technology: 12.2 percentage points.

At the end of 2022, the average difference between the percentage of women assistant professors and women full professors was 18.2 percentage points.

While this difference is approximately equal to the difference between the percentage of women PhD graduates and women full professors, there are noticeable differences between universities. At 10.9 percentage points, the difference between women assistant professors and women full professors at the Open University is far below the average of 18.2 percentage points while, at 28.8 percentage points, the difference between the share of women PhD graduates and women full professors is well above the average of 17.5 percentage points.

The average difference between the share of women associate professors and that of women full professors is 6.2 percentage points.

This year, there were two universities at which the percentage of women associate professors was smaller than the percentage of women full professors: Eindhoven University of Technology and the Open University. At the end of 2021 this was also the case at the University of Twente. A growth of 5.8 percentage points in the share of women associate professors from 20.5% to 26.3% and a 1.2 percentage points increase in the share of women full professors from 21.2% to 22.4% has resulted in the share of women associate professors at the University of Twente exceeding the share of women full professors again at the end of 2022.

TABLE 2.5

Difference in the percentage of women between the job categories of PhD graduate and full professor; between assistant professor and full professor; and between associate professor and full professor, by institution, in FTE, end of 2022.

	PhD graduate–Full professor	Assistant professor– Full professor	Associate professor– Full professor
LEIDEN UNIVERSITY	17.8	17.5	6.0
UTRECHT UNIVERSITY	22.6	21.8	12.4
UNIVERSITY OF GRONINGEN	18.3	18.9	9.0
ERASMUS UNIVERSITY ROTTERDAM	33.4	24.6	13.4
MAASTRICHT UNIVERSITY	16.1	5.7	3.0
UNIVERSITY OF AMSTERDAM	20.5	19.5	5.9
VU AMSTERDAM	25.1	21.0	7.4
RADBOD UNIVERSITY NIJMEGEN	18.7	17.2	4.5
TILBURG UNIVERSITY	32.0	20.0	3.4
DELFT UNIVERSITY OF TECHNOLOGY	13.0	16.6	6.5
EINDHOVEN UNIVERSITY OF TECHNOLOGY	12.2	14.0	-2.7
UNIVERSITY OF TWENTE	14.4	13.6	3.9
WAGENINGEN UNIVERSITY & RESEARCH	29.2	19.4	8.4
OPEN UNIVERSITY	28.8	10.9	-8.4
Total	17.5	18.2	6.2

Source: UNL, WOPI, end of 2022, in FTE. Excluding the scientific field of Healthcare.

THE GLASS CEILING INDEX

The Glass Ceiling Index (GCI) of each institution reveals the job transition that is accompanied by the greatest obstacles to advancement to the next job level at that institution. A higher number indicates a thicker glass ceiling (see GCI box in Chapter 1).

An increase or decrease of a GCI can be caused by a change in the proportion of women in the lowest and/or highest job category of the job transition in question, and differs from one university to the next. The intervention needed to bring a GCI down to the neutral GCI of 1.0 or lower therefore differs from one university to the next and must be considered and implemented by each university separately, i.e. customised.

At the sector level, the GCI scores for women for the three job transitions (PhD graduate–assistant professor, assistant professor–associate professor and associate professor–full professor) at the end of 2022 were the same as those at the end of 2021: 1.0, 1.4 and 1.2, respectively.

The scores for the individual universities nevertheless reveal changes in the GCI relative to the end of 2021.

Once more, the PhD graduate/assistant professor GCI for the sector is 1.0 (a neutral GCI). The GCI for this job transition has increased at one university (Eindhoven University of Technology) and decreased for three universities (Leiden University, Maastricht University and the Open University).

At GCI = 1.4, the assistant professor/associate professor job transition is the one that is accompanied by the greatest obstacles. This GCI declined slightly at five of the fourteen universities (VU Amsterdam, Tilburg University, TU Delft, University of Twente and Wageningen University & Research). At four universities, this GCI conversely got larger: Leiden University, Erasmus University Rotterdam, Radboud University Nijmegen and the Open University.

The associate professor/full professor GCI for the sector is 1.2. This GCI decreased at three universities (Erasmus University Rotterdam, Radboud University Nijmegen and Wageningen University & Research) and increased at three universities (VU Amsterdam, TU Delft and the University of Twente). For this job transition, two universities had a GCI below 1.0 at the end of 2022: Eindhoven University of Technology and the Open University.

TABLE 2.6

GCI for women, by job transition and institution, in FTE, end of 2022.

	PhD graduate– Assistant professor	Assistant professor– Associate professor	Associate professor– Full professor
LEIDEN UNIVERSITY	1.0	1.3	1.2
UTRECHT UNIVERSITY	1.0	1.2	1.4
UNIVERSITY OF GRONINGEN	1.0	1.3	1.3
ERASMUS UNIVERSITY ROTTERDAM	1.2	1.3	1.5
MAASTRICHT UNIVERSITY	1.2	1.1	1.1
UNIVERSITY OF AMSTERDAM	1.0	1.4	1.2
VU AMSTERDAM	1.1	1.4	1.3
RADBOUD UNIVERSITY NIJMEGEN	1.0	1.4	1.1
TILBURG UNIVERSITY	1.2	1.5	1.1
DELFT UNIVERSITY OF TECHNOLOGY	0.9	1.4	1.4
EINDHOVEN UNIVERSITY OF TECHNOLOGY	1.0	1.9	0.9
UNIVERSITY OF TWENTE	1.0	1.4	1.2
WAGENINGEN UNIVERSITY & RESEARCH	1.2	1.3	1.3
OPEN UNIVERSITY	1.3	1.6	0.8
Total	1.0	1.4	1.2

- GCI has got lower (=better)
- GCI has got higher (=worse)
- GCI lower than 1.0

Source: UNL, WOPI, end of 2022, in FTE. Excluding the scientific field of Healthcare.

PROPORTION OF WOMEN SCIENTISTS AT UNIVERSITIES IN EACH SCIENTIFIC FIELD

In some cases, the percentages of women in each job category at the institutional level can obscure the true facts. This is because the average percentages per institution do not reveal the true situation in certain faculties, which can be downright poor sometimes. The LNVH would therefore like to provide information regarding the gender ratios at the faculty level. With the data we have at our disposal that is, however, not possible. Efforts at obtaining data through separate requests yielded data that could not be used. The LNVH therefore calls on universities to be alert to the current situation at faculty level themselves.

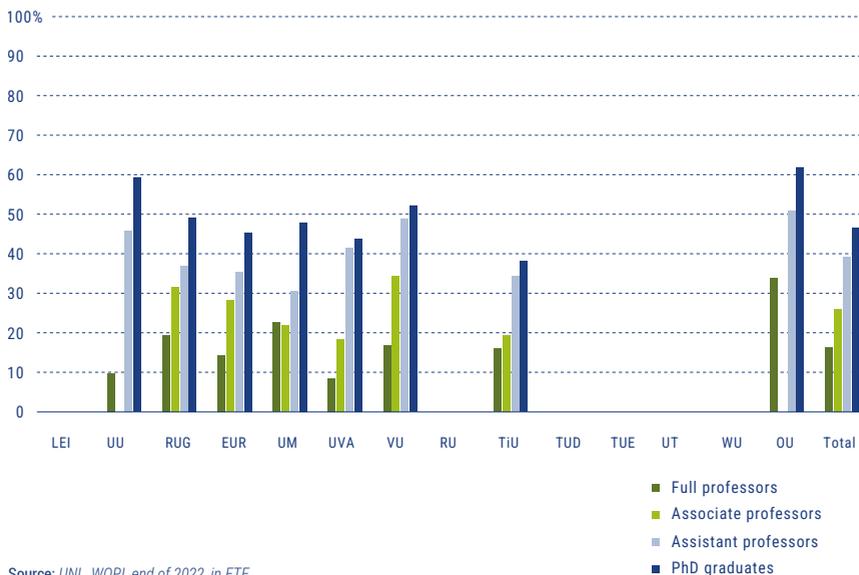
We can present the proportion of women for each scientific field at individual institutions, though. Here we look beyond the walls of the universities and the sector-wide image, with the hope of encouraging exchange between universities with regard to promoting growth in the share of women in specific scientific fields⁶.

The low percentages of women in higher job categories in the scientific fields of Natural Sciences and Technology generally enjoy ample attention. The scientific field of Economics, however, is equally deserving of attention regarding this matter

6. For additional information on subfields within scientific fields (in Dutch), see *Indeling sectoren | Hoger onderwijs | Inspectie van het onderwijs* (onderwijsinspectie.nl).

FIGURE 2.3.1

Share of women in the scientific field of Economics, by job category and institution, in FTE, end of 2022.



Source: UNL, WOPI, end of 2022, in FTE.

At the sector level, the share of women full professors in the scientific field of Economics is only 16.2%. The 8.4% share at the University of Amsterdam and 9.7% share at Utrecht University are much lower than this. At 33.8%, the Open University has the highest percentage of women full professors within the scientific field of Economics⁷.

What is noticeable is that Utrecht University and the Open University have no women associate professors in this scientific field even though the percentages of women PhD graduates and assistant professors at these universities are above average.

Tilburg University has below-average percentages of women in all job categories in the scientific field of Economics.

7. It should be noted that the Open University's staff numbers are very small in comparison with those of the other institutions. For this reason, even a small change in the numbers will result in a large change in the percentages.

FIGURE 2.3.2

Proportion of women in the scientific field of Behavioural & Social Sciences, by job category and institution, in FTE, end of 2022.



Source: UNL, WOPI, end of 2022, in FTE

In the scientific field of Behavioural & Social Sciences, the average proportion of women full professors is almost 40% (39.9%). The Open University has the largest proportion of women full professors: 61.4%⁸.

In terms of associate professors, the University of Groningen has the largest proportion of women: 60.2%.

At 70.9%, the proportion of women assistant professors at Erasmus University Rotterdam is far above the average of 56.6%.

At all 11 of the universities that have women PhD graduates in the scientific field of Behavioural & Social Sciences, this share is higher than 50% (53% - 82.5%). This makes the fact that at 10 of the 11 universities the proportion of women full professors is lower than 50% even more striking.

8. Idem – see footnote 7.

FIGURE 2.3.3

Proportion of women in the scientific field of Agriculture, by job category and institution, in FTE, end of 2022.

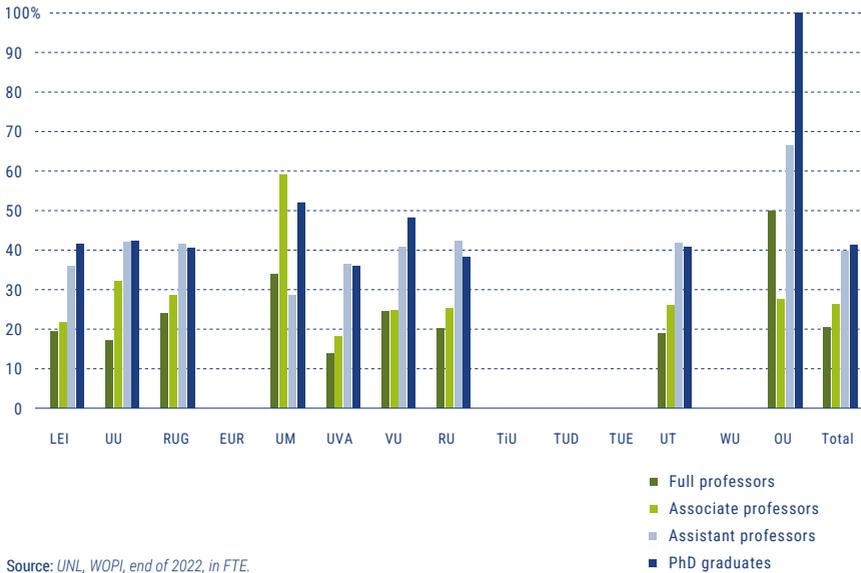


Source: UNL, WOPI, end of 2022, in FTE.

The proportion of women full professors, associate professors and assistant professors in the scientific field of Agriculture is below the sector-wide average (= all scientific fields together). The proportion of women PhD graduates, however, is above the sector-wide average of 45.1%.

FIGURE 2.3.4

Proportion of women in the scientific field of Natural Sciences, by job category and institution, in FTE, end of 2022.



Source: UNL, WOPI, end of 2022, in FTE.

In the scientific field of Natural Sciences, on average the percentage of women full professors is 20.4%. The percentage of 34.0% for Maastricht University and 50.0% for the Open University is far higher than the average.

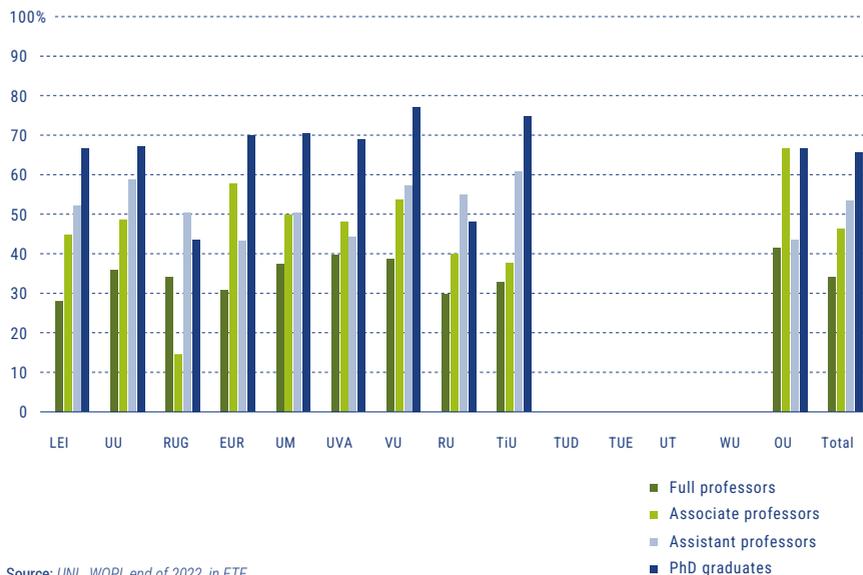
The University of Amsterdam has the smallest proportion of women full professors in the scientific field of Natural Sciences: 13.8%.

In terms of associate professors, it is notable the Maastricht University has 59.1% women associate professors while the average within Natural Sciences is 26.2%.

The Open University is also an outlier in this regard as it has only women PhD graduates in this scientific field.

FIGURE 2.3.5

Proportion of women in the scientific field of Law, by job category and institution, in FTE, end of 2022.



Source: UNL, WOPI, end of 2022, in FTE.

In the scientific field of Law, the average proportion of women full professors is 34%. This varies from 28% at Leiden University to 41.4% at the Open University.

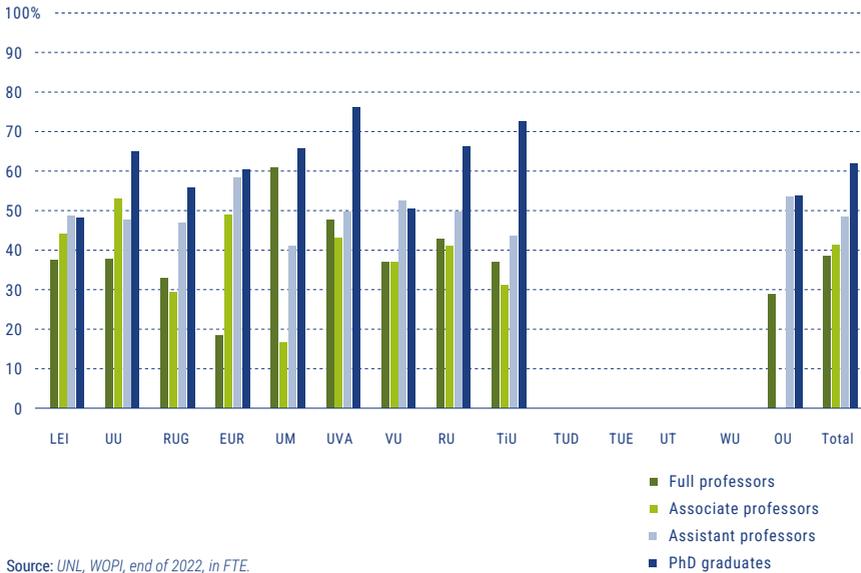
For associate professors, it is striking that the University of Groningen has a very low percentage of women in the field of Law: 14.6% compared to the average of 46.3%. This is even more striking given the fact that the proportion of women assistant professors at the University of Groningen is 50.3% and that of women full professors is 34.0%. Whereas the proportion of women associate professors at the Open University in the scientific field of Law had been 100% the previous year, at the end of 2022 this figure was 66.7%⁹.

VU Amsterdam has the highest percentage of women PhD graduates in the field of Law: 77.2%. At 43.5%, the University of Groningen has the smallest proportion of women PhD graduates.

9. It should be noted that the Open University's staff numbers are very small in comparison with those of the other institutions. For this reason, even a small change in the numbers will result in a large change in the percentages

FIGURE 2.3.6

Proportion of women in the scientific field of Language & Culture, by job category and institution, in FTE, end of 2022.



Source: UNL, WOPI, end of 2022, in FTE.

The average percentage of women full professors in Language & Culture is 38.4%. At 18.5%, the percentage for Erasmus University Rotterdam is quite paltry. Conversely, Maastricht University has a high percentage of women full professors: 60.8%.

At the end of 2022, the Open University had no associate professors in Language & Culture while they did have women PhD graduates, assistant professors and full professors. At 16.7% and 29.3%, respectively, the proportion of women associate professors at Maastricht University and at the University of Groningen is well under the average of 41.2%.

At Erasmus University Rotterdam, the difference between the percentage of women full professors (18.5%) and the percentage of women associate professors (48.9%) is strikingly large.

At 72.7% and 76.2%, Tilburg University and the University of Amsterdam have an above-average proportion of women PhD graduates.

FIGURE 2.3.7

Proportion of women in the scientific field of Technology, by job category and institution, in FTE, end of 2022.



Source: UNL, WOPI, end of 2022, in FTE.

The percentage of women full professors in the scientific field of Technology is 18.7%, which is significantly lower than the sector average of 27.6%. It is striking that the proportion of women assistant professors in the scientific field of Technology is a little larger than the proportion of women PhD graduates.

As opposed to 2021, the Open University did have women full professors at the end of 2022. However, there were no women associate professors active in this field at this university, whereas there had been at the end of 2021¹⁰.

10. It should be noted that the Open University's staff numbers are very small in comparison with those of the other institutions. For this reason, even a small change in the numbers will result in a large change in the percentages.

TARGETS FOR WOMEN FULL PROFESSORS

At the beginning of 2020, the LNVH requested the universities to set target figures for women full professors for the period 2020–2025. All 14 universities responded to this request and set new goals. If all of the target figures are achieved, no university will have a percentage of women full professors lower than 25% by 2025. Moreover, the average percentage of 31.2% will mean that, for the first time, one in three full professors will be a woman. With these new target figures, we should have passed the point of a critical mass¹¹ by 2025.

The reality is, however, that it will be hard to achieve those future milestones. The effort still needed to achieve the set targets differs from one university to the next. Delving deeper into the developments at each university, the following becomes apparent:

Three of the fourteen universities have already achieved the target figure they set for 2025. These are Erasmus University Rotterdam, Tilburg University and the Open University. Erasmus University Rotterdam has even set a new target figure for 2025, namely 35%. The Open University did not. Instead, it set a 'minimum threshold' of 30% women full professors that the average would have to stay above. At Tilburg University, a new target figure is in the pipeline. This new target figure was not yet known at the time of publication of this Monitor.

At the other universities, however, some effort will still be required for the target figures to be reached in 2025. The distance that still needed to be bridged at the end of 2022 varied from 1.0 at Maastricht University to 6.9 percentage points at Delft University of Technology.

At sector level too, the target figure of 31.2% is far from having been achieved. A shortfall of 3.6 percentage points is yet to be made up.

11. Within this context, 'critical mass' refers to a sufficient number of actors adopting a new idea, technology or innovation within a social system, such that the acceptance rate can maintain itself and, in the case of unequal representation, it will no longer lead to the isolation of the under-represented group.

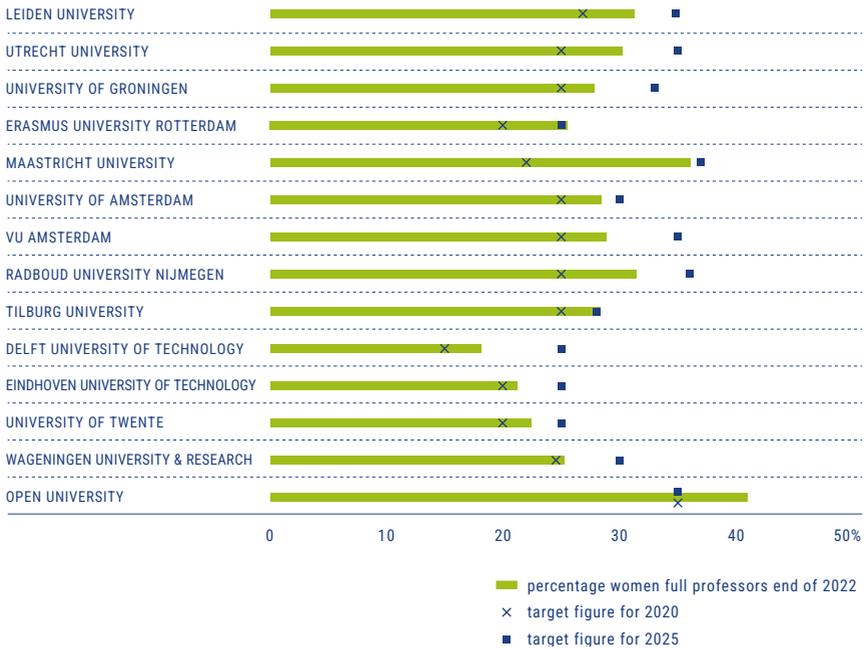
This raises the question whether the general target figure that has been set will be reached at this rate. Basing our prognosis for 2025 on the growth between the end of 2021 and the end of 2022 shows that we will not achieve the target figure at sector level. This prognosis also indicates that, at the rate achieved in the past year, as many as six of the fourteen universities will not achieve their target figure for 2025. According to this prognosis, these six universities still have 24.6 percentage points to bridge. Nonetheless, relative to last year, this picture has improved somewhat: at that time, no fewer than nine of the fourteen universities would not achieve their target figure.

If we use the distance that was bridged in the period from the end of 2017 to the end of 2022 – which also incorporates the effect of the Westerdijk Talent Impulse – as the basis for a prognosis for the percentage of women full professors at the end of 2025, and thus also for the target for 2025, we see that five universities still do not achieve their target, but also that at 12.2 percentage points the number of percentage points that these five universities have yet to bridge under this prognosis is significantly smaller. Using this prognosis, at sector level we do achieve the target percentage of 31.2% 🟡. This is all the more reason to introduce a second incentive as mentioned on page 10.

In calling for this – necessary – additional incentive, the LNVH stresses that in the implementation of any such new incentive lessons must be learnt from the past. The accelerated appointment of a large cohort of women full professors will result in the underlying job category being emptied. What is called for is the simultaneous promotion of women assistant professors to the position of associate professor. What is more, the appointment procedures, which are in many cases instituted in haste, make plain that recruitment is not always transparent and that criteria are not clear. Besides this, attention must continue to be paid to appointing women in the regular appointment procedures. If this is not done, such incentives will not be translated into sustained growth.

FIGURE 2.4

Percentage of women full professors by end of 2022 and target figures for 2020 and 2025, by university.



Source of target figures for 2020: UNL letter of 17 December 2015 to Minister Bussemaker of Education, Culture and Science.

Source of target figures for 2025: UNL Office.

Source personnel: UNL, WOPI, end of 2022, in FTE. Excluding the scientific field of Healthcare.

TABLE 2.7

Percentage of women full professors at end of 2022, target for 2025 and prognosis for 2025, based on growth in the period 2021–2022 and in the period 2017–2022, by university, in FTE.

	Percentage of women full professors end of 2022	Target for 2025	Prognosis for 2025 based on growth '21-'22	Difference between prognosis for 2025 based on growth '21-'22 and target for 2025	Prognosis for 2025 based on growth '17-'22	Difference between prognosis for 2025 based on growth '17-'22 and target for 2025
LEIDEN UNIVERSITY	31.2	35.0	31.1	-3.9	33.6	-1.4
UTRECHT UNIVERSITY	30.2	35.0	32.0	-3.0	33.5	-1.5
UNIVERSITY OF GRONINGEN	27.8	33.0	28.6	-4.4	36.4	3.4
ERASMUS UNIVERSITY ROTTERDAM	25.5	25.0	29.2	4.2	32.7	7.7
MAASTRICHT UNIVERSITY	36.0	37.0	38.7	1.7	42.9	5.9
UNIVERSITY OF AMSTERDAM	28.4	30.0	33.6	3.6	31.9	1.9
VU AMSTERDAM	28.8	35.0	28.4	-6.6	32.8	-2.2
RADBOUD UNIVERSITY NIJMEGEN	31.4	36.0	37.8	1.8	33.7	-2.3
TILBURG UNIVERSITY	28.3	28.0	35.4	7.4	33.7	5.7
DELFT UNIVERSITY OF TECHNOLOGY	18.1	25.0	19.2	-5.8	20.1	-4.9
EINDHOVEN UNIVERSITY OF TECHNOLOGY	21.2	25.0	24.1	-0.9	26.5	1.5
UNIVERSITY OF TWENTE	22.4	25.0	25.8	0.8	27.7	2.7
WAGENINGEN UNIVERSITY & RESEARCH	25.2	30.0	35.3	5.3	30.2	0.2
OPEN UNIVERSITY	40.9	35.0	42.2	7.2	47.3	12.3
Total	27.6	31.2	30.5	-0.7	31.7	0.5

Source of target figures for 2020: VSNU letter of 17 December 2015 to Minister Bussemaker of Education, Culture and Science.

Source of target figures for 2025: UNL Office.

Source personnel: UNL, WOPI, end of 2017 - end of 2022, in FTE. Excluding the scientific field of Healthcare.

— 3 —

THE SHARE OF WOMEN SCIENTISTS AT UNIVERSITY MEDICAL CENTRES

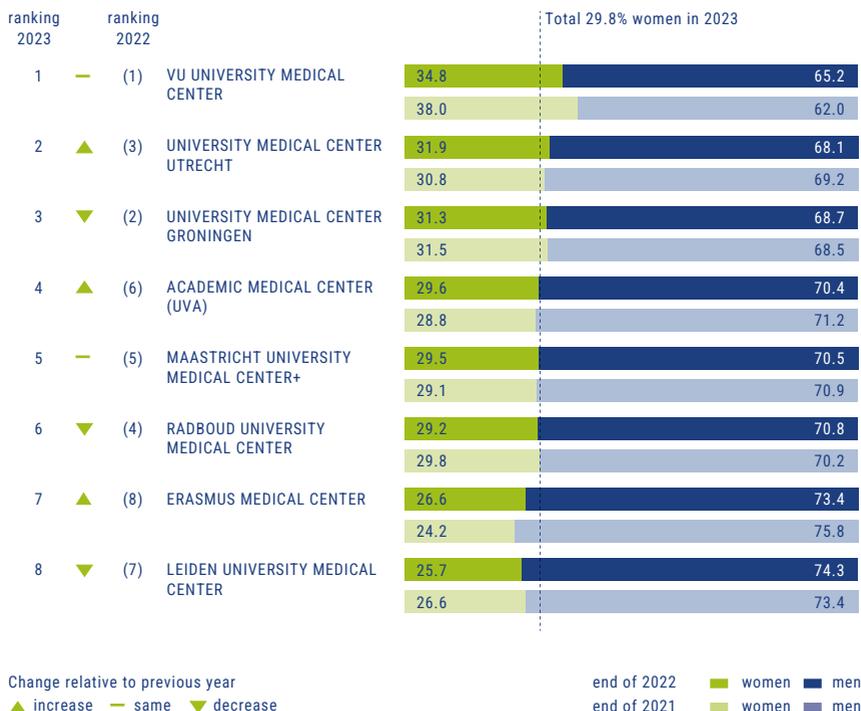
THE SHARE OF WOMEN FULL PROFESSORS AT UNIVERSITY MEDICAL CENTRES

The percentage of women full professors at the university medical centres increased from 29.7% in 2022 to 29.8% in 2023. This is an increase of 0.1 percentage points compared to 1.6 percentage points the year before¹. A striking fact is the decrease in the percentage of women full professors at four of the seven university medical centres: VUmc, UMCG, Radboud UMC and LUMC 📉. The drop of 3.1 percentage points at VUmc stands out in particular. This decrease was entirely caused by an increase in the number of men full professors at VUmc, while the number of women full professors remained the same. Erasmus MC stands out positively with a growth of 2.3 percentage points.

As was the case in 2022, VUmc, UMCU and UMCG exceeded the 30% threshold in 2023. The distance to be bridged by the other UMCs varies per centre. Leiden UMC has the furthest to go and is in last place again in 2023 at 25.7%.

FIGURE 3.1

Percentage of men and women full professors at university medical centres, in number of people, in 2022 and 2023. From high to low, by percentage of women full professors in 2023.



Source: Provided by separate UMCs, in number of people, reference dates between 31 December 2021 and 1 July 2022 and between 31 December 2022 and 1 July 2023.

1. When interpreting the percentages for the various UMCs for 2023 and for the rankings, it is important to remember that in previous years the data supplied by Academic Medical Centre (UvA), Maastricht UMC+, Radboud UMC and Leiden UMC are very likely to have included professors occupying endowed chairs. As mentioned before in the Monitors, due to differences in their registration systems, the data from the UMCs cannot automatically be compared one to one. The results for the individual UMCs must therefore be seen as indicative rather than absolute.

The percentages of women full professors at the university medical centres in 2022 and 2023 are presented in Table 3.1, along with the growth rate in the period 2022–2023².

TABLE 3.1

Percentage of women full professors at each university medical centre in 2022 and 2023, in number of people, and growth in the percentage of women full professors (in percentage points) from 2022 to 2023.

	Percentage of women full professors in 2023	Percentage of women full professors in 2022	Percentage point growth rate in the percentage of women full professors '22 - '23
LEIDEN UNIVERSITY MEDICAL CENTRE	25.7	26.6	-0.9
UNIVERSITY MEDICAL CENTRE UTRECHT	31.9	30.8	1.1
UNIVERSITY MEDICAL CENTRE GRONINGEN	31.3	31.5	-0.2
ERASMUS MEDICAL CENTRE	26.6	24.2	2.3
MAASTRICHT UNIVERSITY MEDICAL CENTRE+	29.5	29.1	0.3
ACADEMIC MEDICAL CENTRE (UVA)	29.6	28.8	0.8
VU UNIVERSITY MEDICAL CENTRE	34.8	38.0	-3.1
RADBOUD UNIVERSITY MEDICAL CENTRE	29.2	29.8	-0.6
Total	29.8	29.7	0.1

Source: Provided by separate UMCs, in number of people, reference dates between 31 December 2021 and 1 July 2022 and between 31 December 2022 and 1 July 2023.

2. In all universities except Maastricht University, during the period 1998 until the present, all staff of the medical faculties has been transferred to the university medical centres. Maastricht University differs from the other universities in this regard. At the end of 2022, the percentage of women full professors at Maastricht University (not including the scientific discipline of Healthcare) amounted to 36.0% (in FTE), while the percentage of women full professors in the still substantial scientific discipline of Healthcare at Maastricht University amounted to 28.8%. The percentage of women full professors including the scientific discipline of Healthcare at Maastricht University is 33.6%. In terms of the number of people, at the end of 2022, there were 66 men full professors and 26 women full professors within the scientific discipline of Healthcare at Maastricht University

DEPARTMENT HEAD PROFESSORS AT THE UNIVERSITY MEDICAL CENTRES

The percentage of women department head professors decreased by 1 percentage point from 21.3% to 20.3% between 2022 and 2023 📉. The percentages vary strongly, from 14.3% at Amsterdam UMC to 33.3% at UMC Utrecht. At UMC Utrecht, the sharp decrease from 43.2% in 2022 to 33.3% in 2023 is striking. This centre is still top of the list, though, with well over 1 in 3 department head professors being women.

TABLE 3.2

Women and men department head professors, by UMC, and share of women department head professors, in number of people, in 2023

	Women	Men	Total	Percentage of women
LEIDEN UNIVERSITY MEDICAL CENTRE	6	34	40	15.0
UNIVERSITY MEDICAL CENTRE UTRECHT	10	20	30	33.3
UNIVERSITY MEDICAL CENTRE GRONINGEN	7	31	38	18.4
ERASMUS MEDICAL CENTRE	8	35	43	18.6
MAASTRICHT UNIVERSITY MEDICAL CENTRE+	7	39	46	15.2
AMSTERDAM UMC	6	36	42	14.3
RADBOUD UNIVERSITY MEDICAL CENTRE	13	29	42	31.0
Total	57	224	281	20.3

Source: Provided by separate UMCs, reference dates between 31 December 2022 and 1 July 2023, in number of people.

PERCENTAGE OF WOMEN, BY JOB CATEGORY

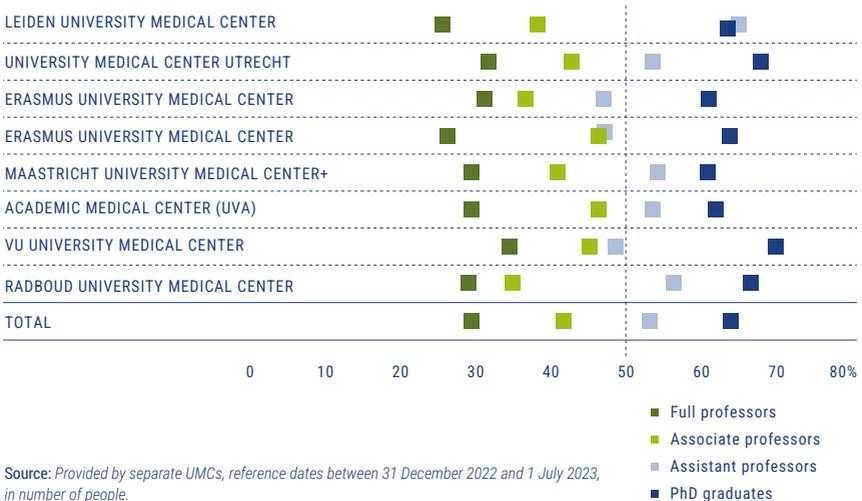
The share of women was higher in all job categories for the UMCs as a whole than was the case for the universities. For purposes of comparison: at the universities, the proportion of women full professors was 27.6%, with 33.8% women associate professors, 45.9% women assistant professors and 45.1% women PhD graduates. The percentages at the UMCs were 29.8% (full professors), 41.8% (associate professors), 53.2% (assistant professors) and 64.2% (PhD graduates).

The difference between the proportion of women full professors and women associate professors at the UMCs was 12 percentage points compared to 6.2 percentage points at the universities. Last year the difference had been 9.7 percentage points at the UMCs and 5.3 at the universities. This resulted in a higher GCI for this job transition: 1.4 versus 1.2. See Figure 3.2 for further details.

The difference between the proportion of women PhD graduates and women assistant professors at the UMCs was 11 percentage points. At the universities this difference is negative at -0.8 percentage points since the proportion of women assistant professors is greater than that of women PhD graduates.

FIGURE 3.2

Percentage of women by job category at each university medical centre, in number of people, in 2023.



GLASS CEILING INDEX

The Glass Ceiling Index (GCI) of each university medical centre reveals the job category that is accompanied by the greatest obstacles to advancement to the next job level. A higher number indicates a thicker glass ceiling.

The GCI for all job transitions at the UMCs as a whole is higher than 1.0. The GCI for the transition from PhD graduate to assistant professor is unchanged compared to last year. The GCI for the transition from assistant professor to associate professor declined from 1.4 in 2022 to 1.3 in 2023. The GCI for the transition from associate professor to full professor increased from 1.3 in 2022 to 1.4 in 2023.

For the job transition from PhD graduate to assistant professor the only UMC to have a neutral GCI of 1.0 was Leiden UMC, as in 2022. For all of the other UMCs, the GCI is larger than 1.0.

For the job transition from assistant professor to associate professor, five of the eight UMCs had a lower GCI in 2023 than in 2022. Only UMCG, AMC and VUmc saw a slight increase in this GCI. LUMC and Radboud UMC have the largest GCI for this job transition, though it has decreased slightly relative to 2022.

The GCI for the job transition from associate professor to full professor increased at three UMCs (LUMC, MUMC+, Radboud UMC), declined slightly at two UMCs (AMC, VUmc) and remained unchanged at three UMCs (UMCU, UMCG, Erasmus MC).

TABLE 3.3

GCI for women at each UMC, in number of people, in 2023³.

	PhD graduate/ Assistant professor	Assistant professor/ Associate professor	Associate professor/ full professor
LEIDEN UNIVERSITY MEDICAL CENTRE	1.0	1.7	1.5
UNIVERSITY MEDICAL CENTRE UTRECHT	1.3	1.3	1.3
UNIVERSITY MEDICAL CENTRE GRONINGEN	1.3	1.3	1.2
ERASMUS MEDICAL CENTRE	1.4	1.0	1.7
MAASTRICHT UNIVERSITY MEDICAL CENTRE+	1.1	1.3	1.4
ACADEMIC MEDICAL CENTRE (JVA)	1.1	1.2	1.6
VU UNIVERSITY MEDICAL CENTRE	1.4	1.1	1.3
RADBOD UNIVERSITY MEDICAL CENTRE	1.2	1.6	1.2
Total	1.2	1.3	1.4

Source: Provided by separate UMCs, reference dates between 31 December 2022 and 1 July 2023, in number of people.

3. The calculation of the GCI based on FTE is more accurate than the calculation based on number of people. No data on FTE were available for the university medical centres, however. The GCI scores based on number of people must therefore be interpreted as indicative of the UMCs.

— 4 —

WOMEN AT THE HIGHEST LEVELS OF ACADEMIC MANAGEMENT AND GOVERNANCE IN SCIENTIFIC ORGANISATIONS

ACADEMIC MANAGEMENT AT UNIVERSITIES

In addition to having insight into the composition of scientific staff, it remains important to consider the gender distribution in management roles and decision-making positions. However, data regarding academic management is not readily available or only to a limited extent. The figure below refers to data from 12 of the 14 universities¹. From the available data we can observe the percentages of women in the ranks of deans and directors of research and educational institutes.

The percentage of women in the ranks of deans was significantly higher at the end of 2023 than it was at the end of 2022. It increased from 29.7% to 34.1%. This means that, for the first time, one in three deans is a woman 📈. Considering Table 4.1 and the development in the percentages in the past five years, we can see a considerable increase in the proportion of women amongst deans from 14.9% at the end of 2018 to 34.1% at the end of 2022 📈.

While for directors of educational institutes the proportion of women decreased slightly between 2021 and 2022, from 53.5% to 52.7%, there was a substantial increase in the proportion of women between the end of 2018 and the end of 2022: from 35.8% to 52.7% 📈.

While there was an increase between the end of 2018 and the end of 2022 (from 10.5% to 25%), still only one in four directors of educational institutes was a woman 📈.

It is clear that women are still better represented in education than they are in research and integrated management. Considering the reputation, authority and actual influence of these roles, women are more strongly represented in the roles with less influence.

1. Wageningen University & Research and Maastricht University no longer supply these data as standard in the UNL WOPI data, and they no longer register these data as such. It is thus not possible to report on academic management for these universities.

FIGURE 4.1

Share of women and men in academic management at 12 of the 14 Dutch universities, end of 2022, in FTE.



Source: UNL, WOPI (12 universities), end of 2022, in FTE. Excluding the scientific field of Healthcare.

TABLE 4.1

Share of women and men in academic management at 12 of the 14 Dutch universities, end of 2018 through end of 2022, in FTE.

	2018	2019	2020	2021	2022
W					
DEAN	14.9	19.8	20.1	29.7	34.1
DIRECTOR OF EDUCATIONAL INSTITUTE	35.8	39.2	43.2	53.5	52.7
DIRECTOR OF RESEARCH INSTITUTE	10.5	11.1	20.3	25.0	25.0
M					
DEAN	85.1	80.2	79.9	70.3	65.9
DIRECTOR OF EDUCATIONAL INSTITUTE	64.2	60.8	56.8	46.5	47.3
DIRECTOR OF RESEARCH INSTITUTE	89.5	88.9	79.7	75.0	75.0

Source: UNL, WOPI (12 universities), end of 2022, in FTE. Excluding the scientific field of Healthcare.

PERCENTAGES OF WOMEN ON THE EXECUTIVE BOARDS AND SUPERVISORY BOARDS

UNIVERSITIES

Executive Boards

The Executive Boards of the Dutch universities comprise a total of 41 administrative positions. Of these 41 positions, 18 are held by women, and 23 are held by men. The number of women has increased by 1 (from 17 to 18) compared to 2022. The number of male members on Executive Boards has remained unchanged. This has brought the average percentage of women on Executive Boards in 2023 to 43.9%, an increase (1.4 percentage points) from the 42.5% in 2022.

Supervisory Boards

The Supervisory Boards comprise a total of 67 administrative positions. In 2023, 32 of these positions were held by women, and 35 were held by men. This brings the percentage of women on Supervisory Boards to the same as last year: 47.8%. An equal gender distribution does not seem too far off 🎯.

FIGURE 4.2

Number of women and men on Executive Boards and Supervisory Boards of Dutch universities in 2023.



Source: Websites of Dutch universities, reference date 19 July 2023, in number of people.

TABLE 4.2

Number of women and men on Executive Boards and Supervisory Boards of Dutch universities in 2023.

	Executive Board		Supervisory Board	
	W	M	W	M
LEIDEN UNIVERSITY	2	1	1	4
UTRECHT UNIVERSITY	1	2	2	3
UNIVERSITY OF GRONINGEN	1	2	2	3
ERASMUS UNIVERSITY ROTTERDAM	2	1	2	3
UNIVERSITEIT MAASTRICHT	2	1	3	2
UNIVERSITY OF AMSTERDAM	1	2	2	3
VU AMSTERDAM	1	2	3	2
RADBOUD UNIVERSITY NIJMEGEN ²	1	2	2	2
TILBURG UNIVERSITY	2	1	2	3
DELFT UNIVERSITY OF TECHNOLOGY ²	1	2	2	2
EINDHOVEN UNIVERSITY OF TECHNOLOGY	2	1	3	2
UNIVERSITY OF TWENTE	1	2	2	2
WAGENINGEN UNIVERSITY & RESEARCH	1	2	3	2
OPEN UNIVERSITY	0	2	3	2
Total	18	23	32	35
Percentage of women	43.9		47.8	

Source: Websites of Dutch universities, reference date 19 July 2023, in number of people.

2. Vacancy in the Supervisory Board at time of data collection.

UNIVERSITY MEDICAL CENTRES

Executive Boards

In 2023, the total number of Executive Board members at the Dutch university medical centres increased by 1 to 32 relative to 2022. Of the 32 members of the Executive Boards, 11 were women and 21 were men. This amounts to 34.4%. This is a sharp decline from the 40.0% women members in 2022 📉.

Supervisory Boards

The Supervisory Boards of the Dutch university medical centres comprise a total of 38 members. This number is the same as last year. In 2022, proportionality among the members of the Supervisory Boards was reached for the first time. However, in 2023, the percentage of women decreased again to 47.4% 📉.

FIGURE 4.3

Number of women and men on Executive Boards and Supervisory Boards of the university medical centres in 2023.



Source: Websites of Dutch university medical centres, reference date 30 August 2023, in number of people.

TABLE 4.3

Number of women and men on Executive Boards and Supervisory Boards of Dutch university medical centres in 2023.

	Executive Board		Supervisory Board	
	W	M	W	M
EIDEN UNIVERSITY MEDICAL CENTER	1	4	2	3
UNIVERSITY MEDICAL CENTER UTRECHT	2	2	2	3
UNIVERSITY MEDICAL CENTER GRONINGEN	1	4	3	2
ERASMUS UNIVERSITY MEDICAL CENTER	1	3	2	4
MAASTRICHT UNIVERSITY MEDICAL CENTER+	3	2	2	3
ACADEMIC MEDICAL CENTER (UVA)	1	4	4	3
RADBOUD UNIVERSITY MEDICAL CENTER	2	2	3	2
Total	11	21	18	20
Percentage of women	34.4		47.4	

Source: Websites of Dutch university medical centres, reference date 30 August 2023, in number of people.en.

ROYAL NETHERLANDS ACADEMY OF ARTS AND SCIENCES (KNAW)

Members

The KNAW has a total of 627 members, 141 (22.5%) of whom are women. This represents an increase of 1.2 percentage points compared to 2022 (21.3%).

Management and governance

The governance of the KNAW consists of the president, two vice presidents (one of whom is also the general secretary) and four Board members who are also Domain Directors³. The governance of the KNAW comprises a total of seven positions, three of which are filled by women, and four filled by men. In addition, the KNAW has a general director. This position is filled by a woman. With regard to members, the skewed male/female ratios within the domains of Medical, Biomedical and Health Sciences and the Natural Sciences and Technology stand out.

3. At the time of publication of the Monitor for 2023 in December 2023, the KNAW had just undergone a relatively major change in governance structure on 10 October 2023. The general director is to be replaced by an interim director, an interim deputy director of research policy and an interim director of operations. However, the reference date of the data in this Monitor predates the date of this governance transition. Hence this presentation.

FIGURE 4.4

Number of women and men in the management and governance of the Royal Netherlands Academy of Arts and Sciences (KNAW) in 2023.



Source: KNAW Office, reference date 20 July 2023, in number of people.

TABLE 4.4

Number of women and men in the management, governance and membership of the Royal Netherlands Academy of Arts and Sciences (KNAW) in 2023.

	W	M
General Director	1	
Executive Board	3	4
President	1	
Vice president	1	1
General Secretary ⁴		1
Members	1	3
Members		
Humanities	43	89
Behavioural & Social Sciences and Law	49	97
Medical, Biomedical and Health Sciences	22	81
Natural Sciences and Technology	27	219

Source: KNAW Office, reference date 20 July 2023, in number of people

4. Note: the general secretary of the KNAW is also the vice president.

THE YOUNG ACADEMY

The executive board of The Young Academy consists of 2 women (40%) and 3 men (60%). In total, The Young Academy has 50 members. Of those, 28 are women. This amounts to 56%. This represents a decline of 2 percentage points compared to last year. Of the 170 total alumni of The Young Academy, 75 (44.1%) are women and 95 (55.9%) are men.

FIGURE 4.5

Number of women and men members of The Young Academy in 2023.



Source: KNAW Office, reference date 20 July 2023, in number of people.

TABLE 4.5

Number of women and men members of the Executive Board, members and alumni of The Young Academy in 2023.

	W	M
Executive Board	2	3
Members in 2023	28	22
Alumni	75	95

Source: KNAW Office, reference date 20 July 2023, in number of people.

DUTCH RESEARCH COUNCIL (NWO)

The administrative structure of NWO consists of an Executive Board, a Supervisory Board and four domain boards. The Executive Board consists of 6 positions, 4 of which are filled by men and 2 of which are filled by women. The President of the Executive Board is a man. The Supervisory Board has 5 members: 2 women and 3 men. As with the Executive Board, the President of the Supervisory Board is a man. The following can be observed with regard to the domain boards:

Exact and Natural Sciences Domain	7 positions, 2 of which are filled by women and 5 of which are filled by men
Social Sciences and Humanities Domain	9 positions, 3 of which are filled by women and 6 of which are filled by men
Applied and Technology Sciences Domain	8 positions, 4 of which are filled by women and 4 of which are filled by men
Netherlands Organisation for Health Research and Development (ZonMw)	9 positions, 3 of which are filled by women and 6 of which are filled by men

Note: The domain directors (1 woman and 3 men) serve as both domain directors and members of the Executive Board. The total is based on the summed total of positions, in which domain directors are counted twice. NWO thus has 39 administrative positions, which are filled by 35 people.

FIGURE 4.6

Number of women and men serving in administrative positions (excluding the Supervisory Board) of the Dutch Research Council (NWO).



Source: NWO Executive Board Bureau, reference date 1 July 2023, in number of people.

TABLE 4.6

Number of men and women serving in administrative positions (excluding the Supervisory Board) of the Dutch Research Council in 2023.

	W	M
Executive Board		
President		1
Portfolio holder for Operations and Finance	1	
Domain Directors	1	3
Domain Boards		
Domain Board for Exact and Natural Sciences	2	5
Domain Board for Social Sciences and Humanities	3	6
Domain Board for Applied and Engineering Sciences	4	4
Domain Board for Netherlands Organisation for Health Research and Development (ZonMw)	3	6

Source: NWO Executive Board Bureau, reference date 1 July 2023, in number of people.

— 5 —

SUPPORT AND MANAGEMENT STAFF COMPARED TO ACADEMIC STAFF

THE INCREASE IN THE SHARE OF WOMEN IN MANAGEMENT AND SUPPORT STAFF AND IN ACADEMIC STAFF IS CONTINUING

Between the end of 2021 and the end of 2022, the total share of FTE in Management and Support staff increased by 1,192.6 FTE, of which 825.9 was for women and 359.6 for men. The category 'Other' gained 7.1 FTE¹. The proportion of women in Management and Support staff at the end of 2022 was 57.3%. This is an increase of 0.6 percentage points compared to the year before.

TABLE 5.1

Number of Management and Support Staff by gender and growth, end of 2018-2022, in FTE.

	Management and Support staff W	Management and Support staff M	Management and Support staff Other	Total	Growth W	Growth M	Growth Other	Growth Total	Percentage of women
2018	10,392.5	8,423.9		18,816.5	408.7	71.7		480.3	55.2
2019	10,962.9	8,691.9		19,654.8	570.4	268.0		838.3	55.8
2020	11,532.4	8,965.0		20,497.5	569.6	273.1		842.7	56.3
2021	12,169.7	9,304.2	2.5	21,476.4	637.2	339.2	2.5	978.9	56.7
2022	12,995.5	9,663.9	9.6	22,669.0	825.9	359.6	7.1	1,192.6	57.3

Source: UNL, WOPI, reference date 31 December, in FTE. Excluding the scientific field of Healthcare.

It is not only within Management and Support staff that the number of FTE has increased, but also in Academic staff. Between the end of 2021 and the end of 2022, Academic staff grew by 1,281.6 FTE. Of these FTE, 824.3 was for women and 443.5 for men. Between 2021 and 2022, the proportion of women in Academic staff increased from 42.0% to 42.9%.

TABLE 5.2

Number of Academic staff by gender and growth, end of 2018-2022, in FTE.

	Academic staff W	Academic staff M	Academic staff Other	Total	Growth W	Growth M	Growth Other	Growth Total	Percentage women
2018	10,269.9	15,721.6		25,991.5	329.7	181.0		510.8	39.5
2019	10,781.7	16,301.1		27,082.8	511.7	579.5		1,091.3	39.8
2020	11,872.1	17,069.4		28,941.5	1,090.4	768.3		1,858.7	41.0
2021	12,818.4	17,668.7	7.5	30,494.6	946.3	599.3	7.5	1,553.2	42.0
2022	13,642.7	18,112.3	21.2	31,776.2	824.3	443.5	13.7	1,281.6	42.9

Source: UNL, WOPI, reference date 31 December, in FTE. Excluding the scientific field of Healthcare.

1. Given the sector-wide presentation and slightly greater availability of data, the category 'Other' is also included here. Due to possible traceability this has not been done elsewhere in this Monitor. See Appendix 1 for further explanation regarding this category.

During the same period, the number of students at the universities decreased by 45 from 302,925 to 302,880 (in number of people). It is worthwhile to consider what the ratio of academic staff and management and support staff to students is, to see whether this is keeping pace with the growth in student numbers.

TABLE 5.3

Number of students, Academic staff and Management and Support staff and a number of ratios between Academic staff and Management and Support staff and students, end of 207 through end of 2022.

	Students	Academic staff	Management and Support staff	Academic staff/student ratio	Management and Support staff/Academic staff ratio	Management and Support staff/student ratio	(Management and Support staff+Academic staff)/student ratio
2017	242,798	25,480.8	18,336.1	0.1049	0.7196	0.0755	0.1805
2018	256,704	25,991.5	18,816.5	0.1013	0.7239	0.0733	0.1746
2019	268,177	27,082.8	19,654.8	0.1010	0.7257	0.0733	0.1743
2020	290,614	28,941.5	20,497.5	0.0996	0.7082	0.0705	0.1701
2021	302,925	30,494.6	21,476.4	0.1007	0.7043	0.0709	0.1716
2022	302,880	31,776.2	22,669.0	0.1049	0.7134	0.0748	0.1798

Source: UNL, WOPI, reference date 31 December, in FTE. Excluding the scientific field of Healthcare.

Source of information on students: 1cH02017 through 1cH02022, reference date 1 October, in number of people.

In Table 5.3 we see that at the end of 2022 the Academic staff/student, Management and Support staff/student ratios and the (Management and Support staff+ Academic staff)/student ratio were larger than at the end of 2021. This is caused by a slight decrease of 45 in student numbers in the period 2021-2022 from 302,925 to 302,880. In this period, Academic staff and Management and Support staff increased in numbers comparable to the years before.

If we consider a longer period, 2017-2022, we see that the number of enrolled students increased by 60,082 from 242,798 in 2017 to 302,880 in 2022. The ratios at the end of 2022 were larger than the ratios at the end of 2021 but, with the exception of the Academic staff/student ratio, are smaller than the ratios at the end of 2017. At the end of 2022 the Academic staff/student ratio was the same as it was at the end of 2017.

APPENDIX 1 – SOURCE DATA

Universities

Since 1990, universities have been collecting staff data in a structured manner and according to a fixed reference date (31 December). This data collection has been coordinated by UNL since 1999 and is termed WOPI (*Wetenschappelijk Onderwijs Personeelsinformatie* - Scientific Education Personnel Information). The information in this Monitor is based on this. The files contain data on staff **employed** by universities, categorised since 2003 in UFO profiles (profiles from the university job classification system). The WOPI data on personnel are collected both in numbers of people and in FTE, based on the scope of the employment contract(s). FTE stands for full-time equivalent and is a unit of account that can be used to express the extent of a contract of employment. A full-time working week equals 1 FTE. Until 2003, the data on personnel in the WOPI were collected exclusively in FTE. Beginning in 2003, the WOPI data have been collected in both FTE and number of people. For this reason, it is not possible to present information on the number of people for the period before 2003.

UNL WOPI variable 'Origin' and category 'Other' of the variable 'Gender'

The variable Origin in WOPI is based on the nationality as per passport as entered in the registration systems of the universities. The following categories of origin are used in the WOPI data available to the LNVH, and are exclusive: Dutch, EEA (excluding NL), European non-EEA, Non-European and Unknown. In order to prevent traceability of individuals, the LNVH reports at sector level and not at institutional level.

In the WOPI data to the end of 2020, the United Kingdom was included in EEA. At the end of 2021, the United Kingdom was moved to non-EEA in the WOPI data. Due to this "Brexit shift", the comparison of the categories EEA and European non-EEA between the end of 2021 and prior years has not given a very clear picture. For this reason, the analyses for the category EEA and European non-EEA for the 2022 Monitor and beyond are limited to the data since the end of 2021.

At the end of 2022, the variable 'Gender' in WOPI included the category 'Other' in addition to the categories M and W. The category 'Other' was used in the WOPI data by a number of institutions. However, the numbers of FTE and people in the category 'Other' are so small that, with the exception of a few sector-level overviews, we have not included them separately in this monitor to avoid traceability. The percentages of men and women that are presented are based on the totals including the category 'Other'. The LNVH calls for this category to be renamed, as 'Other' still reads as 'extra normal'.

Students and graduates

Data on students and graduates derive from the Central Register of Higher Education Enrolments (CRIHO), which includes data on inflow, enrolment and exams. For students, it concerns main enrolments on 1 October of the year in question. For graduates, it contains Master's and former initial university degrees ('doctoraaldiploma's) awarded in each academic year. Of the students enrolled on the reference date of 1 October 2022, 98.4% were studying full-time, 1.4% part-time and 0.2% in work-study arrangements.

University Medical Centres

With the transition of almost all staff from university medical faculties to university medical centres from 1998 to the present, the entire scientific field of Healthcare in WOPI has been lost. Data on the vast majority of that field of science in this Monitor have been provided by the individual university medical centres. The remaining personnel data in the HOOP field of Healthcare in the WOPI data have not been taken into account in this Monitor.

Scientific fields

The Higher Education and Research Plan (HOOP) of the Ministry of Education, Culture and Science includes a division into scientific fields. These scientific fields are also known as HOOP areas. The HOOP distinguishes nine areas of study: Agriculture, Natural Sciences, Technology, Economics, Law, Healthcare, Behavioural & Social Sciences, Language & Culture and Education. The students and graduates are classified in the source files according to the nine areas of study. In the WOPI files, university staff is divided into eight areas plus a 'Miscellaneous' category. The field of Education is not used for the classification of university staff. Where reference is made in this Monitor to scientific fields, this refers to the HOOP fields. Only those students and full professors who are affiliated with a single scientific field are included in the analyses according to scientific field. In the case of students, the field of Education has been excluded from the analyses according to scientific field, and in the case of full professors, the Miscellaneous category has been left, unless otherwise stated.

Academic management and scientific organisations

With respect to academic management and scientific organisations, this Monitor is based on data published on the websites of the organisations in question. Data on the ratio of men to women in the ranks of deans, directors of research institutes and directors of educational institutes in 12 of the 14 universities are available from the WOPI data for the purposes of the Monitor. At the other two universities, the registration of these position classifications does not take place in a form that can be included in the data for WOPI.

APPENDIX 2 – COOPERATING PARTNERS

Dutch Network of Women Professors (LNVH)

www.lnvh.nl

The LNVH foundation is a networking and knowledge organisation that aims to promote a proportional representation of women in science, improve the position of women in science from all fields and backgrounds, and ensure an inclusive and safe academy in which equal pay is the norm. The LNVH tries to achieve these goals through efforts including strengthening the bond between women scientists in the Netherlands. In addition, the LNVH is committed to promoting the advancement of women to higher academic ranks (both scientific and administrative top positions), as well as preventing the premature outflow of women. In order to achieve these objectives, the LNVH is involved in:

- Policy development, policy influence and the establishment and support of projects relating to the advancement and appointment of women academics.
- Monitoring the career advancement of women scientists by publishing relevant figures in the Women Professors Monitor.
- Publishing research reports on relevant themes related to gender diversity.
- Chairing the platform of advisors and policy officers for gender/diversity/talent policy of all Dutch universities and university medical centres, NWO and KNAW.
- Relationship management with national and international organisations both within and outside the academic community.
- The nomination of women scientists for science awards, premiums, grants and positions.
- Organising mentoring, peer support, workshops, conferences and symposiums.
- Increasing the visibility of our own network and the impact of our activities.
- Initiating networks and identifying best practices.

Universities of the Netherlands (UNL)

www.unl.nl

The responsibility of universities in society is to provide high-quality academic education and to conduct high-quality scientific research in order to build a strong knowledge society. Scientific questions important to society are studied with a view to possibly solving them. Knowledge is created in order to arrive at innovation. In this way, the universities contribute to building a strong society that allows the Netherlands to attain and maintain a leading position within the international context.

Within the framework of Universities of the Netherlands (UNL), the universities demonstrate to the outside world how they shape their societal task, they formulate joint ambitions concerning scientific education and research and they lobby to bring about the preconditions necessary for achieving these ambitions.

Within that context, UNL also manages and develops information on education, research, personnel and finance for policy development, accountability, benchmarking and quality assurance. Key figures in the field of personnel are part of the WOPI file (*Wetenschappelijk Onderwijs Personeelsinformatie* - Scientific Education Personnel Information).

Netherlands Federation of University Medical Centres (NFU)

www.nfu.nl

The Netherlands Federation of University Medical Centres (NFU) represents the eight collaborating UMCs in the Netherlands, as an advocate and employer of 65,000 people. In doing so, the NFU is committed to the continuity of care and the safety of patients with often serious, rare and difficult to treat conditions. The partnership provides the UMCs with even more opportunities to treat their patients according to the latest insights of medical science, to give care providers forward-looking training and to conduct scientific research on a global scale. Leading motives include a sense of responsibility for patients and the ambition to innovate.

Ministry of Education, Culture and Science

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De Beauvoir Foundation – in remembrance

Since 2003, the Women Professors Monitor has been published every three years by the De Beauvoir Foundation, in collaboration with the Dutch Network of Women Professors (LNVH). In 2015, the LNVH incorporated the De Beauvoir Foundation. The 'De Beauvoir Monitor' has thus become the 'LNVH Women Professors Monitor'. The LNVH is very grateful to the De Beauvoir Foundation for all that the Foundation and the Board of the Foundation have done for the advancement of women to the higher echelons of academia.

PUBLICATION DETAILS

Composition

Lidwien Poorthuis has been employed by the Dutch Network of Women Professors since October 2013 as the director and as a senior policy officer. In this position, she has also been responsible for the composition and development of the Women Professors Monitor.

Thea Verdonk worked at VSNU (currently UNL) from 2007 to 2011, during which time her responsibilities included the management and development of the WOPI file, the main source file for the Monitor. She is also a coach with DPM-Coaching, with a focus on coaching with regard to giftedness, as well as stress and burn-out-related problems.

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