



## Focus September 2020

### The (lack of) gender equality in scientific research and the contribution of Tuscany

#### Abstract:

In Europe, women are still under-represented in the highest positions in academia. As for Italy, recent studies show that the difference between the percentage of men and women in the highest academic career levels is among the worst observed in Europe. The Tuscany Region, in the context of the Regional Research and Innovation Observatory, has focused on this issue in order to inform its policies and raise awareness of national ones. From an analysis of the data, it is evident that Tuscany, while maintaining an important gender imbalance in most academic disciplines, is contributing more than the Italian average to research relating to the Sustainable Development Goal (SDG) 5 - Gender Equality (Achieve gender equality and empower all women and girls).

#### In-depth analysis

Women are still under-represented in leadership and decision-making positions in many areas: this problem, known as the *glass ceiling*, has important social consequences. One of the areas in which this imbalance is most evident is that of academic research.

As highlighted by the [She Figures 2018](#)<sup>1</sup> study, the **proportion of women in Europe is slightly higher than that of men up to levels of higher education equivalent to master's degrees**. There is a reversal of the **trend** starting from the PhD, up to the **strong imbalance in the highest academic career levels: in 2016**, women in the "Grade A"<sup>2</sup> position represent **less than a quarter of the total**.

This imbalance is unfortunately observed in all European countries: but it is particularly evident in **Italy**.

The percentage of women employed in grade A roles (corresponding in Italy to the role of **full professor**), compared to the total academic staff, is lower than that of men in all the nations analysed in the She Figures report: but **in Italy the difference** among the figures for men and women it is among the **3 largest observed in Europe**. In fact, in Italy 10.6% of women hold a grade A position, against 24.7% of men.

Furthermore, again according to the She Figures 2018 report, the **proportion of women**

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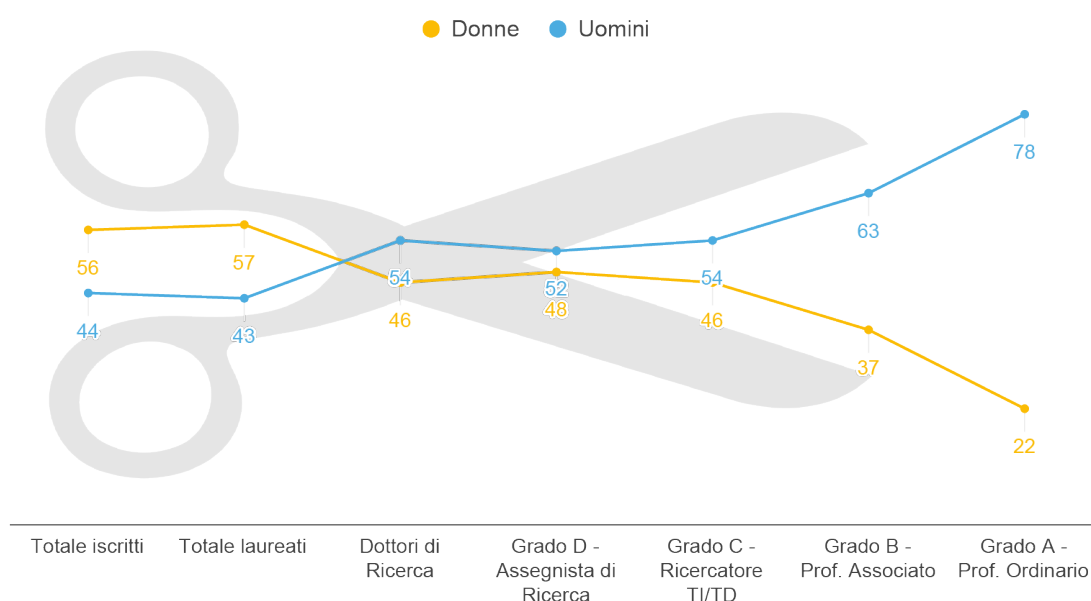
<sup>1</sup> She Figures 2018, European Commission, Directorate-General for Research and Innovation; link: <https://op.europa.eu/en/publication-detail/-/publication/9540ffa1-4478-11e9-a8ed-01aa75ed71a1/language-en>

<sup>2</sup> The highest grade according to the classification of the 2015 Frascati Manual.

working as staff dedicated to research and development in Italy, compared to the total staff employed in the sector in higher education, is the lowest in Europe (only 47.2 %, compared to more than 60% of men).

The situation does not change if we go to the regional level: the following graph shows, for the Tuscany Region, the so-called "*gender scissors*" diagram, which shows the way in which the gender gap changes during the academic career phases.

Percentuale di donne e uomini negli atenei toscani

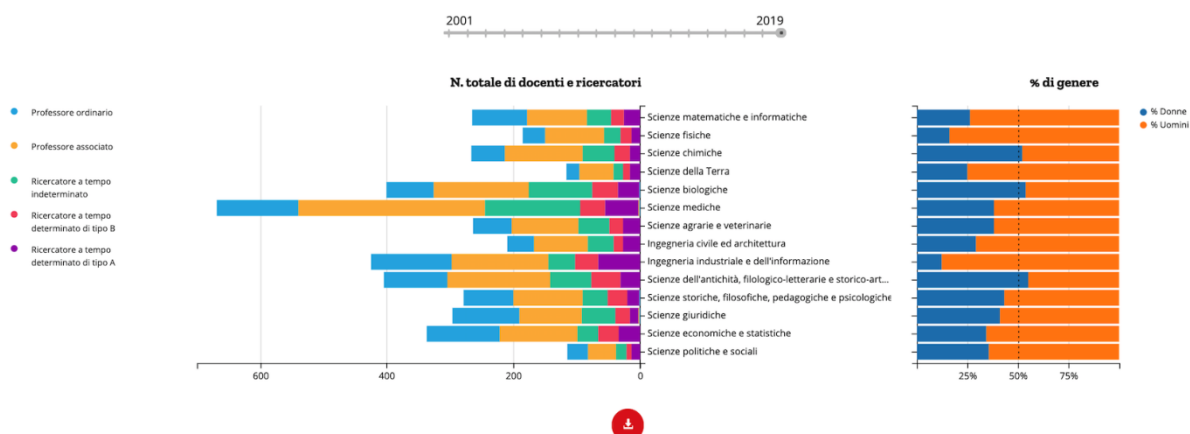


Data source: [Open data USTAT - Gender balance data](#) obtained through [ToscanaOpenResearch](#), proprietary processing. The data shown refer to the year 2016.

This imbalance is more or less pronounced according to the domains. As can be seen from the data available in [Toscana Open Research](#), the portal of the Regional Research and Innovation Observatory developed by the **Tuscany Region**:

- analysing the distribution of academic staff in Tuscany in the 14 disciplinary areas of national reference, in 2019, the percentage of female researchers and professors was only higher than 50% in 3 areas<sup>3</sup>;
- if we only consider the category of full professors, the percentage of women is less than 40% in 13 of the 14 subject areas, with the exception of the *antiquity, philological-literary and historical-artistic sciences* subject area, in which the percentage of women is about 43%.

<sup>3</sup> Chemical sciences, biological sciences and antiquity, philological-literary and historical-artistic sciences.



Display source: [Toscana Open Research](#); data supplemented by source: [CercaUniversità/MIUR](#). The data shown refer to the year 2019.

As shown in the ToscanaOpenResearch [display](#), the absolute number and the percentage of women on the total increased strongly between 2001 and 2019: it is worth underlining how the percentage of female associate professors increased from 271 to 656, passing from 25% to 39% of the total staff with this role. Similarly, the **percentage of women with the role of full professor** in Tuscan universities also **increased from 9% in 2001 (117 women) to 22% in 2019 (238 women)**.

Despite the recent improvement, it is clear that gender equality, especially in academic research, is still a long way off: to achieve this goal, various initiatives have been launched, both at European level (Gender Equality Strategy 2020-2025 by the European Commission<sup>4</sup>) and worldwide: one of the 17 **Sustainable Development Goals (SDGs)**<sup>5</sup>, adopted by the member states of the United Nations in 2015 and to which Italy also adheres, is in fact the **achievement of gender equality and the emancipation of women in all social areas**.

Information on research activities relating to **SDG 5 - Gender equality** therefore represents a useful indicator for understanding the contribution of the academic world to research on progress towards gender equality. For this purpose, the Tuscany Region has carried out a **semantic analysis to identify and classify European funded European projects relevant to the SDGs** through Natural Language Processing techniques<sup>6</sup>.

Analysing the European-funded projects carried out in Italy and relating to the Sustainable Development Goals, the projects relating to the SDGs in Italy are 6456 (approximately 55% of the total). Of this, only 67 projects (i.e. **about 1% of the total**) are

<sup>4</sup> [https://ec.europa.eu/info/policies/justice-and-fundamental-rights/gender-equality/gender-equality-strategy\\_en](https://ec.europa.eu/info/policies/justice-and-fundamental-rights/gender-equality/gender-equality-strategy_en)

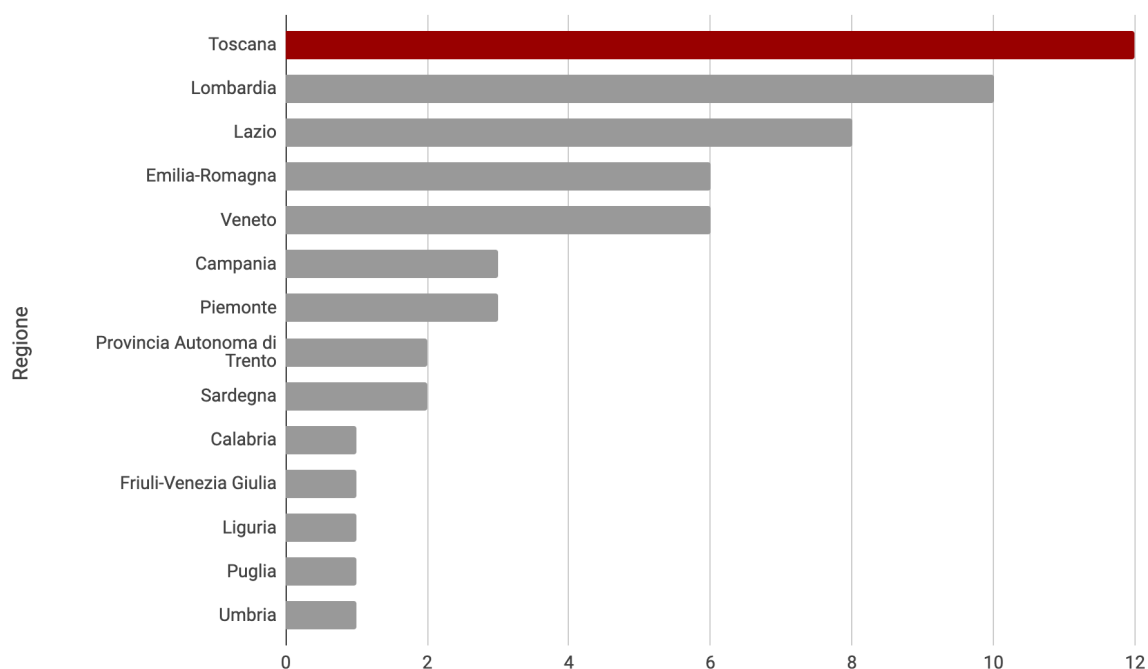
<sup>5</sup> <https://sustainabledevelopment.un.org/sdg5>

<sup>6</sup> The controlled vocabulary used is available at this link: <https://zenodo.org/record/3567769#.Xe6AOpNKjOR>

related to SDG 5 - Gender equality.

The volume of European funded projects linked to SDG 5 - Gender equality in Italy is **therefore relatively low**. Looking at the distribution of these projects by region<sup>7</sup> and considering all projects related to SDG 5, Tuscany is the second region by number of projects, after Lazio.<sup>8</sup> Considering **only the contribution of universities alone to research** in this area, we note that Tuscany is the first region in Italy for the number of projects relating to SDG 5 (figure below).

Numero di progetti di ricerca a finanziamento europeo relativi all'SDG 5 (Parità di genere) in cui partecipano gli atenei, per regione



Data source: [CORDIS](#); proprietary processing. Data is updated as of March 2020.

In fact, as regards Tuscany, there is a specialisation, compared to Italy, of European funded research projects on issues relating to SDG 5 - *Gender equality*.

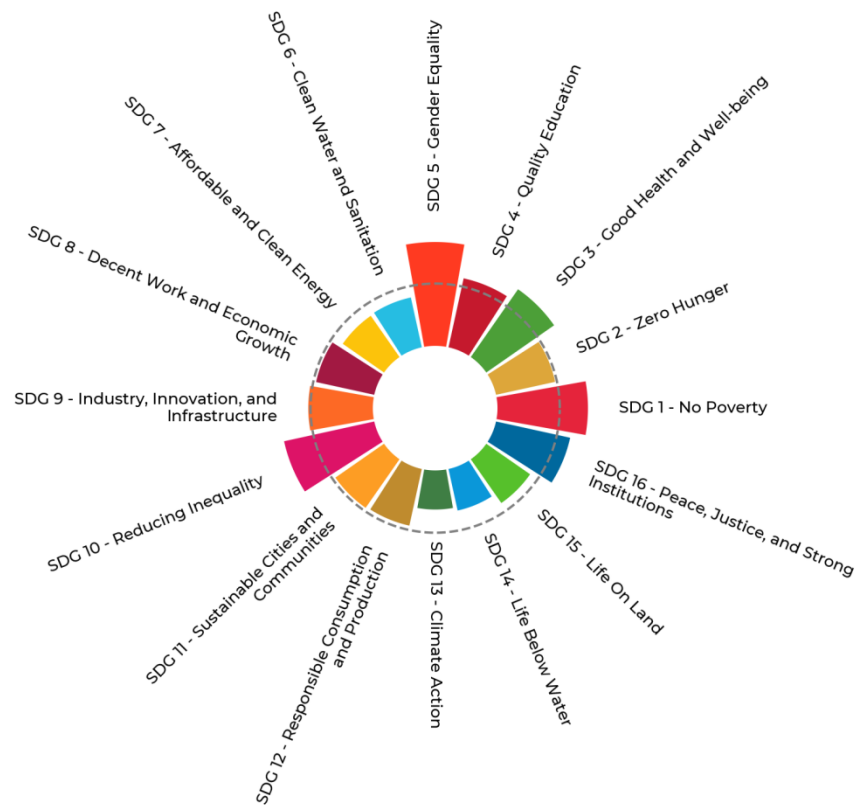
The figure below shows the index of specialisation of Tuscany compared to Italy, obtained from the number of European funded projects related to the different SDGs (in this graph **all Tuscan players are considered**)<sup>9</sup>. The dotted line represents the unit value,

<sup>7</sup> It is emphasised that more regions can participate in the same project, therefore the sum of the projects per region is greater than the total of Italian projects.

<sup>8</sup> As known, Lazio benefits from the *headquarters effect* in the sum of European funded projects, since the CORDIS database, from which the data used in this analysis were obtained, reports only the information on the registered office of the player involved in the project. In the case of national research bodies, the registered office is often in Rome, regardless of the institution actually involved in the project.

<sup>9</sup> The specialisation index is obtained by comparing the share of projects related to an SDG with the total number of

which represents the case where the proportion of projects for a given SDG is the same for Tuscany and Italy. Tuscany can therefore be considered specialised, with respect to national production, in the areas above the dotted line. There is therefore a **specialisation of Tuscany with respect to the SDG 5 - Gender equality**, in addition to the *Reducing inequality areas; No Poverty and Peace, Justice, and Strong Institutions*: all issues related to the issues of equality and justice.



Data source: [CORDIS](#); proprietary processing. Data is updated as of March 2020.

This specialisation, although promising, must in any case be **contextualised with the limited volume of projects relating to gender equality at national level**. In fact, by comparing the number of projects related to the different SDGs, it can be seen that **SDG 5 - Gender equality is the goal with the fewest projects (15)**, while the goal to which more projects are connected is by far the 9th - *Businesses, Innovation and Infrastructures*.

These results **suggest that there is still a lot to do to achieve true gender equality**, but thanks to the use of data and targeted analyses it is possible to raise awareness of the strong gender inequalities still present in our society and to promote equal opportunities. In this perspective, the clear improvement of the Tuscany Region in the percentage of women in the highest positions in the academic world in recent years testifies how doing research on the subject, promoting dissemination actions and

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projects connected to the SDGs, for Tuscany and Italy.



custom policies for the reduction of disparities positive effects on reducing the gender gap.