STUDIES

A critical analysis of the factor of gender and STEM enrollment in higher education

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Men's overrepresentation in the science, technology, engineering, and mathematics (STEM) fields is long standing and not fully understood. Since STEM fields drive much of the innovation that fuels economic growth, by not fully utilizing the potential of half the population, economies may be thereby missing out on valuable contributions. Thus, understanding this gap in representation is crucial. We conducted a comprehensive analysis of gender differences in the number of tertiary STEM students and graduates in the European Union from 1991 to 2019, with a focus on geographic representation and secular changes in the magnitude of these differences. A unique spatiotemporal analysis was performed for dentifying the extent of gender inequality in STEM fields across Europe. The analysis show that the general increase in participation in higher education doubled the number of women in tertiary education but not in STEM fields. Thus, women are consistently underrepresented among graduate entrepreneurs, especially in STEM. The results also revealed smaller gender differences in STEM in Central and Eastern European as well as Scandinavian countries than in Western European countries, but similar patterns across generations were observed. This work identifies the relationship between women's growth in STEM fields, the effectiveness of chosen policy measures, and the untapped potential of women to fill a possible shortage of graduates in STEM fields.

Introduction

Technological progress and the rapidly growing global demand for specialists and engineers are driving more talented young people to pursue careers in the science, technology, engineering, and mathematics (STEM) fields (Schofer–Meyer 2005, OECD 2013, Loyalka et al. 2021). One approach to meeting these demands is to encourage more women to enter STEM fields, which have been historically dominated by men (Smith–Watson 2019, Derting et al. 2016, Zoller 2015, Creusere et al. 2019, Vooren et al. 2022, Tandrayen-Ragoobur–Gokulsing 2021, Clark–Button 2011, Medina-García et al. 2020, Alonso et al. 2021, Torres-Ramos et al. 2021). Various actions have been taken to address this gender difference, including enforcing quotas for admittance into these fields of study, setting male-to-female academics ratios so that female students feel more secure, removing or limiting the number of single-sex schools to accustom females to working alongside male colleagues, advocating STEM fields to female students in primary and secondary schools, and creating more female-friendly STEM courses (Dahlerup 2008, Park 2020, Funk–Parker 2018, De Paola et al. 2010, Klein 2016, Neumann 2018, Semela et al. 2019, Williams et al. 2018, Psaki et al. 2018). Many of these strategies were implemented through incentives from various governments in the form of additional funds or large grants for various programs or reducing funding if quotas were not met. However, it is unknown if these strategies have had a long-term effect on the male-to-female ratio in STEM fields.

In many countries, there is now a clear reorientation of STEM education to foster gender-balanced participation. The associated activities begin in elementary schools and continue through university education (Card–Payne 2017). The pursuit of balance in this area is not only embedded in educational policies but also driven by the logic of equal treatment and equal opportunities (Casad et al. 2021). By its very nature, the STEM education stream does not contain categorical conditions that make it necessary, e.g., for courses such as engineering, manufacturing, construction, or information and communication technology to be chosen by a specific gender (Beede et al. 2011), although gender differences in antecedent occupational interests could contribute to such differences (Stoet–Geary 2022, Su et al. 2009). The specificity of the field of study or vocational training at earlier stages is not in itself characterized by an exclusionary logic. Therefore, it becomes necessary to raise questions about the participation of gender-specific groups in STEM education.

Striving for balance in vocational education in both STEM and other fields is an attempt to counteract marginalization in both real and symbolic dimensions (Ridgeway–Correll 2004). Practically, this means aligning opportunities in educational and occupational opportunities and achieving a salary balance between men and women. Symbolically, the goal is to fight against positive and negative occupational stereotypes (Moss-Racusin et al. 2018, Cheryan et al. 2017). A full understanding of these issues, however, requires a broad survey of the educational choices of men and women and how these choices vary across contexts and generations. We include all fields but focus on STEM and thus provide more details on specific STEM areas in which gender differences are found.

This study focuses on the gender ratio of students (particularly in STEM fields) in the European Union (EU) and documents long-term (1991–2019) and cross-generational (new tertiary entrants, 25–34, and 55–64 cohorts) trends in the EU. Our focus is on the distribution of gender differences among STEM students and graduates across the EU and on cross-generational changes in these distributions. However, some of the analyses include data from Turkey (a non-European country), which is geographically close to Europe but in many ways (socially, demographically, culturally, etc.) different, thus providing a useful point of comparison and contrast. The main aim is to provide a comprehensive analysis of the number of students and graduates in the EU in 1991–2019 with particular emphasis on the visual representation of gender differences among STEM students and graduates.

Overall, this article fills an empirical gap by showing a comprehensive spatiotemporal description of gender differences in educational choices, focusing on STEM education. The approach thus provides a broader picture of these gender differences than is possible by simply studying a single country or assessing groups of countries at a single point.

Background and literature review

Both developing and developed countries have invested in increasing the number of highly skilled workers, which, in turn, depends on growth in the number of students in higher education, especially those in STEM fields. The relationship between STEM and a country's economic competitiveness is well established (Rothwell 2013, Yamada 2023). The development of STEM industries relies on preparing a sufficient number of students for entry into these high-demand sectors, and one approach to increasing the number of such students is to encourage more women to enter these fields (Atkinson–Mayo 2010). Even though women are now more likely to graduate from a tertiary program (Mischau 2001, Sabzalieva et al. 2022), they remain underrepresented in core STEM areas such as engineering and computer science (Blackburn 2017, Stoet–Geary 2020). The reasons for the gender difference in participation in these fields are debated vigorously, and range from potentially inherent differences that influence educational and occupational interests (Stoet–Geary 2022, Su et al. 2009) to subtle gender stereotypes (Breda et al. 2020) but whatever the reasons, increasing the number of women entering STEM-based industries could have important economic benefits (Tabarés–Boni 2023, Nikitina et al. 2022, Deveci–Seikkula-Leino 2023).

Accordingly, considerable research has focused on the factors that contribute to women's underrepresentation in STEM fields. For instance, Australian studies show that despite interventions to increase girls' engagement in STEM, fewer girls than boys are pursuing mathematics in secondary school and hence, fewer women are proceeding to higher education with the background needed for STEM (Bell 2010, Neubauer–Kaur 2019, Marginson et al. 2013).

Today, the percentage of first-year women who plan to major in engineering is roughly the same as in the early 1980s (Landivar 2013, Sax et al. 2016). In other words, interventions focused on increasing women's engagement in the STEM fields, especially inorganic ones, have not yielded the expected changes, possibly due to low interest in these areas on the part of girls and women (Stoet–Geary 2022). There are attempts to address this issue and increase girls' interest in STEM in primary and secondary education, including educating teachers to preclude gender bias, providing additional motivational courses for girls, reducing single-sex classes, avoiding the stereotyping of STEM coursework, and providing positive role models for girls (Marchesani–Adams 1992, Rattsø–Stokke 2020, Airton–Koecher 2019). However, the results thus far have not produced the desired changes, as there are still fewer women than men studying in STEM fields (Marginson et al. 2013, Bell 2010).

The above-mentioned intervention factors confirm that vocational or STEM-focused education is still developing and much remains to be learned (Korompili–Karpouzis 2022, Dasgupta–Stout 2014). A broad picture of cross-national and cross-generational changes in STEM participation will inform policymakers and educators about the extent to which interventions are needed and how to better develop them (García-Holgado et al. 2020, Naukkarinen et al. 2020).

Considering the percentage of women in tertiary education based on data from the European Commission ([EC] 2008), or the Programme for International Student Assessment (Contini et al. 2017, McNally 2020) necessarily raises the question of long-term trends. To what extent do the interventions undertaken make a real difference in increasing the percentage of women in STEM education? However, answering this question first requires reference to the available data to capture trends between gender and STEM.

Current study

The current study provides a descriptive analysis of the pattern of gender differences in entrance into and graduation from tertiary education programs across the EU from 1991 to 2019. This breadth of data allowed us to document cross-generational changes in attendance in tertiary education programs and assess whether these changes were associated with shifts in the proportion of women in STEM fields. We also examined these same patterns for recently matriculated students across the EU.

Methods and data

The Organization for Economic Cooperation and Development (OECD) was founded in 1961, and its main aim is to support member states in achieving the highest possible level of economic growth and living standards for citizens. The OECD's annual report includes extensive social and economic information on its 37 members. The reports available for this study cover the period 1981–2019, but data were unavailable for many EU countries for this whole period (e.g., Poland, Latvia, and the Czech Republic). Thus, the data used here were limited to 1991–2019, inclusive. The focus was on the number of graduates at any level of tertiary education across the 27 EU countries. To estimate secular changes, we assessed the proportion of the population who completed some form of tertiary education across two age cohorts (ages 25–34 and 55–64) and men and women.

According to the OECD, "tertiary education" is defined as the "highest level of education," which "includes both theoretical programs leading to advanced research or high skill professions such as medicine and more vocational programs leading to the labour market" (OECD 2021). In addition, the OECD's Education at a Glance 2021 mentions that any two-year education program "with professional knowledge, skills and competencies," which is typically "practically based, occupation-specific and prepares students to enter the labour market directly" may be considered "short-cycle tertiary education," following the International Standard Classification of Education (ISCED levels 5) (OECD 2021). The STEM fields refer to the "aggregation of the broad fields of natural sciences; mathematics and statistics; information and communication technologies; and engineering, manufacturing and construction."

The status of the students in EU countries was based on a recent Eurostat report, *Tertiary Education Statistics*, which covers student statistics for 2018, including a breakdown by gender of the distribution of graduates across 12 broad fields (1. business, administration, and law; 2. engineering, manufacturing, and construction; 3. health and welfare, etc.) (Eurostat 2020). All the data included ISCED levels 5–8 (short-cycle tertiary, bachelor's or equivalent, master's or equivalent, and doctoral or equivalent) for 17.5 million students. However, information on all levels of educational attainment is not available for all countries, for example, short-cycle programs or the equivalent in Bulgaria, Estonia, and Finland. These missing data should not distort the results because this affects only a small proportion of the EU population and because we focused on age and gender differences across the 12 fields, regardless of educational stage (e.g., short-cycle or bachelor's).

Results

Diversity of graduates

Figure A1 (see in Appendix) shows the percentage of 25–34-year-old women and men who completed some form of tertiary study from 2016 to 2019. Overall, 35.5% of men and 49.4% of women graduated from some form of tertiary program. The exception was Germany, where the difference is only 2.2 percentage points, and more women than men completed a tertiary program; across countries, the differences ranged from a 7 to 23 percentage points advantage in favor of women, with a mean of 14 percentage points. Women's dominance is particularly visible in Latvia (a gap of more than 23%) and Lithuania (>20%). The latter country also stands out because two out of three women (65.7%) in this age group graduated from a tertiary program.

Figure A2 (see in Appendix) shows the same analysis for the 55–64 age group. Relative to the younger cohort, fewer people in this cohort completed a tertiary program and the gender differences are much smaller (23.7% and 25.8% for men and women, respectively).

In eight countries more men than women completed such a program compared with more women than men for 12 countries. The smallest differences (up to 5% difference) in this age group were noted in nine countries, including almost imperceptible differences in the Czech Republic, Spain, and France. The largest (more than 10% difference) differences were found in Germany, Lithuania, Sweden, Finland, and Estonia.

Juxtaposing the results of Figures A1 and A2, a clear secular trend is apparent, with small and variable (across countries) gender differences in the older generation (55–64-year-old), and substantive and consistent advantages for women in the younger generations (25–34-year-old). Based on data presented in Figures A1 and A2, countries where the trend for the older generation clearly showed a shift to a male-dominated proportion of graduation in tertiary education of 25–34-year-old men and women are the Czech Republic (a drop of 17.3% from male-dominant for the older generation of 4.00% to female-dominant for the younger generation of 13.3%), Slovenia (18.27%) and Greece (21.6%).

Spatial diversity

Figure A3 (25–34 age group) and Figure A4 (55–64 age group) (see in Appendix) show the gender differences in the percentage of people with a tertiary degree from 1991 to 2019, inclusive. Positive values indicate an extreme advantage for women in percentage terms and the negative values an extreme advantage for men relative to the overall mean difference. The latter favors women by 9.2% in the 25–34 age group and men by 2.8% in the 55–64 age group (gray). Thus, for Figure A3, the gray and light blue show countries where the female advantage is small (reversed in Germany) and the pink and red areas countries where the gender difference (favoring women) is larger than the European average. The gender differences were extreme in eastern and northern European countries and muted in other areas of Europe.

Figure A4 shows that the spatial pattern is similar for the 55–64 age group, but with an overall male advantage (2.8%). Men's relative advantage in tertiary education is concentrated mostly in Western Europe, with Germany, Austria, and the Netherlands showing the highest difference. In contrast, the largest deviations, favoring women, are noted for Scandinavian and the Baltic states, and Portugal is the only Western European country with more women than men with a tertiary education.

Gender differences across academic disciplines

Figure A5 (see in Appendix) shows the ratio of women to men enrolled in tertiary education fields in Europe in 2018, adjusting for the number of men and women in tertiary programs. Of the people in such programs, there were 47% more men than women in engineering, manufacturing, and construction, and 63% more men than women in information and communication technologies (ICT). In contrast, there were substantively more women than men in health and welfare (43% more women) and education (57% more women) programs.

Figure A6 (see in Appendix) shows similar information but it is broken down by the percentage of students across the disciplines (columns) and the percentage of women and men in each discipline. The pattern is the same, the only disciplines in which there are absolutely and proportionally more men are engineering, manufacturing, construction and ICT. The greatest disparities are noticeable for two distinct types of studies. The first is education sciences, where women predominate, while in the area of ICT, men prevail. These differences can provide a starting point for a discussion on aptitude, social perceptions of women and men in specific professions, and equal opportunities in employment and remuneration.

Additional considerations

Figure A7 (see in Appendix) shows the ratio of women and men of any age in tertiary education across Europe in 2018. There are more men than women in four of the 27 countries (Germany, Greece, Switzerland, and Turkey), but the difference for Switzerland is not substantial. Women's advantages are substantial in all countries in which there are more women than men in tertiary education, with the smallest gaps in Ireland, Luxembourg, and the Netherlands (about a 4% difference). Across countries, (without population weighting) there are 12% more women than men in tertiary education, with the extremes for Sweden (20.2%) and Iceland (27.2%). Figure A8 (see in Appendix) shows the geographic distribution of these differences across the EU.

Even with the female bias in tertiary education, there are more men (absolute numbers) than women studying in STEM fields across the EU, as shown in Appendix, Figure A9. The largest difference is observed for Ireland and the smallest for Luxembourg, Estonia, and Poland. The figure shows the difference in the number of men and women graduates in STEM fields per 1,000 persons aged 20–29. Across countries, there are almost 12% more men than women in STEM and it is every year, the extremes being Switzerland (–22% difference), Ireland (–24% difference), Estonia (–5.4% difference) and Poland (–4.9% difference).

The geographic distribution of these gender differences is shown in Appendix Figure A10, while Figure A11 (also in Appendix) shows that the largest difference is observed in Ireland and the smallest in Luxembourg in tertiary education graduates in natural sciences, mathematics and statistics, ICT, engineering, manufacturing, and construction.

STEM prospects

In Appendix Figure A12 shows the proportion of women who are recent entrants in different tertiary education programs in 2019. The gender differences here mirror those found for the 25–34 and 55–64 cohorts, that is, the lowest proportion of women is in engineering, manufacturing, construction, and ICT, whereas the highest is in education and health as well as welfare.

In Appendix Figure A13 shows the proportion of women who were new entrants across all STEM fields, and their distribution across natural sciences; mathematics and statistics; engineering, manufacturing, and construction; and ICT.

For instance, in Germany, about 23% of women were new entrants in a STEM field, with about 10% of women in engineering, manufacturing, and construction; about 8% in natural science, mathematics and statistics; and, about 4% in ICT. Figure A13 shows that there is a degree of inconsistency in the total number of STEM students between 2013 and 2019. In general, the total number of students in European countries has decreased, the exceptions being Sweden, Austria, Czech Republic, Latvia, and just barely Norway. In all countries apart from Ireland and Estonia there are significantly more women students in engineering than in information studies. This could be explained by both a larger variety of engineering courses and the relative novelty of information courses. In France, Ireland, Luxembourg, and the UK, there is a significantly higher number of students in natural sciences than in engineering and information studies taken together. Italy, Switzerland, France, and Portugal notably have the lowest proportional number of female students in information courses.

Discussion

A clear predominance of men in STEM fields has been observed for decades (Piva–Rovelli 2021, Cheryan et al. 2011, Correll 2001, Bottia et al. 2015), and the current study confirms this phenomenon across the EU and the generations. The largest gender differences in these fields are in Western European countries – Ireland (24% more men than women per thousand inhabitants aged 20–29), Switzerland (22%), Austria, Finland, and France (20%). The smallest gender differences are found in Luxembourg (4%), and Poland and Estonia (5%). The predominance of men in STEM fields is found, even though in all countries there are more women than men in higher education. The case of Turkey is an interesting one, as it is a country with significantly more men than women in higher education (7.1% pp in 2018) while maintaining a similar proportion in STEM courses (for a discussion, see also Stoet–Geary 2018, 2022).

The pattern for STEM stands in contrast to the finding that more women are now completing college throughout the EU (see 2016–2019, Figure A1).

The research findings presented here confirm the question of horizontal segregation in the educational system, that is, a higher proportion of women in tertiary education but with apparently lower participation in STEM. Women's largest advantages in terms of college graduation (1991–2019) are found in Finland, Lithuania, Latvia, Estonia, and Slovenia (25–34 age group, Figure A3).

The overall secular shift toward more women attending and graduating from some form of tertiary education is in keeping with patterns found in other modern economies over the past several decades (Stoet–Geary 2020). Stoet and Geary found that the secular increase in the proportion of women pursuing a tertiary education was related to their advantage over boys in reading abilities, and to social beliefs about the importance of education for girls. Whether these factors contribute to the secular changes found in the EU is not clear but should be addressed in follow-up studies.

In any case, the key finding is that despite the shift toward more women in higher education, men continue to predominate in engineering, manufacturing, construction, and ICT. The male bias in these areas is found throughout the EU, although the extent of the bias varies from one country to another. In keeping with the so-called "educational-gender-equality paradox" in STEM (Stoet–Geary 2018) the male bias is greater in more economically developed countries. These are the contexts in which women are less likely to enter inorganic STEM fields (e.g., engineering, computer science) than women in less economically stable contexts. The smaller disparity found for countries formerly under the influence of the Soviet Union (1922–1991) might reflect this same pattern. If so, then the STEM gaps in these former communist countries may increase in coming generations, with economic development and changes in educational and occupational equality.

Independently of these contextual effects, the overall male bias toward engineering, computer science and related fields and female bias toward the people-oriented fields of education and health is consistent with a recent large-scale study of adolescents' occupational aspirations (Stoet–Geary 2022), labour market participation patterns in the United States (Lippa et al. 2014), and with historical studies that show these same biases (e.g., King 1914, Miner 1922). A constant monitoring of trends in this area is a necessity, as is the search for solutions to increase the number of women engaged in the economically important STEM fields.

Conclusions

Aging populations and falling birth rates pose a fundamental problem for many economies, especially developed ones, as they portend a shrinking workforce. The combination of a declining workforce, the gender difference in occupational preferences, especially girls' and women's lower levels of interest in the inorganic STEM fields (Stoet–Geary 2022), and men's relatively lower participation in tertiary education could result in severe shortages in several STEM fields, especially those currently dominated by men.

One obvious part of the solution is to increase the representation of women in the labour market, especially in key STEM areas; however, it is still believed in many cultures and government circles that such a solution runs counter to the goal of increasing the birth rate. Indeed, the opposite might be true. This is why it is essential to not only educate STEM-willing women but also allow them to proceed in their chosen careers despite the common social expectancy that women should take care of the family (not in breadwinner terms) first, and put their career and general finances second.

Economic growth, which comes through better use of women's talent and skills in the labour market, goes hand in hand with wealth growth. Schwartz (1989) defined two types of women in organizations: career-primary and career-family and concluded that if organizations are to maintain a competitive advantage, they must recognize the value of both types and provide a more flexible working environment. This will benefit the individual, the employer, and the broader nation. The employee will have the freedom to choose between career and family or a combination of both, and the employer will be able to retain a valuable resource – talented women in STEM leadership positions. This kind of discrimination (women having to choose between career and family) is found to lower economic growth; and the former also implies a reduction in per capita GDP, while the latter distorts the allocation of talent (Pillai–Wang 2019). This means that there is an underrepresentation of women in managerial positions combined with a significant prevalence of women as unskilled workers. In general, gender discrimination is an inefficient practice especially in low-income and deleveraging countries (Esteve-Volart 2004).

The analyses conducted here confirm that there are more men engaged in STEM fields and that this gender difference is evident to varying degrees across the EU and the generations. Moreover, despite the generational increase in the proportion of women going to college, there continue to be more men training and graduating in STEM fields. In addition, when analyzing the trends, it has been shown that the number of female students is increasing every year. Moreover, an interesting aspect is the greater feminization of studies in the regions of Scandinavia and Central and Eastern Europe in comparision to Western Europe. In the case of the predominance of men in the STEM fields, the trend across the EU is increasing. The increasing number of women students in all fields does not improve the male/female ratio in STEM fields. This situation might have an influence on labour markets and it might create some social tensions and be a challenge in the future.

The general findings of this study can be summarized as follows:

1) Despite the generational increase in the proportion of women going to college, there continue to be more men training and graduating in STEM fields. These differences are the largest in engineering, manufacturing, construction, and ICT.

2) The general increase in participation in higher education doubled the number of women in tertiary education but did not increase the number of women in these programs.
3) There are still more men in STEM across Europe, even in Scandinavian countries where there are considerably more women than men (in percentage of total population) in tertiary education in general.
4) Women are more likely than men to complete tertiary education in most EU countries, but are consistently underrepresented among graduate entrepreneurs, especially in STEM.

It is important to be aware of the limitations of our analyses. The detailed analyses presented in the empirical part are based on an elementary gender breakdown and, therefore, the use of indicators such as female and male. However, further research in this area should also take into account issues relating to transgender and nonbinary people, and extend the indicators for the gender variable. Such an approach allows for an even more precise mapping of trends in STEM, although, at the same time, it may be controversial in certain circles.

Future studies

This study highlights several socially and economically important trends. The first is the disengagement of men relative to women in tertiary education. As men are more likely to enroll and graduate in key STEM areas, their more general disengagement from schooling will likely exacerbate shortages in these fields. While there were early successes in attracting more women to these same fields, there has been little progress over the past several decades, which will further exacerbate shortages. Explaining the reason why those programs stalled requires targeted research based on questionnaires that would need to be performed in all countries in the region. Addressing current and potential future shortages in key STEM fields will first require a fuller understanding of the reasons for men's relative disengagement from tertiary education and a fuller understanding of the factors that influence girls' and women's interest in pursuing higher education and careers in key STEM fields. Our results also suggest that a reconsideration of the policies and practices targeting women and STEM is in order, as they do not appear to be particularly effective.

Acknowledgements

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Appendix

Figure A1

Percentage of 25–34-year-old men and women who graduated from a tertiary education program, 2016–2019

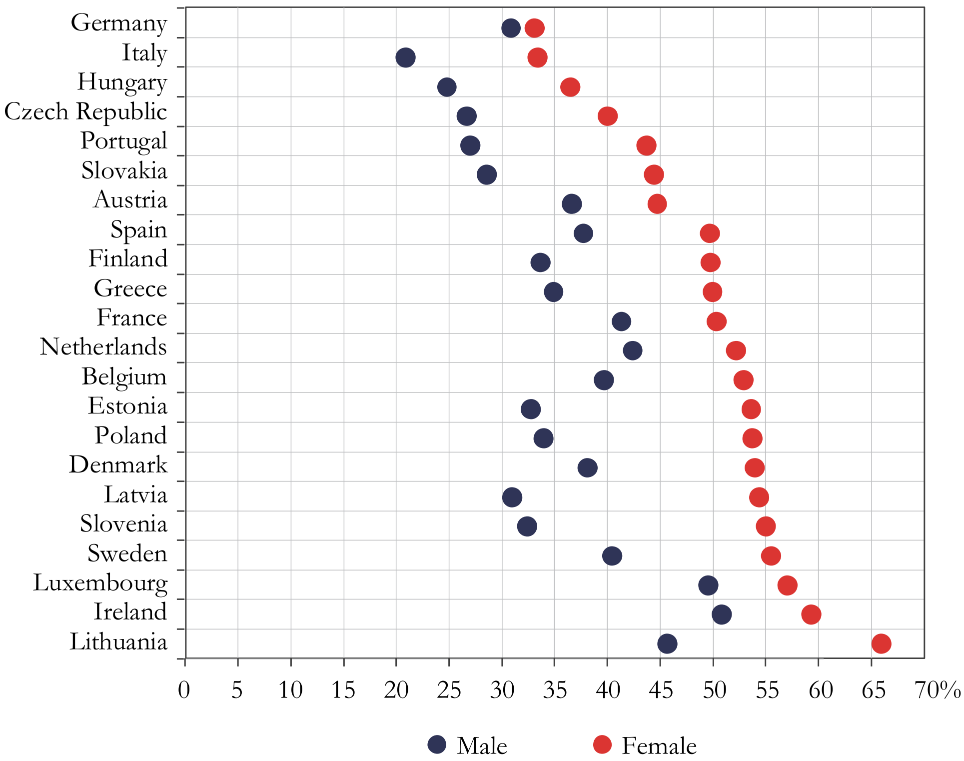


Figure A2

Percentage of 55–64-year-old men and women who graduated from a tertiary education program, 2016–2019

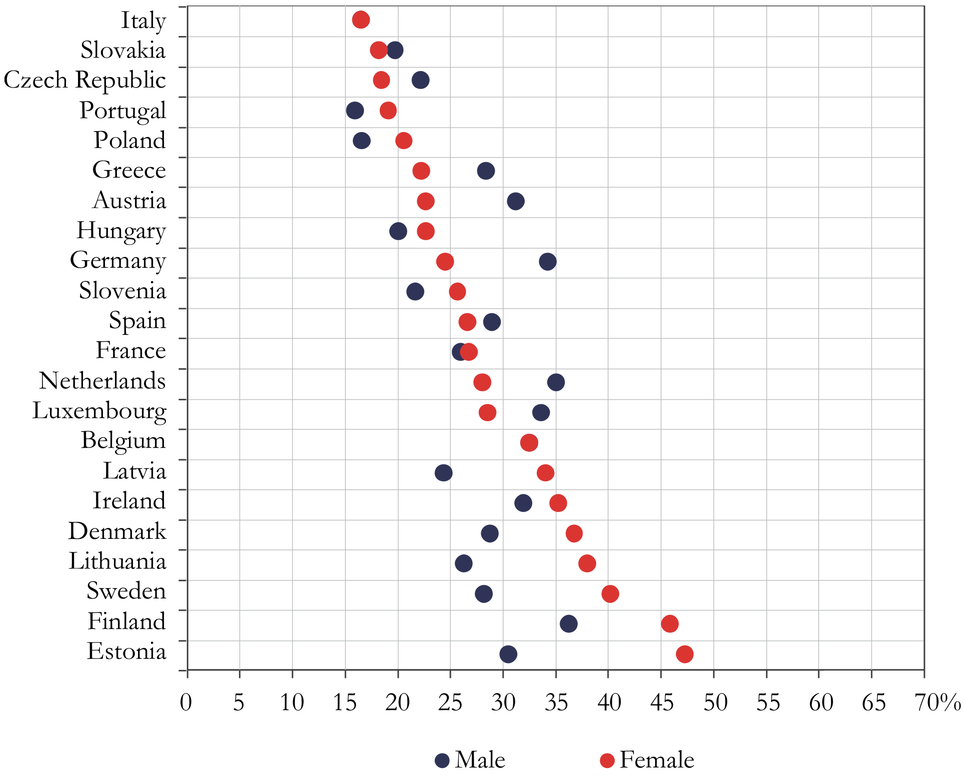
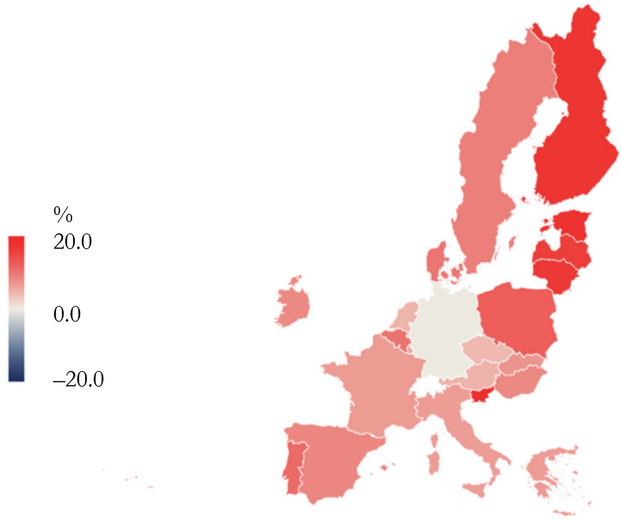


Figure A3

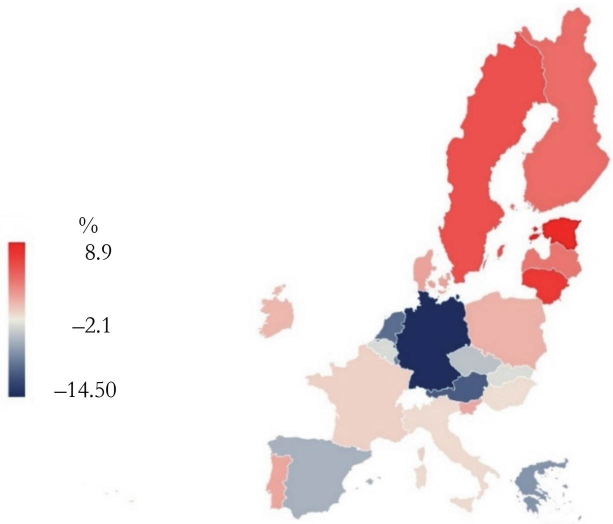
Differences in the proportion of 25–34-year-old men and women who graduated from a tertiary education program, 1991–2019



Note: positive values (red) indicate gender differences that exceed the European mean, favoring women, whereas negative values (blue) indicate smaller gender differences or a male advantage.

Figure A4

Differences in the proportion of 55–64-year-old men and women who graduated from a tertiary education program, 1991–2019



Note: positive values (red) indicate gender differences that exceed the European mean, favoring women, whereas negative values (blue) indicate smaller gender differences or a male advantage.

Figure A5

Percentage differences of men and women in tertiary education in Europe in 2018

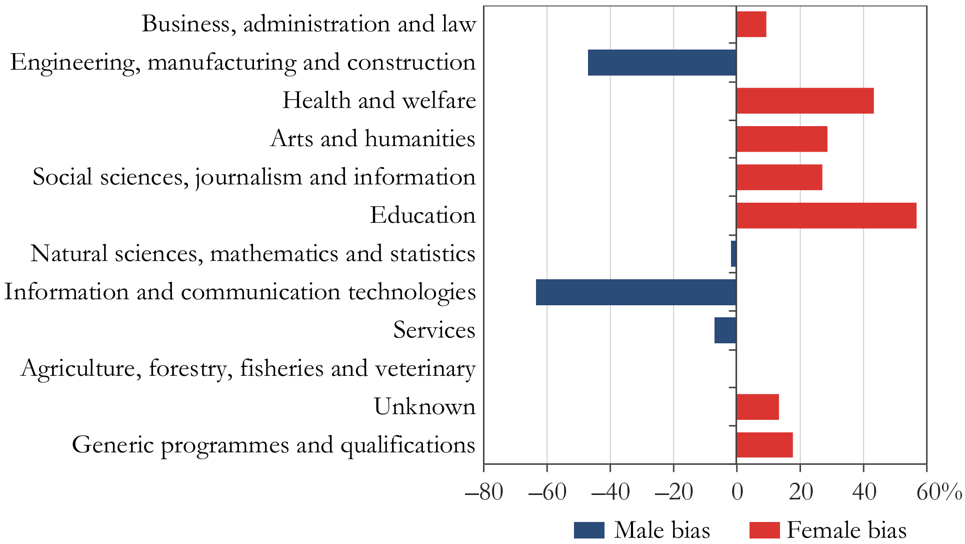


Figure A6

Percentage of students in the EU in 2018 across disciplines (bar graph) and percentage of male/female students in each discipline (red and blue spots)

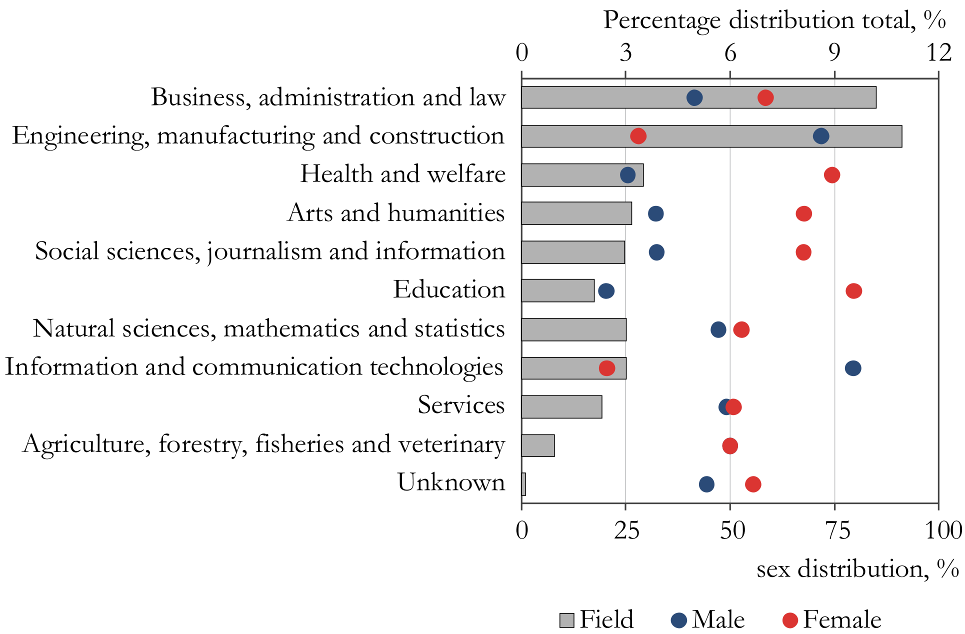


Figure A7

Percentage differences for women and men in tertiary education in each of the EU countries for 2018

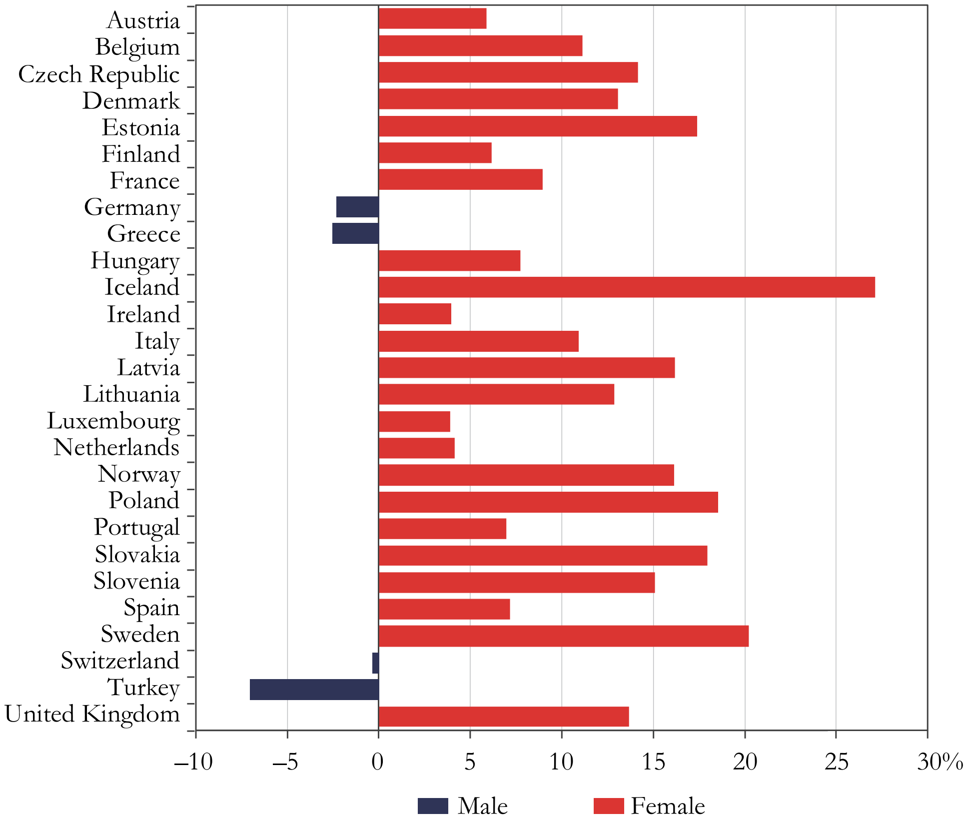
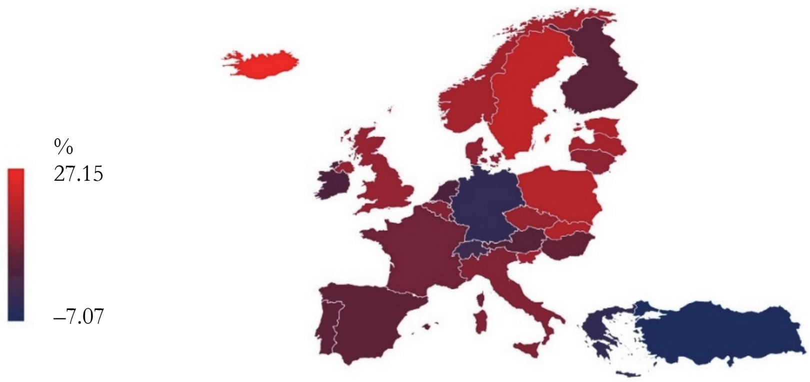


Figure A8

Geographic distribution of the magnitude of gender differences in tertiary education across the EU for 2018



Note: red = female advantage; blue = male advantage (Eurostat 2020).

Figure A9

Difference in the number of men and women graduates per thousand persons aged 20–29 years in natural sciences, mathematics and statistics, ICT, engineering, manufacturing, and construction, 2018

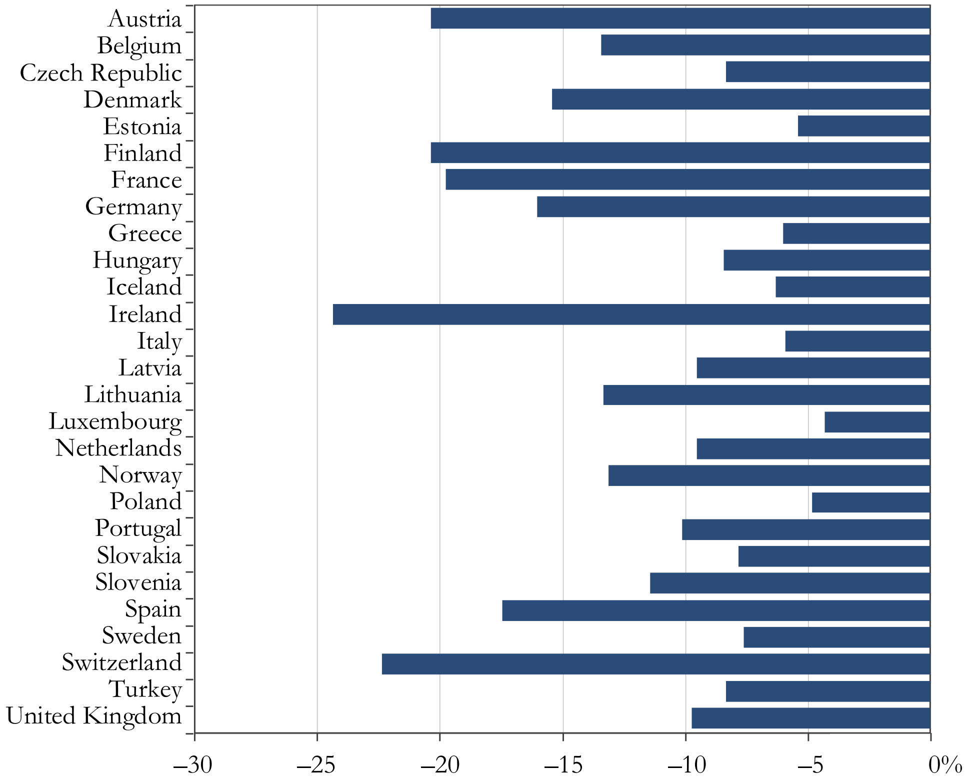
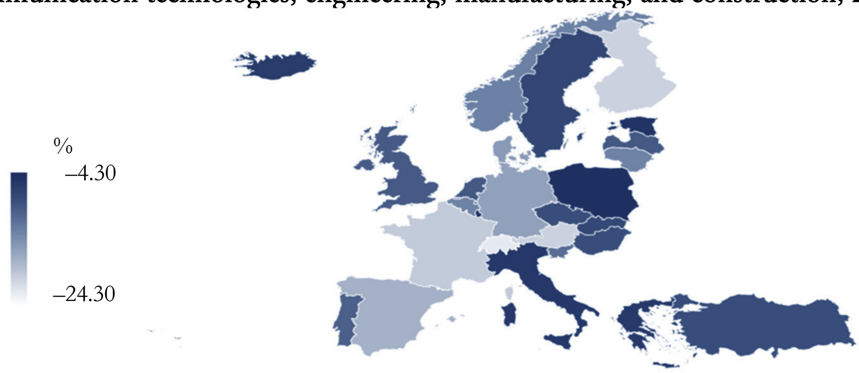


Figure A10

Geographic distribution of the magnitude of the gender difference among graduates in natural sciences, mathematics and statistics, information and communication technologies, engineering, manufacturing, and construction, 2018



Note: number per thousand persons aged 20–29 years.

Figure A11

Distribution of tertiary education graduates in natural sciences, mathematics and statistics, information and communication technologies, engineering, manufacturing and construction on the basis of gender for 2018

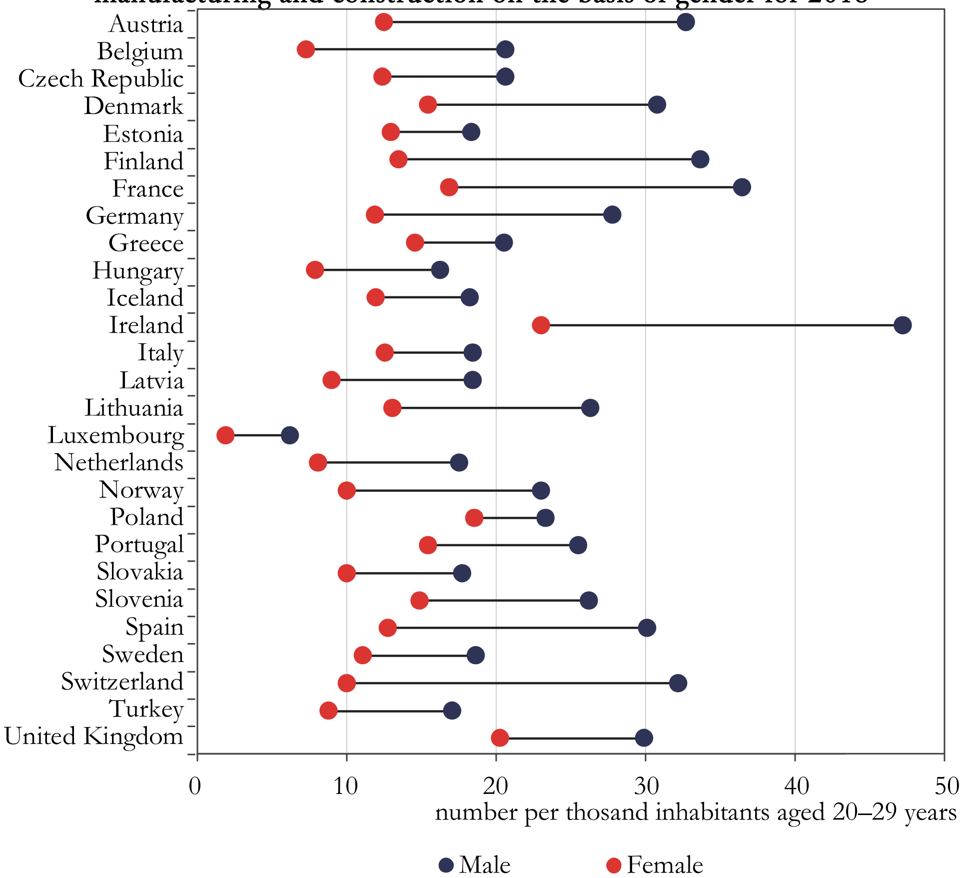
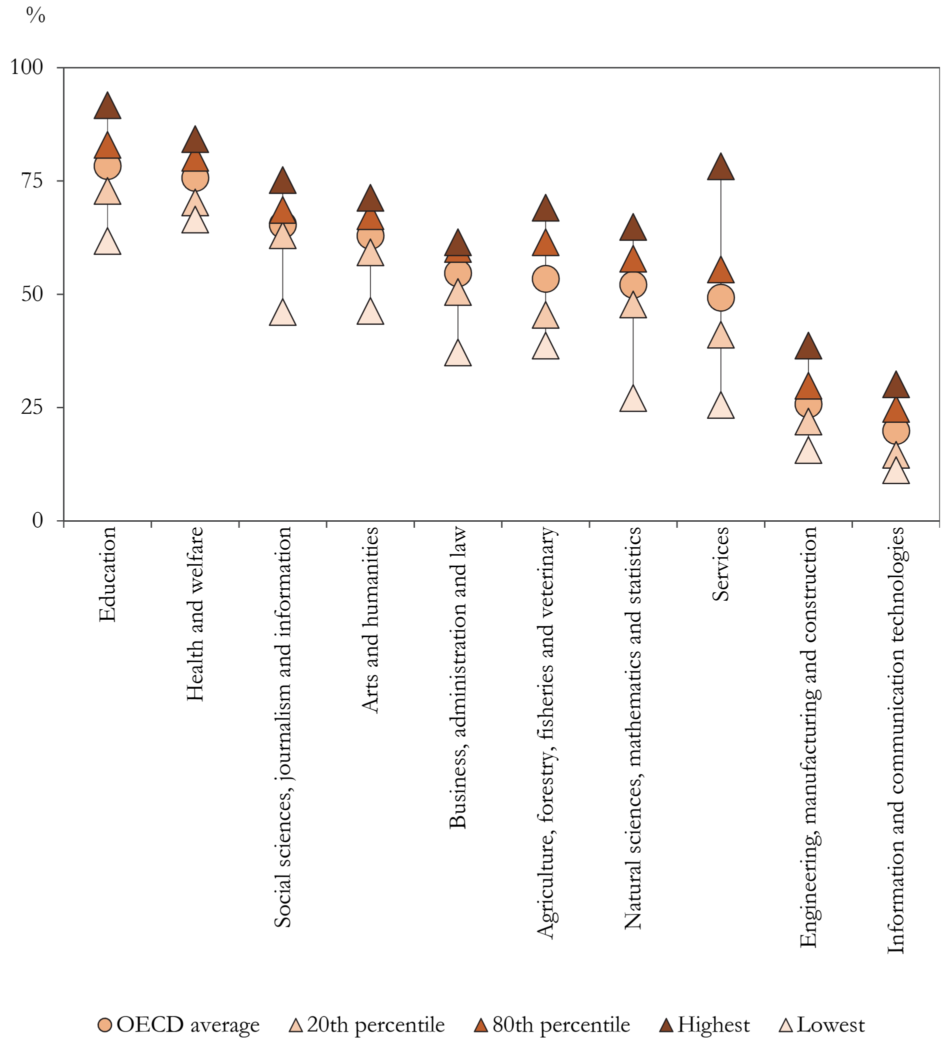


Figure A12

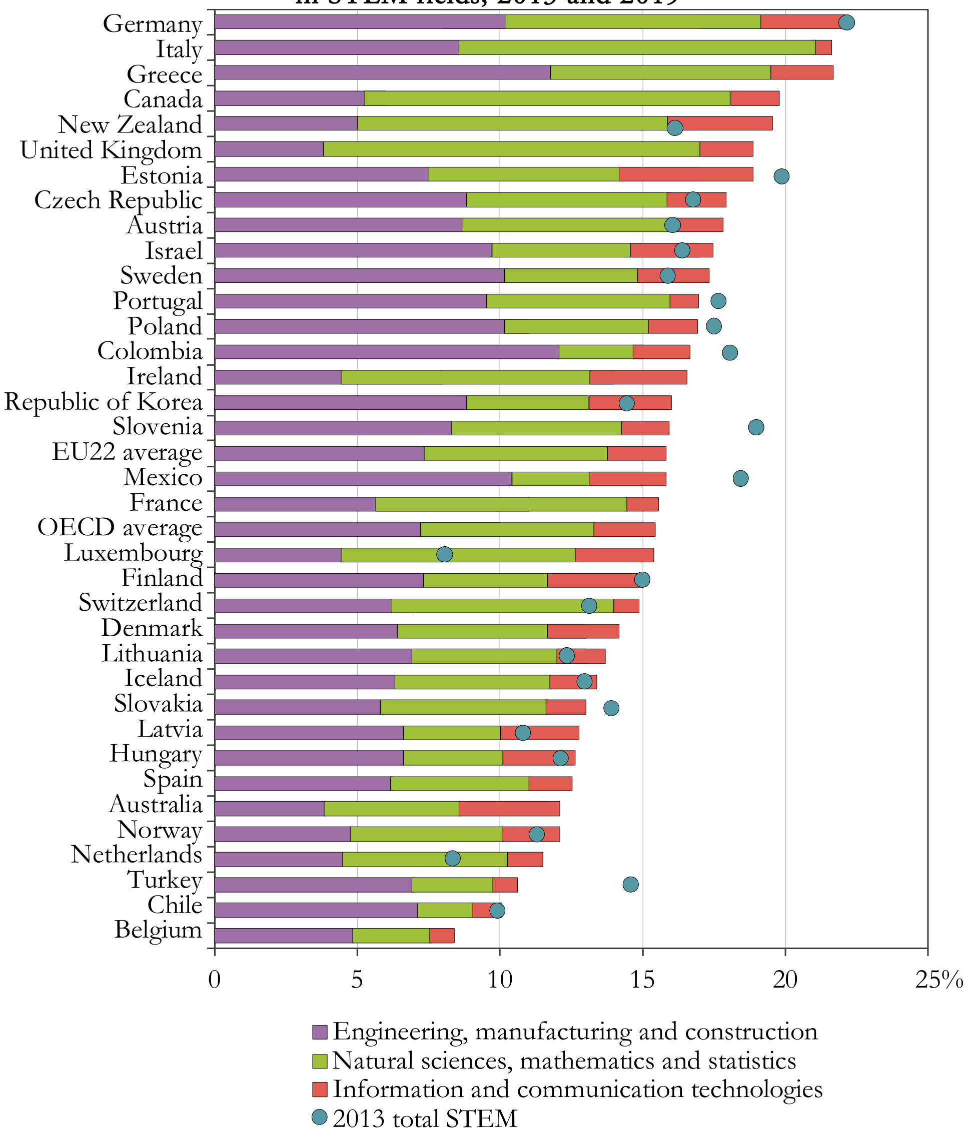
Percentage of new women entrants into tertiary education in different field showing the variation across countries to OECD average, 2019



Note: OECD 2021.

Figure A13

Distribution of the percentage of new female entrants into tertiary education in STEM fields, 2013 and 2019



Note: OECD 2021.

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