

THE OUTLOOK ON

# EDUCATION IN TURKEY

2020

MONITORING AND EVALUATION REPORT



**THE OUTLOOK ON  
EDUCATION IN TURKEY 2020**  
MONITORING AND EVALUATION REPORT



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# **THE OUTLOOK ON EDUCATION IN TURKEY 2020**

## MONITORING AND EVALUATION REPORT

Zafer elik  
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## PREFACE

The duration and quality of the education that individuals receive, labor market conditions, and economic and cultural environments have an important effect on the transition from education to work. Today, countries tend to develop education policies that will not only provide students with basic knowledge and skills, but also allow them to enter the labor market when they graduate.

In today's societies, as the level of education individuals receive increases, there is a tendency towards higher employment rates and higher relative earnings. Devoting time and money to education, whether at the individual, social or national level, is an investment in human capital. Therefore, matching resources with the needs of students and using time in the best way is at the center of education policy. The increase in the condition and quality of the education system and the fact that students have advanced skills is an indicator that the future of societies will be positive. In this context, countries tend to constantly monitor and evaluate their policies and practices in order to see how effective and efficient investments made in education are. As a result of the monitoring and evaluation studies carried out to improve and advance the education system, it is inevitable that data-based suggestions will emerge in order to identify the current situation, pinpoint areas that are progressing positively and those that need improvement and overall improve the education system as a whole.

As Eđitim-Bir-Sen, Turkey's largest non-governmental organization, we have been publishing the Outlook on Education in Turkey report series since 2016. This report series aims to present the current situation of the education system in Turkey and offer policy recommendations in light of the standards of international organizations and operating under a data-driven analysis principle. This year the fifth report in our series, the *Outlook on Education in Turkey 2020: Monitoring and Evaluation Report*, examines the education system in data-based manner and makes evaluations based on various indicators. We are proud to present this report which has been created with data obtained from a wide variety of sources.

The *Outlook on Education in Turkey 2020: Monitoring and Evaluation Report* discusses the current state of the education system in Turkey, offers data-driven analysis, and works to create a basis from which to improve the education system. We hope that the report will contribute to a data-driven policy development process. I would like to take this occasion to thank out EBSAM team for preparing the report as well as everyone who contributed to this publication.

**Ali Yalçın**

Eđitim-Bir-Sen and Memur-Sen  
President

## FOREWORD

Education has very important roles in the formation of a democratic culture, the realization of economic development and the development of social welfare, and therefore in reducing poverty. Many education systems develop policies that enable individuals to develop skills that will increase their employability.

Comparing education and labor market indicators across countries can help governments better understand and evaluate global trends and predict how economies will develop in the coming years due to the qualified development of human capital. In turn, this information can help to formulate education policies and improve the education system aimed at ensuring that today's students are well prepared for tomorrow's labor market. In this context, the importance of continuous monitoring and evaluation of policies and practices developed to improve the education system becomes evident. Moreover, detailed and systematic monitoring and evaluation of the current state of the education system provides an opportunity to identify areas that need improvement in the education system and to develop data-based policy recommendations.

As Eđitim-Bir-Sen, we have been monitoring the education system regularly since 2016 and evaluating the developments of the system. In the *Outlook on Education in Turkey 2020: Monitoring and Evaluation Report*, which we prepared for the fifth time this year, we monitored and evaluated the current state of the education system and the effects of current policies and practices using a data-driven approach. This report consists of the following chapters: access to and participation in education, education outputs, teachers and school principals, educational/teaching environments and financing of education. We have identified the well-functioning aspects of the education system as well as the low-performing aspects and made suggestions for the improvement of the education system.

While establishing the indicators within the scope of the report, data published openly by various institutions and organizations, especially MoNE, TURKSTAT and the OECD was used. Under these indicators, a comprehensive and comparative framework was formed taking into consideration data on OECD countries.

I hope that this report will contribute to the education system and the field of education and provide data-based analysis to aid in policymaking. I would like to take this occasion to thank Assoc. Dr. Zafer elik, Prof. Dr. Hasan Bozgeyikli, Serkan Yurdakul, and Assoc. Dr. Bekir S. Gr, and the EBSAM team.

**Atilla Olum**  
Vice President





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## List of Acronmys and Abbreviations

<b>AYT</b>	Field Proficiency Test
<b>BHE</b>	Board of Higher Education
<b>BİLSEM</b>	Science and Art Centers
<b>GDP</b>	Gross Domestic Product
<b>KPSS</b>	Public Personnel Selection Examination
<b>MoNE</b>	Ministry of National Education
<b>NEET</b>	Not in Education, Employment, or Training
<b>OECD</b>	Organization for Economic Co-operation and Development
<b>ÖSYM</b>	Assessment, Selection and Placement Centre
<b>ÖSYS</b>	Student Selection and Placement System
<b>PISA</b>	Programme for International Student Assessment
<b>TEOG</b>	Transition from Basic Education to Secondary Education
<b>TSI</b>	Turkey Statiticial Institute
<b>TYT</b>	Basic Proficiency Test
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>US</b>	United State
<b>YDT</b>	Foreign Language Test
<b>YKS</b>	The Higher Education Institutions Exam



# INTRODUCTION

With the spread of the new type of coronavirus (Covid-19) all over the world in mid-March, a pandemic was declared. In order to control the spread of the disease during the Covid-19 pandemic, countries have initiated restrictions and quarantines. During this period, schools were closed, and teachings were carried out through the distance education process. Countries that started to take control of the pandemic since the middle of April started face-to-face training processes again (Çelik, 2020; Eğitim-Bir-Sen, 2020). With the start of the new school year in September, countries have aimed to keep schools open as the main policy priority. Within the framework of this goal, they did not close schools even during the periods when the pandemic was the most intense. The principle of schools being open has been embraced as an important priority since the closure of schools causes significant learning losses, and social, psychological and emotional problems for children. In order for children to continue their development in a healthy manner, schools must be opened.

The Covid-19 pandemic has tested how successfully countries can respond to a crisis and demonstrated the importance of establishing a sustainable education system. The human, physical and technological nature of the education system has been clearly during the Covid-19 pandemic process (OECD, 2020). In this context, the importance of continuously monitoring and evaluating the policies and practices developed in order to improve the education system has once again come to light. To put it more clearly, the value and importance of the detailed and systematic monitoring and evaluation of the current situation of the education system, determining the areas that need to be developed in the education system, and developing data-based policy recommendations have been understood much better during the pandemic process.

For this purpose, the fifth *Outlook on Education* report has been prepared this year. The report overviews Turkey's education system and makes evaluations based on the data in a detailed manner through the use of various indicators. This report will be beneficial to policy makers and practitioners, relevant institutions and organizations, researchers, press members and general readers in comprehensively examining the indicators of the current system and seeing the areas that require intervention.

## Objective and Scope

The main objective of *Outlook on Education Report* series is to monitor the education system in Turkey, create a framework of indicators based on the data, and produce concrete evaluations. *The Outlook on Education in Turkey 2020: Monitoring and Evaluation Report* consists of five main chapters: access to and participation in education; education outputs; teachers and school principals; educational/teaching environments; and the financing of education. The report

examines 23 indicators, with different indicators in each chapter. Tables, figures and maps prepared using available national and international data have been included for each indicator. The data in this report does not take into consideration the Covid-19 pandemic as the date is from the 2019-2020 school year and focuses on the beginning and middle of the school year. The data showing the impact of the pandemic will be seen more clearly in the coming years.

Data from the annual *Outlook on Education in Turkey* report includes date ranges and display format regarding the indicators. This data is constantly changing and has been shown via tables, figures, and maps. The main purpose of this is to examine in detail the breakdown of the data, its changes compared to the previous years, and the stages of change in 2, 5 or 10 year periods. In this report, some indicators were extracted according to the acquisition and structure of the data, while some indicators were added, and the names of other indicators were changed.

## Method

This report makes use of the quantitative research method of descriptive research. The report is both cross-sectional and longitudinal, as it deals with changes over time. In the data analysis, figures and maps were alongside tables. In order to establish a standard in all tables and figures, the starting year of the school year is taken as a reference. For example, data for the 2019-2020 academic year is shown as 2019 in figures, tables and maps. Regarding data on graduation, the last year of the academic year is taken as a reference, and the year 2019 indicates the graduation status at the end of the 2018-2019 academic year. Tables and figures regarding budgeting have been based on the relevant years. In this report, some indicators have been analyzed from the first data point, including 1 or 2 years / academic year, some indicators 5 or 10 years / academic year. In some indicators, two or three dates are considered in five-year periods (2009, 2014 and 2019).

Data, terms, and concepts taken from the Ministry of National Education (MoNE), Turkey Statistical Institute (TSI), and the Organisation for Economic Co-operation and Development (OECD) have been utilized accordingly as laid out in the index of this report. However, we have observed that the concepts used by OECD and TURKSTAT differ especially in labor force data. While concepts such as Secondary Education General Programs and Vocational Programs were used in OECD data, these concepts were matched with the concepts of General High School and High School Equivalent Vocational School in TURKSTAT data.

In the report, the concepts preferred by the institution from which the data were obtained were used. In addition, we must note that Imam Hatip Secondary Schools and Anatolian Imam Hatip High Schools serve under the Ministry of Education General Directorate of Religious Education. In the statistics published by the Ministry of National Education, the number of students in these schools are included in the general tables as separate data from vocational and technical secondary education in many indicators such as schooling rates, new enrollment and graduate numbers, and the number of students per school, unit, classroom and teachers. Turkey's secondary education data is presented in this way with regard to international indicators. In addition to this, data regarding these school types in the Ministry of Treasury and Finance and

TURKSTAT are shown within the vocational and technical secondary education data. In this report, data for Anatolian Imam Hatip High Schools is shown within the vocational and technical secondary education type, and at the same time, the data regarding these school types is also given separately.

## Primary Data Sources

The data used and updated in the *Outlook on Education* reports was obtained from various national and international data sources. The data of some indicators, which are primarily included in the *Outlook on Education 2019* report, were updated in line with the latest data and revised according to the type of display and reference years. During the updating of the data, the National Education Statistics report published annually by the Ministry of National Education (2020), numerical information about the exams on the website of the Measurement, Selection and Placement Center (ÖSYM) and the official data obtained from the website of the Ministry of Treasury and Finance were used. In addition, labor force statistics, age groups and education level were obtained using the TURKSTAT database. The *Education at a Glance* report and the OECD database prepared annually by OECD (2020) was used for international comparisons. In addition, data from the International Student Assessment Program (PISA) 2018, which is undertaken by the OECD every three years, was included.

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## EXECUTIVE SUMMARY

### Chapter A: Access to and Participation in Education

The total number of students increased from 17.6 million to 18.2 million between 2015-2019; the number of preschool students from 1.2 million to 1.6 million; the number of primary school students increased from 10.6 million to 11 million; and the number of secondary education students fell from 5.8 million to 5.6 million. During these years, the number of students in general secondary education was 3 million 412 thousand and 1 million 608 thousand in vocational and technical secondary education. Between these years, the gender ratio increased from 91 to 93 in preschool, from 97 to 96 in primary education and from 91 to 89 in secondary education.

Between 2015 and 2019, the number of students enrolled in general secondary education increased from 500 thousand to 626 thousand, while it decreased from 608 thousand to 443 thousand in vocational and technical secondary education. Between these years, the gender ratio increased from 111 to 117 in general secondary education and decreased from 80 to 73 in vocational and technical secondary education. Between 2015 and 2019, the number of students in general secondary education increased from 3 million to 3.4 million, while the number of students in vocational and technical secondary education decreased from 2.1 million to 1.6 million, and the number of students in religious education decreased from 677 thousand to 610 thousand. According to the OECD average, the rate of students in general secondary education is 57%, while the rate of students in vocational and technical secondary education is 43%. In Turkey, these rates are 46% and 54%, respectively.

In 2019, the net enrollment rate for both girls and boys in the 3-5 age group is 43%; 55% for both sexes in the 4-5 age group; and 75% for the age 5 group. Theoretically, the total net schooling rate for the 6-9 age group, which corresponds to the primary school level, is 98%, and the net schooling rate of the girls and boys in the 10-13 age group, corresponding to the secondary school level, is 99%. The net schooling rate in the 14-17 age group, which represents the secondary education level, is 90%. Inequality in provincial access to secondary education continues to exist on a gender basis. In Rize, the net enrollment rate stood at 100% for both sexes. In cities such as Bitlis, Siirt, and Şanlıurfa this enrollment rate was considerably below the average of Turkey and girls' access to schooling was over 11 points lower than that of boys. Turkey ranks among the lowest OECD countries in terms of enrollment rates in the 17 age group.

The total number of students studying at all levels of private education institutions between 2015 and 2019 increased from 1.2 million to 1.5 million; the number of preschool students from 192 thousand to 289 thousand; the number of primary education students increased from 511 thousand to 623 thousand. In 2019, 9.9% of the students in secondary education, 5.7% in primary education, 17.7% in preschool, 9.9% in total continued to private education institutions. While enrollment rates have increased in recent years, Turkey still has a private school enrollment rate below that of OECD countries.

Between 2015 and 2019, the total number of students in open education decreased from 1.9 million to 1.6 million, the number of open education high school students decreased from 1.6 million to 1.4 million, and the number of open education middle school students decreased from 338 thousand to 223 thousand.

The total number of students who attended private schools between 2015 and 2019 rose from 288 thousand to 426 thousand. In 2019, five thousand of the students at private schools were preschool students, 339 thousand were primary education students and 8 thousand were secondary education students.

Between 2015 and 2019, the number of BİLSEM students increased from 89 to 182, the number of students per institution increased from 210 to 315, and the number of students from 19 thousand to 57 thousand.

## **Chapter B: Education Outputs**

Between 2015 and 2019, the rate of at least high school graduation in the 18-21 age group was 52.2% to 63.9% for males, 57.7% to 69.5% for females and increased from 54.9% to 66.7% in total. Although the graduation rate for secondary school has increased over the years in Turkey, when compared with the high school graduation rate of the population aged 25-34 in OECD countries (85%), the rate in Turkey (59%) is relatively low.

Between 2010 and 2019, the number of graduates in general secondary education increased from 194 thousand to 284 thousand for boys, from 206 thousand to 310 thousand for girls, and from 400 thousand to 594 thousand in general education. The number of graduates in vocational and technical secondary education increased from 148 thousand to 235 thousand for males, from 115 thousand to 220 thousand for females, and from 263 thousand to 455 thousand in vocational and technical secondary education. In 2019, the total number of graduates from secondary education exceeded 1 million.

According to 2018 PISA data, Turkey ranked 40<sup>th</sup> with 466 points in reading amongst the participating 78 countries and economies was below the OECD average of 487 points. Turkey ranked 42<sup>nd</sup> in mathematics with a score of 466 points, below the OECD average of 487 points. In science, Turkey ranked 39<sup>th</sup> with a total of 468 points, below the OECD average of 489 points. Among the 37 participating OECD countries, Turkey ranked 31<sup>st</sup> in reading, 33<sup>rd</sup> in mathematics, and 30<sup>th</sup> in science. In PISA 2018, girls performed 25 points higher than boys in reading, 7 points higher than boys in science, while boys performed 5 points higher than girls in mathematics. In terms of regions, we can see that there is significant differentiation in all three areas in PISA 2018. When we look at Turkey from West to East, we can see a clear decrease in all average scores in all three sections (reading, math, science) in the PISA 2018. While regard to region, the Central Eastern Anatolia Region scored 92 points lower in reading than the Western Anatolia Region, 69 points lower than the Aegean Region in mathematics, and 65 points lower than the Western Anatolia Region in science. Achievement varies significantly according to school type. There is a difference of 190 points in reading, 218 points in mathematics and 182 points in



science between the science high schools, the most successful type of high school, and multi-program high schools, the most unsuccessful group. In PISA 2018, the rate of students below the basic proficiency level is more than that of OECD countries, and the rate of students with high performance is lower than the average of OECD countries. We can see that average test scores to pass exams in higher education in Turkey are quite low.

Between 2011 and 2020, the number of candidates applying to OSYS increased from 1.8 million to 2.4 million, while the number of candidates placed increased from 789 thousand to 922 thousand. Between 2010 and 2020, the number of applicants for the final year high school exam increased from 689 thousand to 894 thousand, and the number of those who graduated from high school increased from 470 thousand to 963 thousand. Each year, approximately 600 thousand people who have been placed or graduated from a previous program apply for the transition to higher education. In the last 10 years, the number of candidates taking the entrance examination to higher education has increased by 42%, while the number of candidates placed has increased by 17%. This shows that the gap between supply and demand for higher education has widened. 32% of those who took the final grade exam and 38% of the total applicants were placed in a program. Moreover, the rate of enrollment in an undergraduate program is around 18% for all applicants and at the senior high school level. As a result, the rate of high school graduates and those who have not been placed before taking the exam increases. Considering that the number of graduates from secondary education exceeds one million, we can estimate that the number of applicants for higher education transition exams will only increase further, thus increasing the pressure on the system to place students in programs.

Between 2015 and 2019, the employment rate of general high school graduates fell from 47.3% to 45.5%, and the employment rate of high school and equivalent vocational school graduates fell from 58.7% to 55.2%. The unemployment rate of general high school graduates increased from 12.4% to 16.1%, and the unemployment rate of high school and equivalent vocational school graduates increased from 10.2% to 15.3%. Looking at the average of OECD countries in 2019, the employment rate of vocational education graduates (78%) is higher than the employment rate of general secondary education graduates (74%). In Turkey, both general secondary education graduates (57%) and the employment rates of graduates of vocational education (64%) have relatively low employment rates when compared with other OECD countries. In OECD countries, 21% of those who graduated from general secondary education between the ages of 25-34 and 12% of those who graduated from vocational secondary education are not employed. In Turkey, the unemployment rate of general secondary education graduates is 32%, while it is 24% for vocational secondary education graduates. Turkey has one of the highest unemployment rates for both secondary school graduates and general graduates. This data indicates that Turkey has one of the lowest employment rates amongst OECD countries for those aged 25-34.

In OECD countries the rate of those neither in education nor employed (NEET) fell from 18.7% to 15.2% between 2009-2019. During the same years, this rate fell from 48.1% to 33.3% in Turkey. While the rate of those neither in education nor employed (NEET) in Turkey has significantly gone down, it remains the country with the highest rate as of 2019.

In 2018, general high school graduate males earned 39.344 TL annually and females earned 33.177 TL. The same rates for vocational high school graduates was 54.970 TL for males, and 38.096 TL for females. General high school graduate females earned 85.7% of the earnings of males, and female vocational high school graduates earned 69.7% of the earnings of males.

### **Chapter C: Teachers and School Principals**

Between 2015-2019, the number of preschool teachers increased from 72 thousand to 99 thousand, and the number of primary education teachers from 588 thousand to 638 thousand. In secondary education the number of teachers increased from 334 thousand to 381 thousand. In total, the number of teachers increased from 994 thousand to 1 million 118 thousand. While 152 thousand teachers work in private primary and secondary education institutions, a total of 909 thousand teachers work in public primary and secondary education institutions.

The ratio of female teachers, which was 50% in 2009, has increased over the years to 54% in 2014 and 59% in 2019. The main reason for this is that most of the newly appointed teachers in recent years are female. Despite this increase, Turkey is one of the lowest among OECD countries in terms of female teachers at all levels. The ratio of young teachers among OECD countries between the ages of 30-49 years is the highest in Turkey (70%) compared to the OECD average (54%). In addition, according to 2019 data, 62% of new enrollments in faculties of education and 67% of newly graduates are female.

In a 5-year period a total of 197 thousand contract teachers were assigned to public schools in Turkey. According to the data of 2020, two out of every five newly appointed contracted teachers have been appointed to the Southeastern Anatolia Region.

The number of new enrollments of the faculties that constitute the teaching resource in the 2019-2020 academic year is approximately 55 thousand, and the number of graduates at the end of the 2018-2019 academic year was 53 thousand. 440 thousand people entered the 2020 KPSS educational sciences test. Considering the number of teacher appointments and teacher candidates, we can see that the "unassigned teacher" issue will continue in the coming years.

Looking at teachers' salaries in OECD countries, we can see that there is a general increase as the levels progress from pre-primary to secondary education. Considering the calculations based on purchasing power parity, teachers working up to 15 years earn \$ 42.8 thousand in pre-school, \$ 46.8 thousand in primary school, \$ 48.5 thousand in secondary school and \$ 50.7 thousand in secondary education in 2019, according to the average of OECD countries. In Turkey, Poland, Greece, Japan, Ireland and New Zealand teachers at all levels earn the same wages.

In Turkey, teacher salaries are relatively low and when compared to purchasing power parity are around \$ 31 thousand annually. In OECD countries, there was a significant increase in teacher salaries as seniority increase, while there was only minimal increase in Turkey.

Principals are not expected to attend classes in most OECD countries, and secondary school principals work an average of 1,628 hours per year. Turkey ranks second to last in front of Chile (1,971 hours) in terms of average annual working time for secondary education principals in OECD countries.

## Chapter D: Education-Teaching Environments

Between 2015-2018, the number of schools / institutions at all levels increased from 61 thousand to 69 thousand. In this process, the number of preschool institutions increased by 69%, the number of primary schools decreased by 7%, the number of private primary schools increased by 43%, and the number of institutions in general secondary education increased by approximately 30%. The most striking data is that the number of private high schools has exceeded the number of public high schools in the last two years. The total number of classrooms went from 619 thousand to 727 thousand between 2015-2019. The number of units increased from 746 thousand to 762 thousand. Despite the increase in the number of classrooms at the secondary education level, the number of units has decreased especially in the last two years.

In the 2019-2020 academic year, the students per division was 22 in primary school, 23 in middle school, 26 in general secondary education, and 19 in vocational and technical secondary education. In 2018, the average class size in primary schools across OECD countries was 21, and 23 in middle schools.

In the 2019-2020 academic year, the student-teacher ratio was 17 in primary school, 15 in middle school, 12 in general secondary education, and 10 in vocational and technical secondary education. According to 2018 data, the student-teacher ratio in OECD countries is on average 15 in primary schools and 13 in middle schools and high schools. In terms of the student-teacher ratio at the high school level Turkey has fallen below the OECD average, yet it is still among the countries with a high student-teacher ratio at primary and secondary levels among OECD countries. The difference between regions and provinces in terms of the student-teacher ratio at both primary and secondary education levels still continues.

Between 2015 and 2019, the number of students in bussed-education at the primary school level decreased from 289 thousand to 273 thousand, the number of mobile students went from 519 thousand to 481 thousand in middle schools, and from 479 thousand to 398 thousand in middle education. Particularly in rural areas and relatively scattered settlements where only a small number of students have access to education, we can see that bussed-education moved the most at the primary and middle school level in Bartın (primary school 33%, secondary school 38%), while at middle education level this province was Şırnak (36.6%).

## Chapter E: Financing of Education

The budget allocated to MoNE between 2016-2020 increased from 76.35 billion TL to 125.4 billion TL. Between these years, the budget allocated to MoNE from within GDP decreased from 2.93% to 2.57%, and the budget allocated to MoNE from the central government budget from 13.4% to 11.4%. Despite the increase in access to preschool and secondary education in recent years, there has been a significant decrease in the resources allocated to education.

According to data from 2017, the percentage of GDP allocated to education in OECD countries (excluding higher education and preschool) was on average 3.4%. The percentage of GDP allocated to education in Turkey was lower than the OECD average at 3.3%. When we look at the ratio of total public expenditure in GDP, we can see that Turkey (2.4% ) is well below the OECD average of (3.1%) and ranks among the lowest in terms of public spending. On the other hand, when we look at the ratio of private expenditure within GDP, when can see that Turkey (0.9%) spends significantly more than the OECD average of 0.3% and ranked among the highest in terms of private spending.

According to calculations made with fixed prices of December 2019, in 2010 3,176 TL was spent per student in basic education, 4,008 TL in secondary education and 3,410 TL in all levels. In 2019, the expenditure per student was 4,468 TL in basic education, 6,266 TL in secondary education, and 5,023 TL per student in all levels. When we examine the total amount spent per student (excluding preschool and higher education) in 2017 according to purchasing power parity, we can see that Turkey (4,594 \$) spent less than half of the OECD average (9,999 \$) per student and ranks among the lowest in terms of spending per student.

## Recommendations

- Although the access rate to education has increased in recent years, we can observe that there are differences by region and gender, especially at the secondary education level. For this reason, projects that prioritize increasing schooling in general and increasing the schooling of girls in particular in disadvantaged regions where the schooling rate is low should be developed and implemented.
- Although the enrollment rate at the pre-primary level has increased in recent years, it is still lower than the national targets and the OECD average. In this context, priority should be given to opening new preschool institutions, especially in places where preschool education institutions are scarce, and a mechanism should be established to increase the participation of the children of socioeconomically disadvantaged families in preschool education.
- The number of students in open education is still quite high and open education is defined as an alternative to formal education. Therefore, the open education system should not be considered a type of school where unsuccessful students are placed, and the capacity of face-to-face education opportunities should be increased.
- Compared to primary education, the number of students receiving private education is higher for boys than girls. Therefore, the capacity for children with private education needs should be increased by giving priority to girls and secondary education level.
- Considering the density of students per institution in BİLSEMs, the number of students should be reduced, the technical and physical infrastructure of BİLSEMs should be strengthened and policies that increase the quality of human resources should be developed.
- Despite the increase in graduation rates for secondary school in Turkey, we can see that this rate is still well below the OECD average. Therefore, Turkey must continue its efforts to increase high school graduation rates and develop more effective policies for the regions where this rate is low.
- The gap between Turkey's university entrance exam applicants and the number of placed candidates has increased. In the last year, only one third of all applicant have been placed in a program, and only one out of six have been placed into higher education degree programs. The demand-supply balance of the higher education system has been greatly disrupted. Therefore, it is necessary to increase the number of higher education programs to meet social demand. The quotas allocated to undergraduate programs must be increased so that the higher education system can continue to grow.

- Both the PISA 2018 results and data from the entrance exam to higher education show that there is an important quality problem in the education system and students lack basic knowledge. Therefore, it should be ensured that students acquire basic knowledge and skills while moving to the next class or graduating. In this sense, robust compensation mechanisms should be established to support students and this system should be used effectively.
- According to PISA 2018 data, the difference in success between high school types and regions is extreme. A system should be established to reduce the hierarchy between schools and disadvantaged regions should be given priority in the distribution of physical and human resources in order to reduce the inequality between regions.
- When we take into consideration the increase of general and vocational secondary school graduates, the unemployment rate in Turkey, and the fact that Turkey's general and vocational high school graduates have the lowest employment and highest unemployment rates when compared to OECD countries, we can see that there is a problem in the quality of vocational training. Therefore, effective policies that improve the quality of vocational education and increase employment opportunities should be developed.
- Considering the high number of female teachers and the increase in the coming years, it is necessary to increase the number of female administrators and to develop incentive policies for females to become administrators.
- An important problem continues to exist between the supply and demand for teaching. To solve this issue, the number of annual appointments should be increased considering the current teacher deficit and realistic career goals should be set for teacher candidates.
- Considering the low salaries of teachers in Turkey compared to OECD countries, it is necessary to increase the salaries of teachers in general and to establish a system that increases the salary according to professional experience in particular. Similarly, the salaries of principals should be increased, as Turkey ranks among the lowest when compared to OECD countries in this regard.
- The budget allocated to the preschool level should be increased and priority should be given to opening preschool institutions, especially in disadvantaged regions.
- In order to reduce disparities between regions in terms of class size and students per teacher, priority should be given to disadvantaged regions in the construction of new schools, classrooms and teacher appointments.
- Instead of moving students who take part in bussed education, and approach that prioritizes education at the closest place to their home should be taken.

- Public resources allocated to education should be increased to prevent Turkey's private spending to cause educational inequality and to provide all children with better quality and equal education opportunities. Priority should be given to disadvantaged areas when distributing these resources.
- In order to provide better quality education to students, the amount of expenditure per student should be increased from around 5 thousand TL to at least 10 thousand TL.

# CHAPTER

## ACCESS TO AND PARTICIPATION IN EDUCATION

INDICATOR	A1	How many students are in each-school?
INDICATOR	A2	What are enrolment ratio according to level?
INDICATOR	A3	How many students study at secondary education by school type?
INDICATOR	A4	How many students study at private education institutions?
INDICATOR	A5	What is the number of students in open education middle school and high school?
INDICATOR	A6	What is the number of students in inclusive education, Special Classes and Science and Art Centers
CHAPTER	A	Recommendations



**A**ccess to education essentially means that individuals with different characteristics and needs benefit from existing educational opportunities fairly and equally without any discrimination. One of the most basic indicators to be used when analyzing access to education is participation in education (Çelik et al., 2017a). One of the frequently used concepts under the indicators on access to education and participation is schooling rate. Schooling rates are one of the most important indicators that provides information about access to education, participation or the prevalence of education in a country in terms of different education levels. This is one of the most important indicators showing how much a country can meet the educational needs of its population at school age (Gür et al., 2018). Net schooling rate is the ratio of students in the theoretical age group at the relevant educational year to the total population in a given academic year (MoNE, 2018). For example, the net schooling rate for secondary education is obtained by dividing the number of enrolled students between the ages of 14-17 by the age population of 14-17 and multiplying the result by 100 (Çelik et al., 2017a).

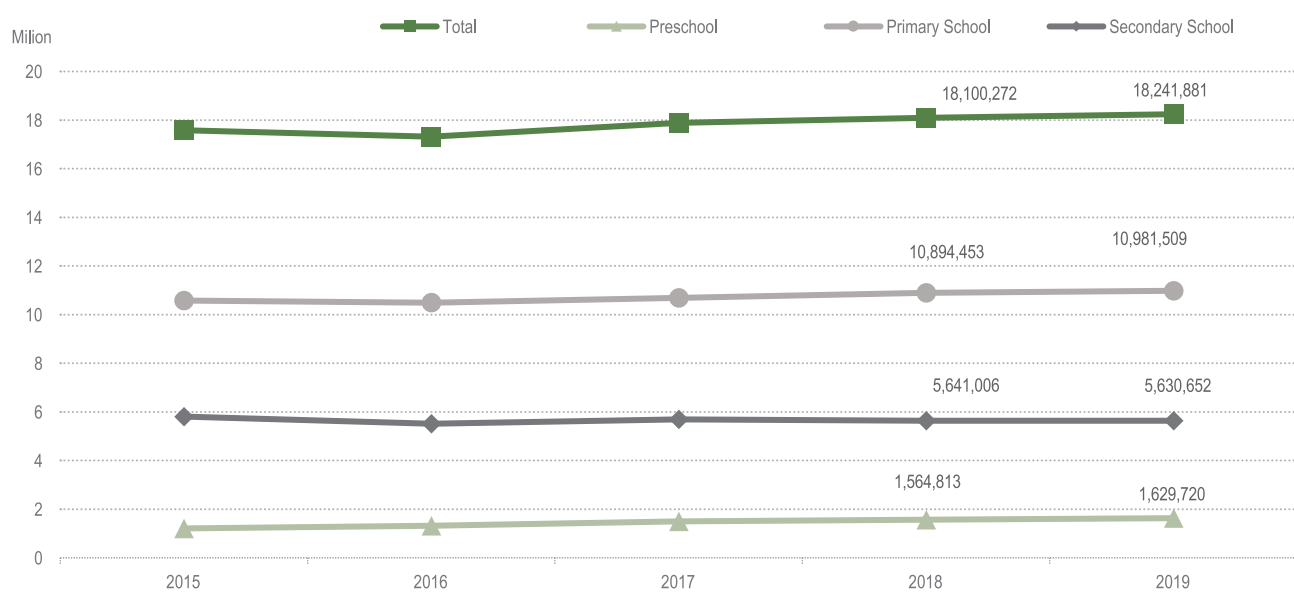
In this chapter the changes in education access and participation rates in the last five years will be discussed in detail. The number of students at different levels within the scope of compulsory education will be examined first. In addition, the schooling rates at different levels and the change in the number of students in school types at the secondary education level will be discussed. After analyzing the changes in private education institutions and the open education system, the general situation of inclusion in private education, private classes and Science and Art Centers (BİLSEMs) will be discussed.

## HOW MANY STUDENTS ARE IN EACH-SCHOOL?

This indicator will firstly examine the number of students at different education levels between 2015 and 2019. Then, the change in the gender ratios of the students according to the grades is discussed on the basis of years. After the change in the number of

newly enrolled students between 2015 and 2019 in secondary education according to school types, the change in gender ratios of new enrollment students in general secondary education and vocational secondary education has been presented in detail.

Figure A.1.1 Trends in the total number of students by levels (2015-2019)

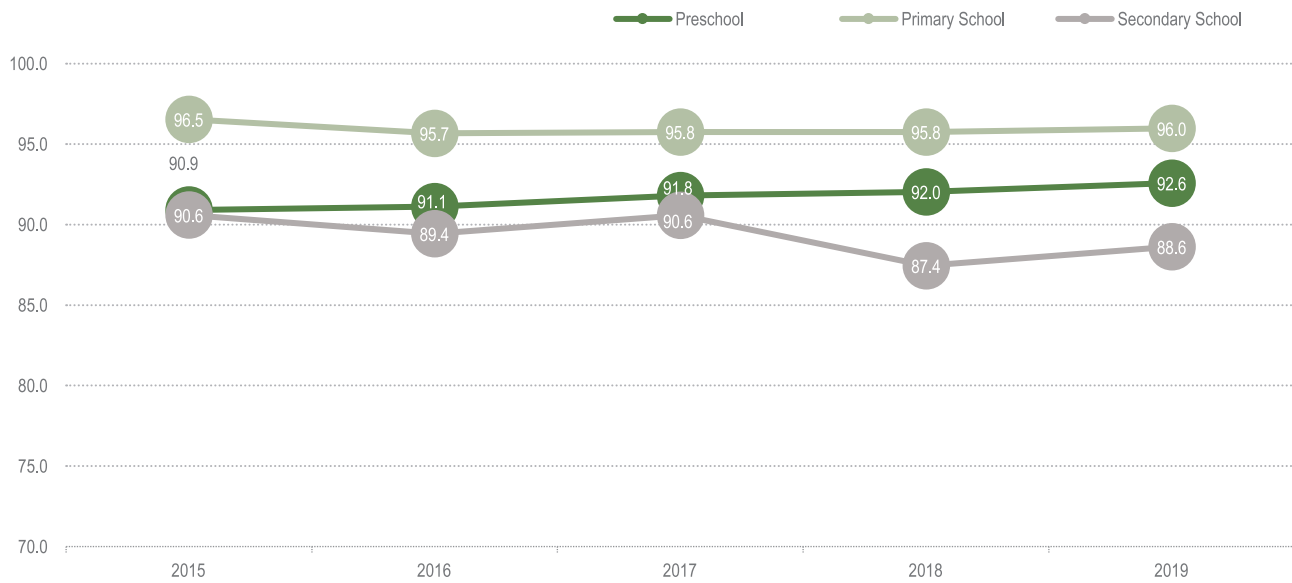


Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 report.

Figure A.1.1 shows the trends between 2015 and 2019 in the total number of students at the preschool, primary and secondary education levels. We can see that there is a general increase in the total number of students at all levels between 2015 and 2019. The total number of students, which was 17 million 588 thousand in 2015, reached 18 million 241 thousand in 2019. When the change in the number of students by level is examined, we can see that the number of preschool students, which was 1 million 209 thousand in 2015, has increased continuously over the years to 1 million 629 thousand in 2019. In primary education, the number of students, which was 10 million 572 thousand in 2015, reached 10 million 981 thousand in 2019. Between 2015 and 2019, the number of students in secondary education decreased with a small decrease from 5 million 807 thousand to 5 million 630 thousand.

Figure A.1.2 shows the trends in the gender ratios of students between 2015-2019 according to level. While the ratio of girls for every hundred boys in primary education was 97 in 2015, it has remained stable at 96 for the last four years. While there were 91 female students for every 100 male students at the preschool level in 2015, this increased to 93 female students in 2019. At the secondary education level, while 91 female students received education for every 100 male students in 2015, this decreased to 87 in 2018 and rose again to 89 in 2019. This data shows that there is an unfavorable situation for girls regarding access to school at all levels. Moreover, we can observe that access to school has not improved in favor of girls over time, and the disadvantaged situation of girls increases at secondary education level.

Figure A.1.2 Trends in the gender ratio of students by level (2015-2019)

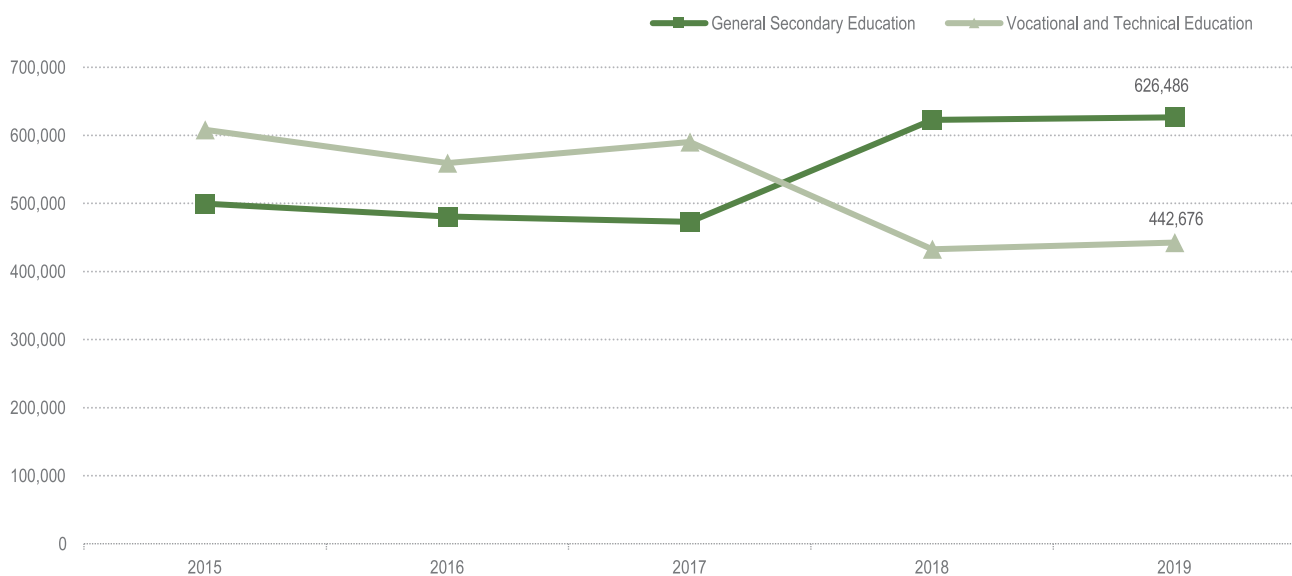


Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 report.

Figure A.1.3 shows the trends in the number of newly enrolled students in secondary education between 2015 and 2019 according to school type. In 2015 the number of new enrollments in general secondary education was around 500 thousand, while the number of new enrollments in vocational and technical secondary

education was around 608 thousand. Until 2018, the number of new enrollment students in vocational and technical secondary education was higher than the number of newly enrolled students in general secondary education, while in 2018 this trend reversed and the number of students enrolled in general secondary

Figure A.1.3 Trends in the number of newly enrolled students in secondary education by school type (2015-2019)



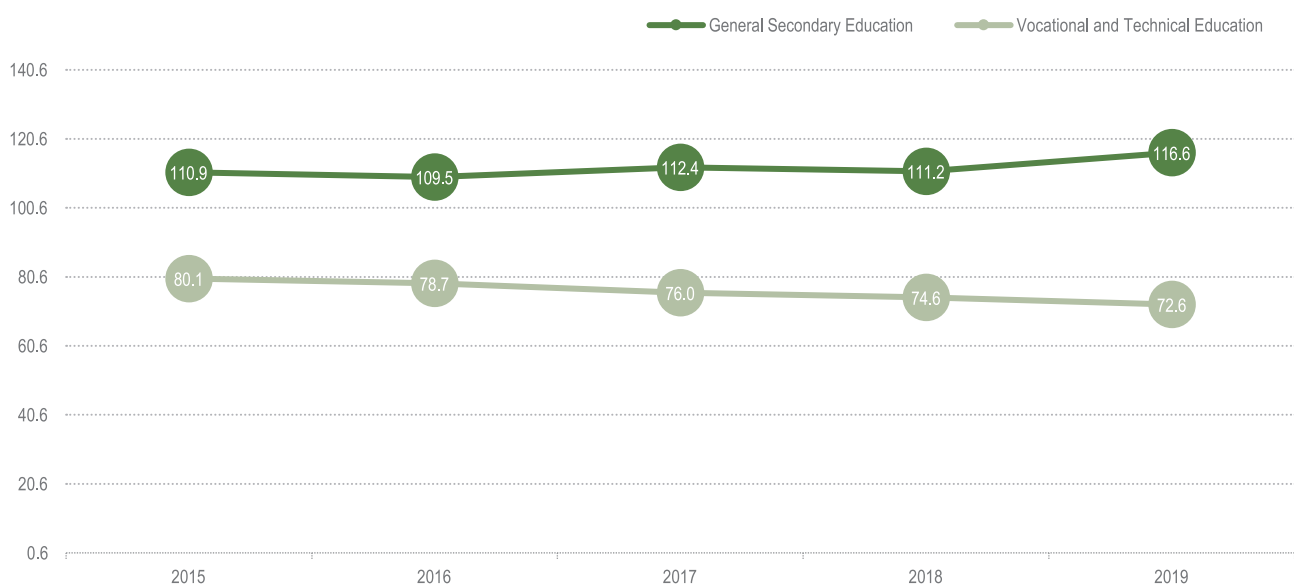
Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 report.

Note: The number of Imam Hatip high school students is shown in the number of vocational and technical secondary education students.

education increased to 622 thousand, while the number of new enrollment students in vocational and technical secondary education was up to 442 thousand. This situation experienced in 2018 continued in 2019, and the number of new enrollments in general secondary education was 626 thousand 486 and the number of new enrollments in vocational and technical secondary education was 442 thousand 676 in 2019. The main reason for this change is that students who could not

be placed in general secondary education within the central placement period in which Transition from Basic Education to Secondary Education (TEOG) test is applied, are compulsorily directed to vocational and technical secondary education (Çelik et al., 2017b). However, after the elimination of TEOG, students' orientation towards general secondary education has increased with the abandonment of the practice of directing students to vocational and technical secondary education.

Figure A.1.4 Trends in gender ratios of newly enrolled students in secondary education by school type (2015-2019)



Source: Prepared using MoNE statistics published in various years.

The change in gender ratios of students who enrolled in general secondary education and vocational and technical secondary education between 2015 and 2019 is given in Figure A.1.4. For every 100 male students newly enrolled in general secondary education in 2015, 111 female students were enrolled. This situation in favor of girls continued in the following years, and by 2019, it increased to 117 female students for every 100 male

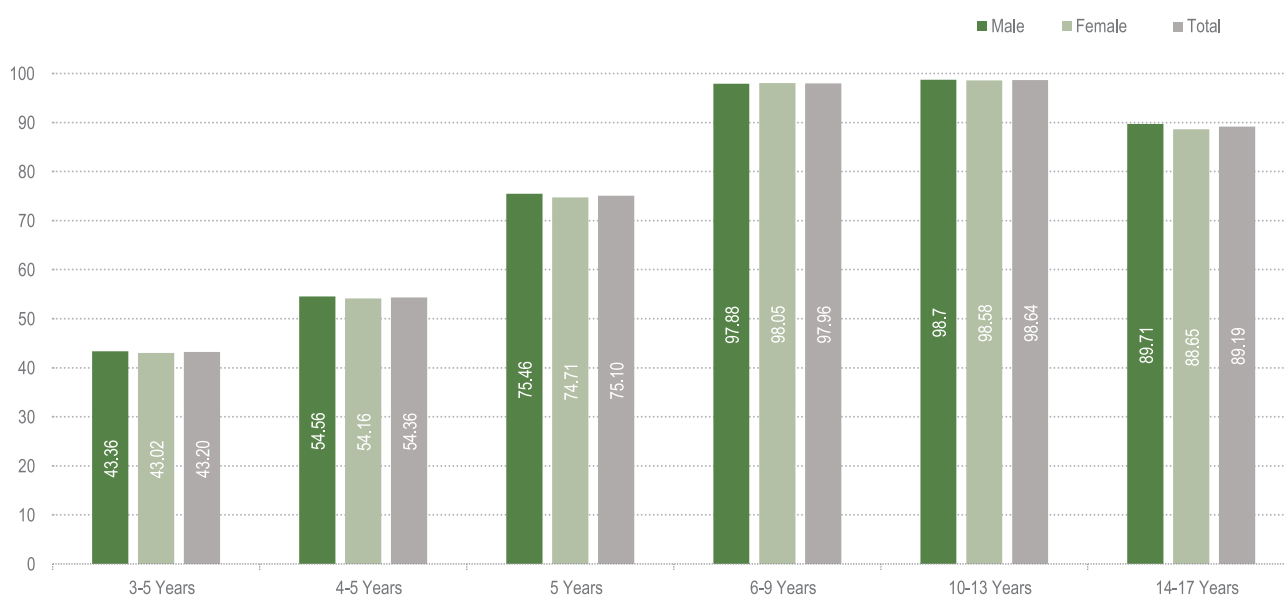
students. The opposite has been experienced in vocational and technical secondary education. While 80 female students enrolled for every 100 male students newly enrolled in vocational and technical secondary education in 2015, the number of new enrollment girls has decreased continuously in the following years and by 2019 this rate has decreased to 73.

## WHAT ARE ENROLMENT RATIO ACCORDING TO LEVEL?

This indicator will examine the net schooling rates in different education levels in the 2019-2020 academic year by age group and gender. Then, net enrollment rates in preschool and secondary education levels are examined by gender on the basis of provinces. Finally,

the net enrollment rate of school enrollment rates given the location in the same age group in Turkey for 17 years corresponding to the secondary level in some OECD countries are discussed.

Figure A.2.1 Net enrolment ratios by age groups and gender (%) (2019)

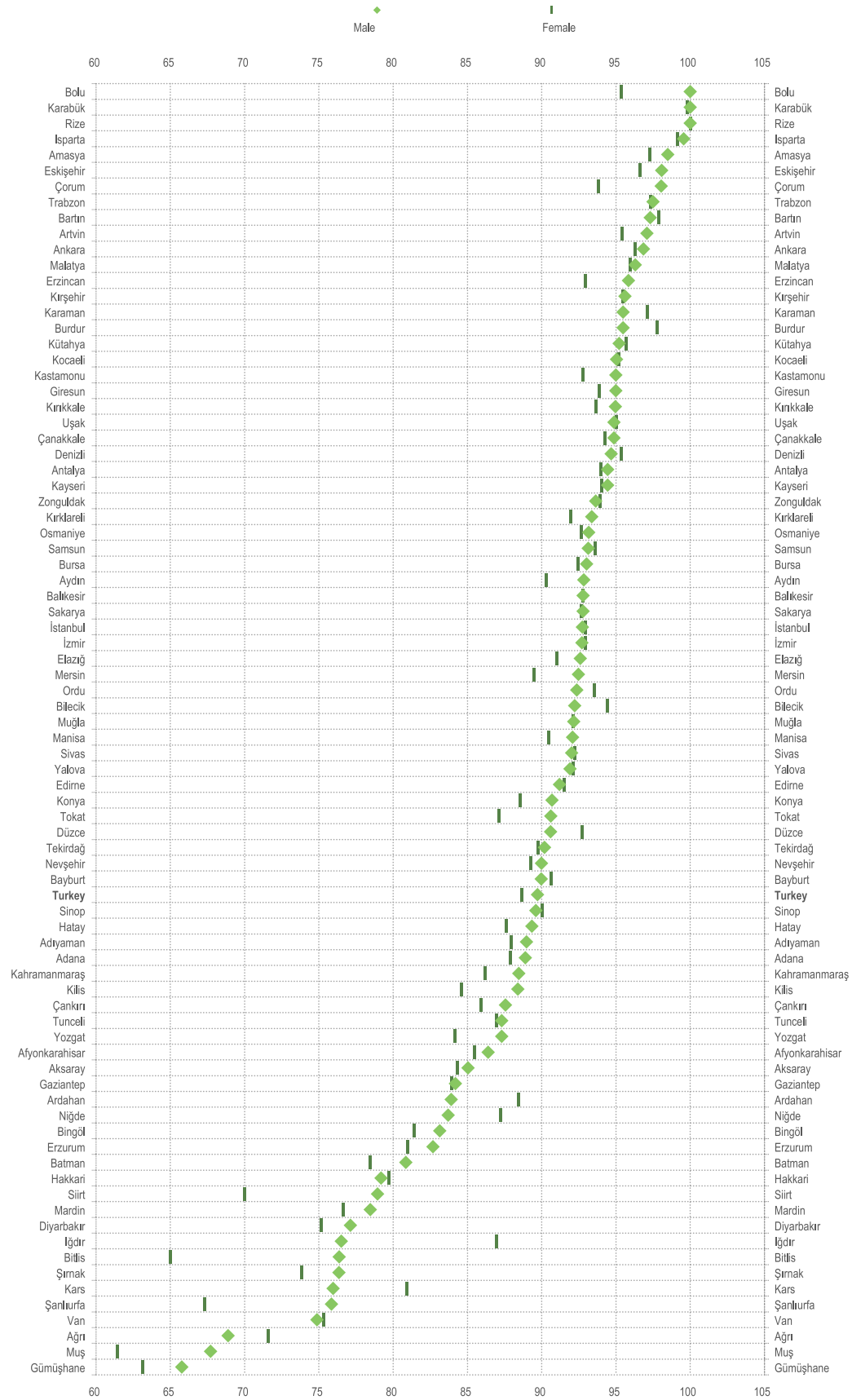


Source: MoNE (2020).

The net enrolment ratios of boys and girls in different age groups in 2019 are shown in Figure A.2.1. The net schooling rate for both girls and boys in the 3-5 age group is 43%, while this rate is 55% for both genders in the 4-5 age group. In the 5 year age group, the net schooling rate in 2019 was 75% in total. While the net schooling ratio of boys in the age group of 5 is 75.46%, this rate was lower than that of boys with 74.71% for girls. The total net enrolment ratio the 6-9 age group, which corresponds to the primary school level in theory, is 98%. The most striking point in the 6-9 age group is that the net schooling rate of girls is 98.05%, which is slightly higher than the net enrolment ratio of boys (97.88%). The net enrolment ratio of girls and boys in the 10-13 age group,

which theoretically corresponds to the secondary school level, is at a level of 99%. At this level, there is no obvious difference between the enrolment ratios of male and female students. The net enrolment ratio in the 14-17 age group, which represents the secondary education level in theory, is quite low compared to the 6-9 and 10-13 age groups with a total of 89.71%. It is worth noting that although secondary education is within the scope of compulsory education, 11% of the of-age population is still not schooled. In addition, the fact that the net schooling rate of male students in the 14-17 age group (89.71%) is higher than the net enrolment ratio of girls (88.65%) is important in terms of showing that the situation against female students continues.

Figure A.2.2 Net enrolment ratios (%) for 14-17 year-olds by province and gender (2019)

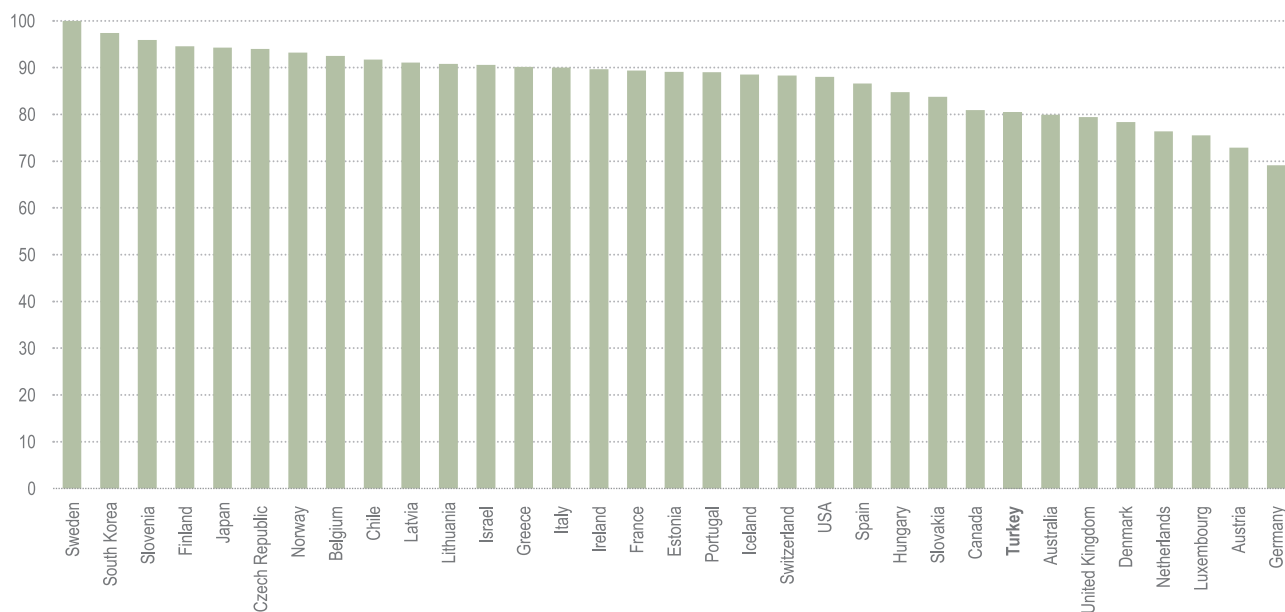


Source: MoNE (2020).

In Figure A.2.2, the net enrolment ratios for 2019 in the 14-17 age group (theoretically covering secondary education) by province and gender are given. There is a significant variation in the enrolment ratios of the population between the ages of 14-17 among provinces. The overall net enrollment rate of boys in the 14-17 age group is 89.1% that of girls is 88.6%. While the number of provinces with a net schooling rate higher than the Turkish average is 51 for boys in the 14-17 age groups, this number is 50 for girls in the same group. Rize draws attention as it is the only province where the net schooling rate for both girls and boys in the 14-17 age group has reached 100%. The net enrolment ratios

of boys is 100% in Karabük and Bolu, while the rate of girls is over 96%. While there are a total of 25 provinces where the enrolment rate of girls is higher than that of boys in the 14-17 age group, the leading provinces are the eastern provinces such as Iğdır, Kars and Ardahan. The enrolment ratios of girls in Iğdır is 10 points higher than that of boys, and 5 points higher in Kars and Ardahan. In provinces such as Bitlis, Siirt and Şanlıurfa the schooling rate of girls in the 14-17 age group is the lowest compared to boys. The schooling rate of girls in Bitlis is 11 points lower than that of boys. The net enrolment ratios for both genders in these provinces remain considerably below the Turkish average.

Figure A.2.3 Net enrolment ratios (secondary and higher education) for age 17 in some OECD countries (%) (2018)



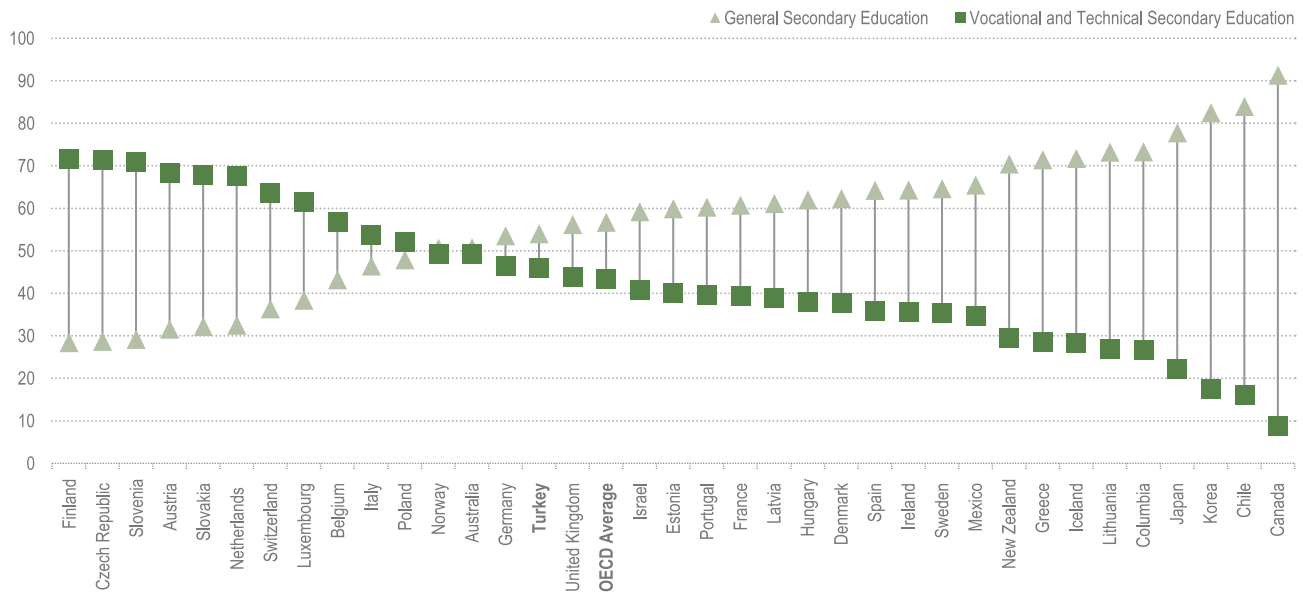
Source: OECD (2020).

In Figure A.2.3, enrolment ratios for 17 year-olds in some OECD countries for 2019 are given. Here, the calculation was made on 17-year-old high school or university students. According to OECD data for 17 years, Turkey's net enrollment ratio is at the level of 80.6%. Countries with lower levels than Turkey in the same age group are Australia (79.9%), United Kingdom (79.4%) and Denmark (78.4%). Germany has the lowest net enrollment rate for the age group of 17 with 69.1%. The net enrollment rate is over 95% in many European countries. In Sweden the net enrollment rate for 17 years old is 100%. Although there is 12-year compulsory education Turkey, the

country still ranks low among OECD countries in terms of schooling rates for 17 year-olds

In Figure A.2.4, net enrolment ratios of students enrolled in vocational and technical secondary education and general secondary education in OECD countries are given. The average rate of students in vocational and technical secondary education from 36 OECD countries given in Figure A.2.4 is 43.3%, while the rate of students in general secondary education is 56.7%. According to OECD data the vocational and technical secondary education net enrolment ratio in Turkey is 54%, while

Figure A.2.4 Rate of secondary education students in general secondary education and vocational and technical secondary education in OECD countries (%) (2018)



Source: OECD (2020).

general secondary education level rate is 46%. According to these rate Turkey is above the OECD average in terms of vocational technical education. Vocational schools teach students culture as well as religious education. It must be noted that Imam Hatip high schools, which are seen as a different type of school, have thus been included in this data. The most striking point in Figure A.2.4 is that the rate of vocational and technical secondary education in the education system varies greatly by country.

For example, while the rate of students attending vocational and technical secondary education in Finland, Czech Republic, Slovenia and Austria is around 70%, this rate is 8.7% in Canada. The most fundamental factor that determines this rate in a country is the relationship between education and employment and the general structure of the country's education system (Bozgeyikli, 2019; Özer, 2020).

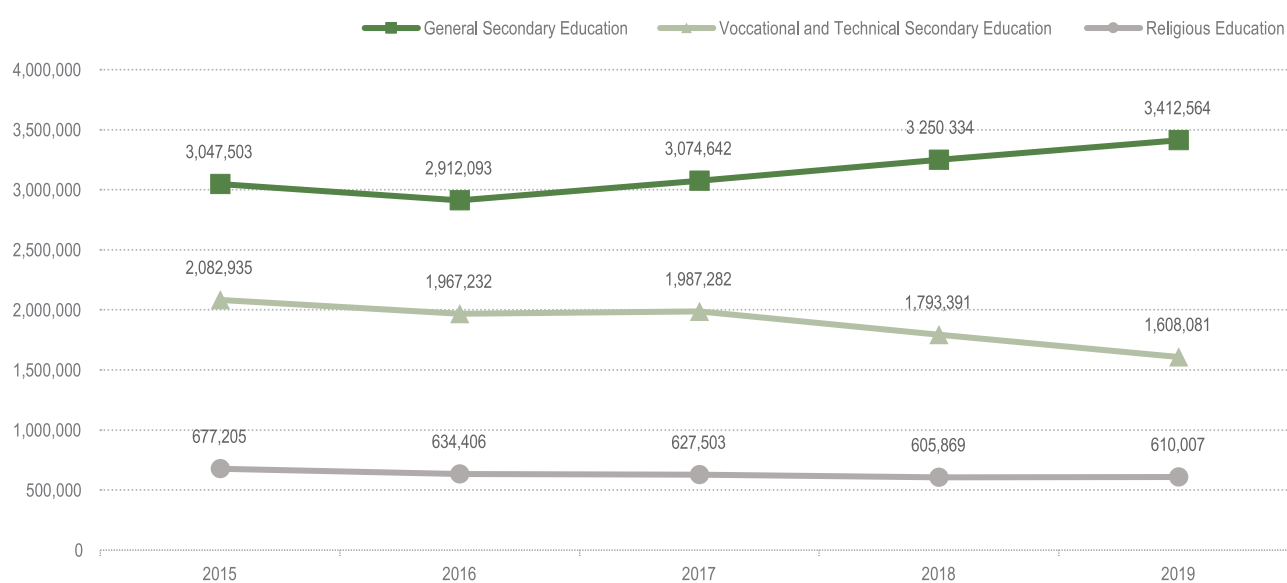


## INDICATOR A3 HOW MANY STUDENTS STUDY AT SECONDARY EDUCATION BY SCHOOL TYPE?

This indicator examines the change in the total number of students in secondary education between 2015 and 2019 by school type. Then, the change in the number of students in science high schools, social science high

schools, Imam Hatip secondary schools and Imam Hatip high schools in the last five years are discussed in terms of gender.

Figure A.3.1 Trends in total number of students in secondary education by school type (2015-2019)



Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 Report.

Figure A.3.1 shows the trends in the number of students in general secondary education, religious education and vocational and technical secondary education between 2015 and 2019. The number of students in general secondary education, which was around 3 million 47 thousand in 2015, decreased to 2 million 912 thousand in 2016 and then started to rise again in the last three years and reached 3 million 412 thousand by 2019. In other words, the number of students in general secondary education has increased by approximately 12% in the last five years. The number of students in vocational and technical secondary education institutions was around 2 million 82 thousand in 2015 and decreased to 1 million 608 thousand by 2019. There has been a 23% decrease in the number of students attending vocational and technical secondary education in the last five years. In

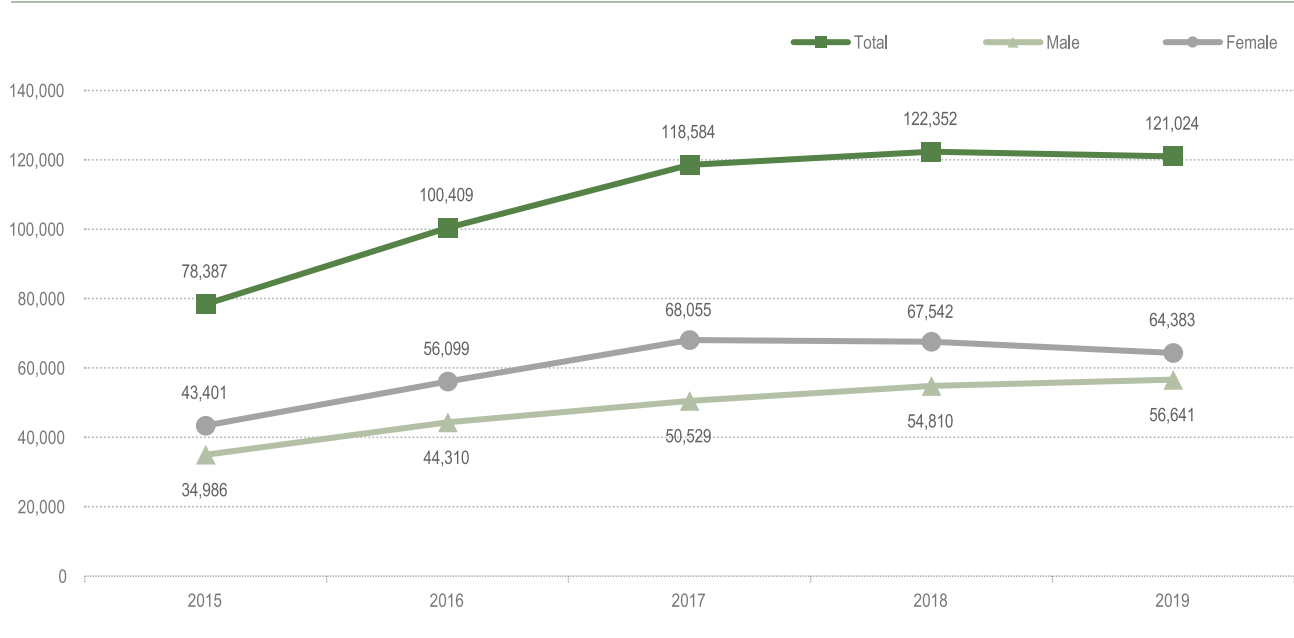
terms of religious education, the number of students was around 677 thousand in 2015 and decreased to around 610 thousand by 2019.

Figure A.3.2 shows the trends in the number of male and female students as well as the total number of students in science high schools between 2015 and 2019. The number of students studying at science high schools between 2015-2019 increased from 78 thousand to 121 thousand. The main reason for the increase in the number of students in science high schools since 2015 is the closure of Anatolian teacher high schools in 2014 and the conversion of some of them into science high schools and the increase in the quotas of science high schools (Çelik et al., 2019). When we analyze the change in the number of female and male students in science

high schools, we can see that the gap between the number of female students, which was slightly higher in 2015 compared to boys, narrowed again in the last two years in 2016 and 2017. As a matter of fact, while the number of female students in science high schools

(33 thousand 401) was 8 thousand 400, higher than the number of male students (34 thousand 986) in 2015, this difference increased to 17 thousand 500 in 2017 and decreased to 7 thousand 742 in 2019.

Figure A.3.2 Trends in the number of students in science high schools by gender (2015-2019)



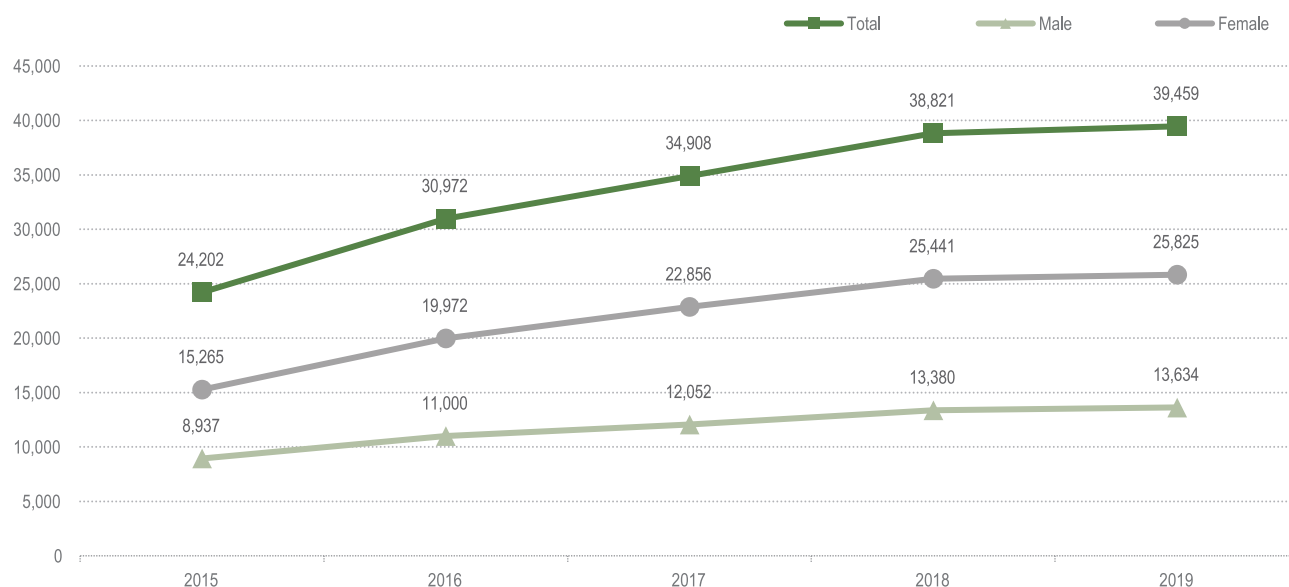
Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 Report.  
 Note: Private science high schools have been excluded.

Figure A.3.3 shows the trends in the number of male and female students in social sciences high schools between 2015 and 2019. In the last five years there has been an increase in the number of students in social sciences high schools similar to that in science high schools. While the total number of students studying in social sciences high schools was 24 thousand 202 in 2015, this number gradually increased and reached 39 thousand 459 in 2019. The increase in the number of students in social sciences high schools in the last five years has been approximately 63%. The reason for the increase in the number of students in social sciences high schools is that Anatolian teacher high schools were closed in 2014 and some of them were converted into social sciences high schools and the quotas of social sciences high schools were increased (Gür et al., 2018). When we examine the change in social sciences high school students according to their gender, we can see that the number of female students is higher than the number of male students

and the difference is widening every year. As a matter of fact, in 2015, the number of male students studying in social sciences high schools was 8 thousand 937 while the number of female students was 15 thousand 265. In the following years, the number of both male and female students increased and in 2019, the number of female students increased by approximately 70% to 25 thousand 825 and the number of male students increased by approximately 52% to 13 thousand 634.

Figure A.3.4 shows the trends in the number of students in İmam Hatip middle schools between 2013 and 2019 by gender. The total number of students in İmam Hatip middle schools in 2013 was 240 thousand 15. In 2019, the number of students in İmam Hatip secondary schools increased to 777 thousand 439. Considering the gender of the students in İmam Hatip secondary schools, we can see that the number of male and female students in İmam Hatip middle schools in 2013 was

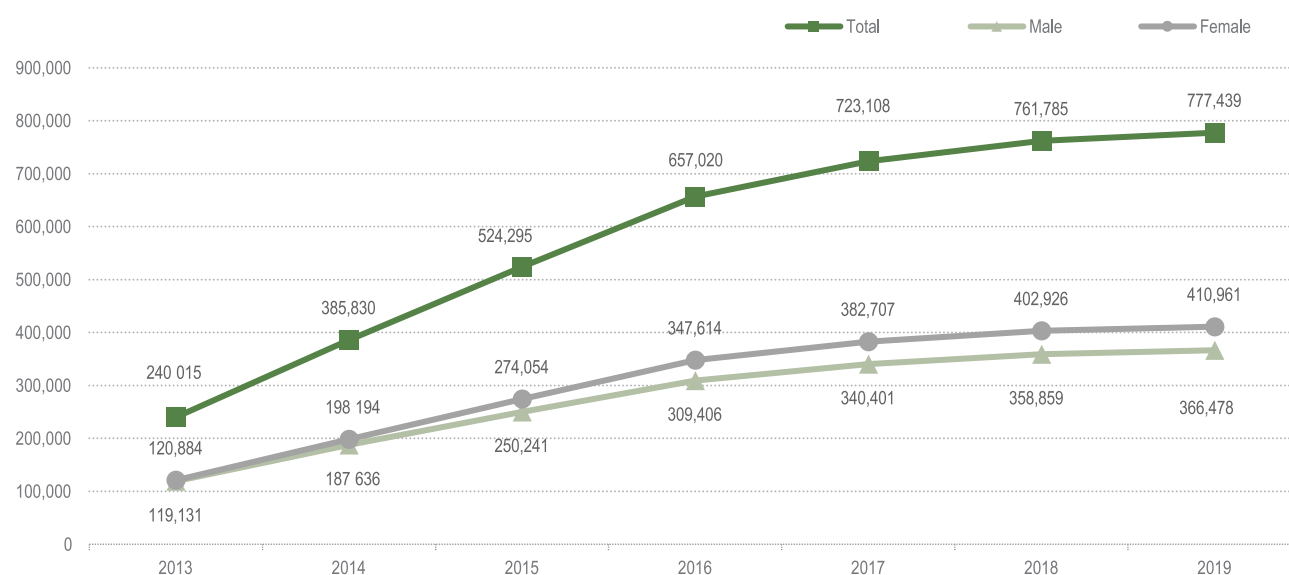
Figure A.3.3 Trends in the number of students in social sciences high schools by gender (2015-2019)



Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 Report.  
 Note: Private social sciences high schools have been excluded.

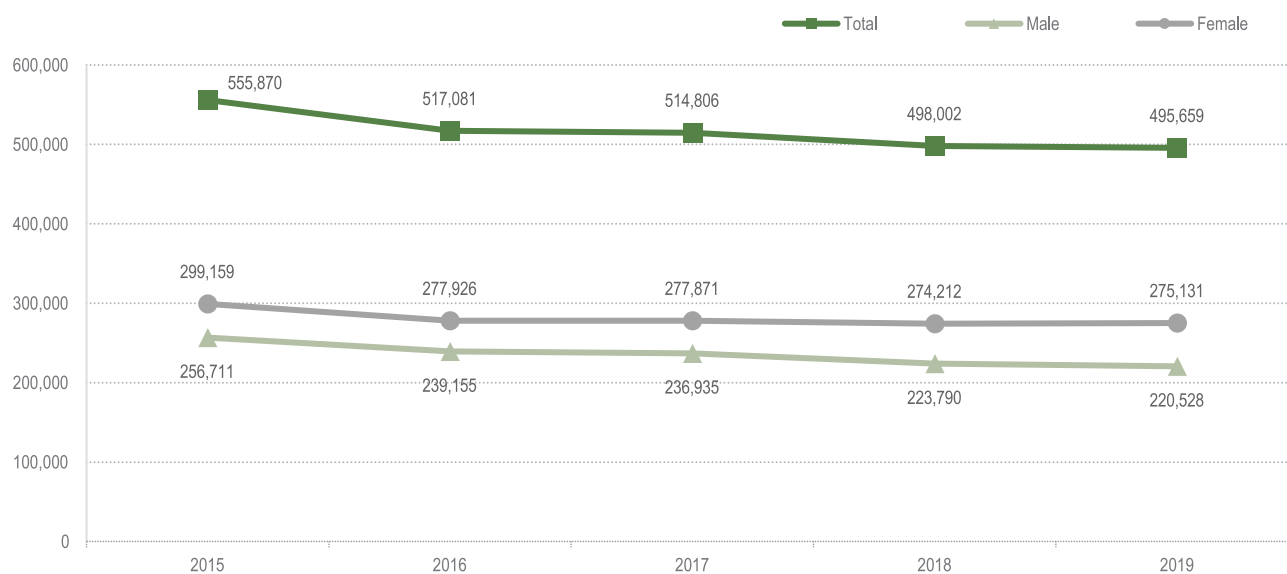
equal to 120,884. After 2014, the number of female students exceeded the number of male students, and in 2019, the number of female students increased to 410 thousand 961 and the number of male students to 366 thousand 478.

Figure A.3.4 Trends in the number of Imam Hatip middle school students by gender (2013-2019)



Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 Report.

Figure A.3.5 Trends in the number of students in İmam Hatip High Schools by gender (2015-2019)



Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 Report.

Note: Student numbers in Open Education are not included.

Figure A.3.5 shows the trends in the total number of students in İmam Hatip high schools and the number of male and female students between 2015 and 2019. The number of students in İmam Hatip high schools shows a decreasing trend in the last five years. The number of students, which was 555 thousand 870 in 2015, decreased to 495 thousand 659 in 2019. When we examine the data on the gender of the students in İmam Hatip high schools, we can see that the number of male

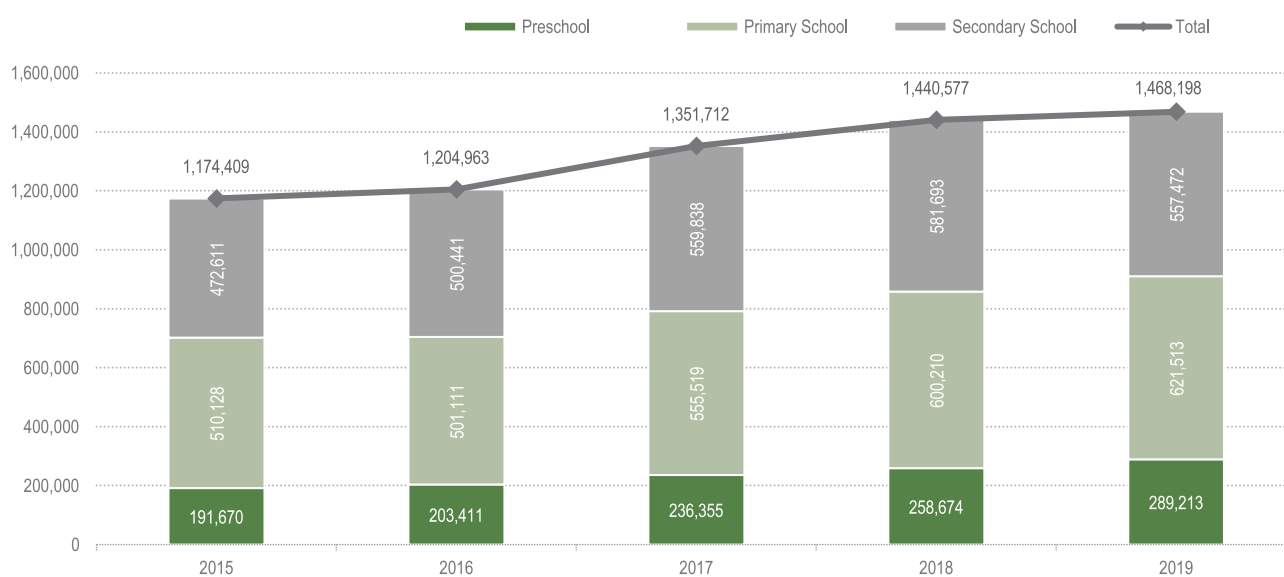
students decreased more than the number of female students. As a matter of fact, while the number of female students in İmam Hatip high schools was 299 thousand 159 in 2015, in 2019 it decreased by 24 thousand to 275 thousand 131. The number of male students, which was 256 thousand 711 in the same period, decreased by 36 thousand to 220 thousand 528, causing the gap to widen even more.

## HOW MANY STUDENTS STUDY AT PRIVATE EDUCATION INSTITUTIONS?

This indicator will examine the change in the number of students in private education institutions between 2015 and 2019. Then, the change of the share of students in private education institutions in the total number of

students by years is analyzed. Finally, the rates of private education students at different levels in some OECD countries are assessed comparatively.

Figure A.4.1 Trends in the number of students in private education institutions by level (2015-2019)



Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 Report.

Figure A.4.1 shows the trends in the number of students studying in private education institutions at different levels between 2015-2019. While the total number of students studying at all levels of private education institutions was 1 million 174 thousand 409 in 2015, this number increased by 25% in the following years and reached 1 million 468 thousand 198 in 2019. In terms of education levels, we can see that the number of students in private preschool institutions, which was 191 thousand 670 in 2015, increased steadily in the following years and increased to 289 thousand 213 by 2019. A similar situation is observed in private primary schools. While the number of students in private primary schools was 510 thousand 128 in 2015, this number increased to 621 thousand 513 by 2019. The number of students in private primary schools has increased by about 21% in the last five years. The number of students in private

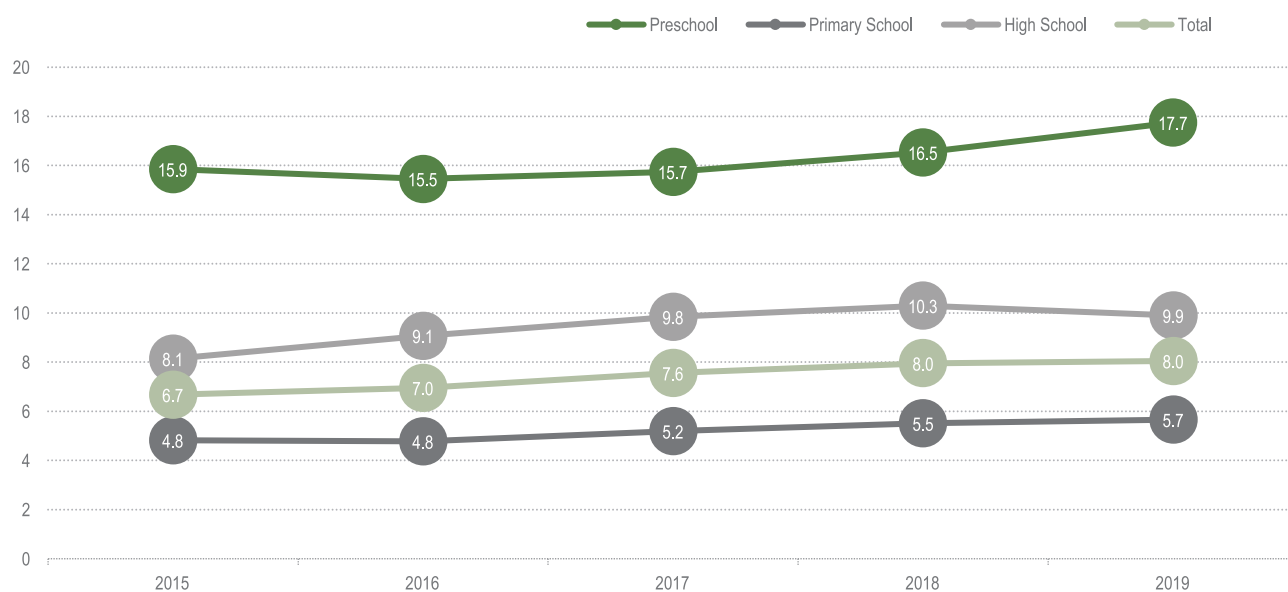
secondary education institutions increased similarly to private preschool and primary education institutions until 2018. However, in 2019, this number decreased by 4.5% compared to the previous year and decreased to 557 thousand 472. While the number of students attending private education institutions in preschool and primary education is increasing, the main reason for a decrease in secondary education is the abandonment of the incentives for private school attendees applied in the previous years and the closure of basic high schools.

Figure A.4.2 shows the trends in the share of students in private education institutions in the total number of students in the period between 2015 and 2019. The share of students at all levels of private education institutions in total students increased from 6.7% in 2015 to 8% in 2018 due to the increase in the number of students and

remained at 8% in 2019. In terms of levels, the rate of students going to private secondary education among the total secondary education students in 2015 was 8.1%, while in 2018 it increased to 10.3% and in 2019 was 9.9 with a slight decrease. The ratio of private preschool students to total preschool students is quite

high compared to other levels. While this rate was 15.9 in 2015, it increased to 17.7 in 2019. The rate of private primary school students in total primary school students has also increased in the last five years. This ratio, which was 4.8% in 2015, reached 5.7% in 2019.

Figure A.4.2 Trends in the share of students in private education institutions in the total number of students by grade (%) (2015-2019)

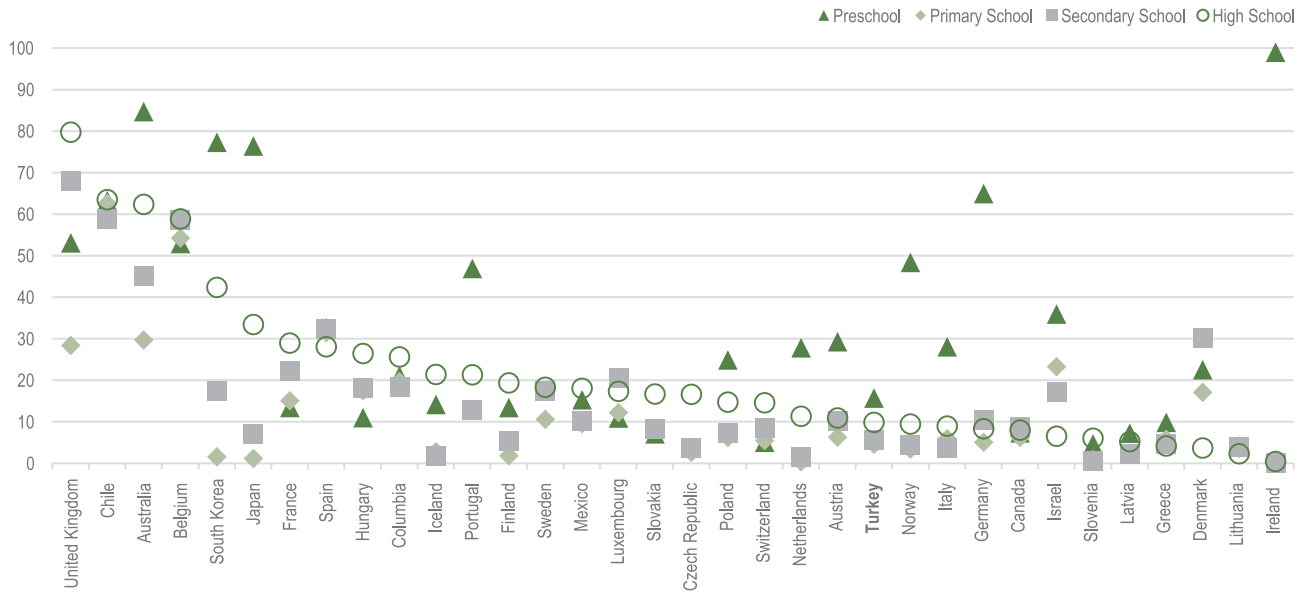


Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 Report.

In Figure A.4.3, rates of private education students at different levels in some OECD countries are given for 2018. According to 2018 data, the private education rates of students at the preschool (15.7%), primary school (4.6%), secondary education (5.8%) and high school (9.8%) level are significantly lower than other countries. Depending on the policy differences implemented by countries regarding the provision of education through private institutions, the rate of students in private education institutions differs significantly according to

different levels. For example, while 99% of preschool education is given in private education institutions in Ireland, the rate of private education is close to zero in all other education levels. In Czech Republic, Lithuania and Slovenia, the rate of private preschool education is less than 5%. In Figure A.4.3, countries such as Chile, Belgium and the United Kingdom stand out as the countries with the highest rates of private education students at all four levels. While the rate of private education students at all levels in Chile is over 60%, it is over 50% in Belgium.

Figure A.4.3 Rate of private education students at different levels in some OECD countries (%) (2018)



Source: Prepared using OECD statistical data.

## WHAT IS THE NUMBER OF STUDENTS IN OPEN EDUCATION MIDDLE SCHOOL AND HIGH SCHOOL?

This indicator will examine the change in the number of open education middle and open high school students between 2015 and 2019. After analyzing the numbers of male and female students at different education levels

in 2019, the change in the proportional distribution of open education high school students by school type in the last five years is evaluated.

Figure A.5.1 Trends in the number of open education middle school and open education high school students (2015-2019)



Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 Report.

Figure A.5.1 shows the trends in the total number of students in the open education system and the number of students according to grade between 2015 and 2019. The total number of students in open education, which was 1 million 874 thousand in 2015, decreased to 1 million 583 thousand in 2018. In 2019, 1 million 361 thousand of the 1 million 583 thousand students in the open education system were open education high school students, while 222 thousand 638 were open education middle school students. The most striking point here is that while the number of students in open education high schools decreased in 2019 compared to the previous year, the number of students in open education middle school increased.

Table A.5.2 shows the distribution of students enrolled in open education in the 2019-2020 academic year by gender and education level. There are 1 million 583 thousand 805 students enrolled in different school types within the open education system in our country. While 80 thousand 398 of the total 222 thousand 638 students enrolled in open education middle schools are male, 142 thousand 240 are female. While 617 thousand 420 of 1 million 97 thousand 394 students enrolled in open education high school are male, the number of female students is 479 thousand 974. Looking at the distribution of a total of 156 thousand 613 students in vocational open high schools by gender, we can see that the number of male students is 106 thousand 290 and the number of female students is 50 thousand



Table A.5.2 Number of students in open education by gender and education level (2019)

Education level	Number of students		
	Male	Female	Total
Open education middle school	80,398	142,240	222,638
Open education high school	617,420	479,974	1,097,394
Open education vocational high school	106,290	50,323	156,613
Open education İmam Hatip high school	44,931	62,229	107,160
<b>Total</b>	<b>849,039</b>	<b>734,766</b>	<b>1,583,805</b>

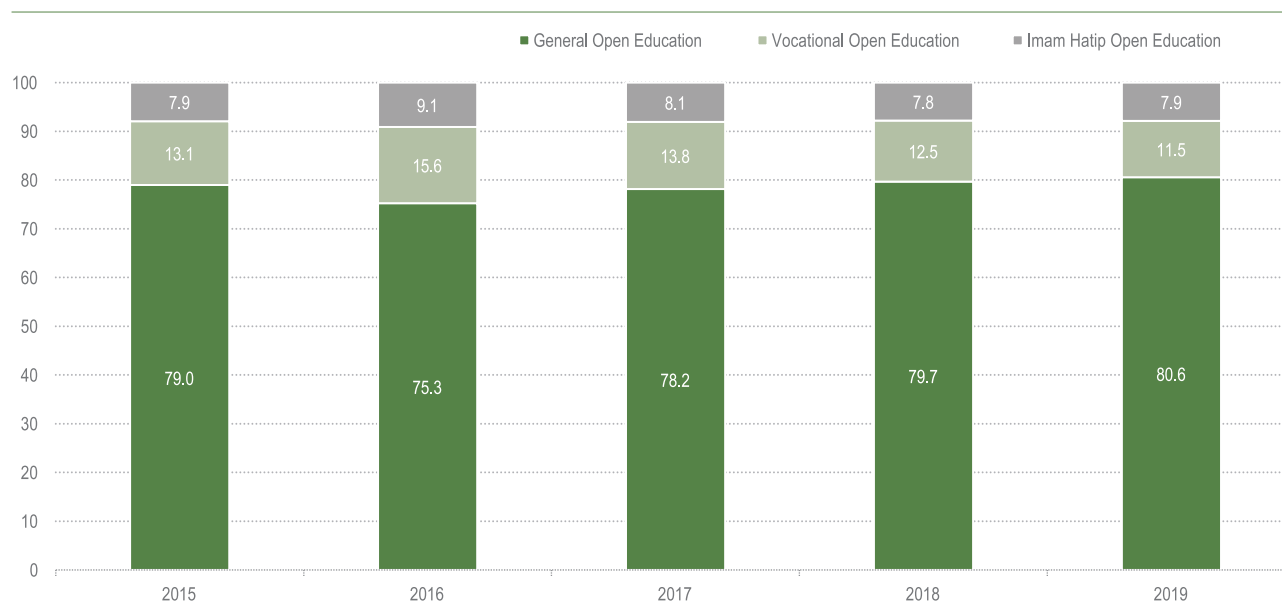
Source: MoNE (2020).

323. Among 107 thousand 160 students attending open education İmam Hatip high schools, the number of female students is higher than the number of male students, which is 62 thousand 229 and 44 thousand 931.

Figure A.5.3 shows the trends in the proportional distribution of open high school students between 2015 and 2019. In 2015, 79% of open education high school students were students of general open education high school, while 13.1% were vocational open education students and 7.9% were open İmam Hatip high school

students. In 2016, the ratio of general open education high school students decreased to 75.3%, while the rate of vocational open education high school students increased to 15.6%, and the rate of open education İmam Hatip high school students increased to 9.1%. In the next three years, the ratio of students in general open education high school increased again to 80.6% in 2019. In 2019, the rate of vocational open education high school students was 11.5% and the rate of open education İmam Hatip high school students was 7.9%.

Figure A.5.3 Trends in the rate (%) distribution of open education high school students by school type (2015-2019)



Source: Prepared using MoNE statistics published in various years.

## WHAT IS THE NUMBER OF STUDENTS IN INCLUSIVE EDUCATION, SPECIAL CLASSES AND SCIENCE AND ART CENTERS

This indicator will examine data on the number of students who received special education at the preschool, primary and secondary education levels between 2015 and 2019. Then, the number and rates of students who received inclusive education in primary and secondary education in the last five years is examined. Subsequently, the change in the number of

students in primary education special education classes and its ratio in the total number of special students in primary education are discussed. Finally, the number of students per institution and institution related to Science and Art Centers (BİLSEM) serving talented children and the change in the total number of students and gender parity indexes in BİLSEMs is discussed.

Table A.6.1 Number of students receiving special education in preschool, primary and secondary education by year and gender (2015-2019)

	Preschool			Primary Education			Secondary Education			Formal special education total		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
2015	2,409	1,568	841	231,541	143,657	87,884	54,539	34,262	20,277	288,489	179,487	109,002
2016	2,736	1,797	939	247,207	154,690	92,517	56,262	35,606	20,656	306,205	192,093	114,112
2017	3,714	2,419	1,295	283,169	179,716	103,453	66,727	42,593	24,134	353,610	224,728	128,882
2018	4,771	2,998	1,773	319,939	202,900	117,039	74,208	46,991	27,217	398,918	252,889	146,029
2019	4,873	3,120	1,753	339,419	215,831	123,588	81,482	50,946	30,536	425,774	269,897	155,877

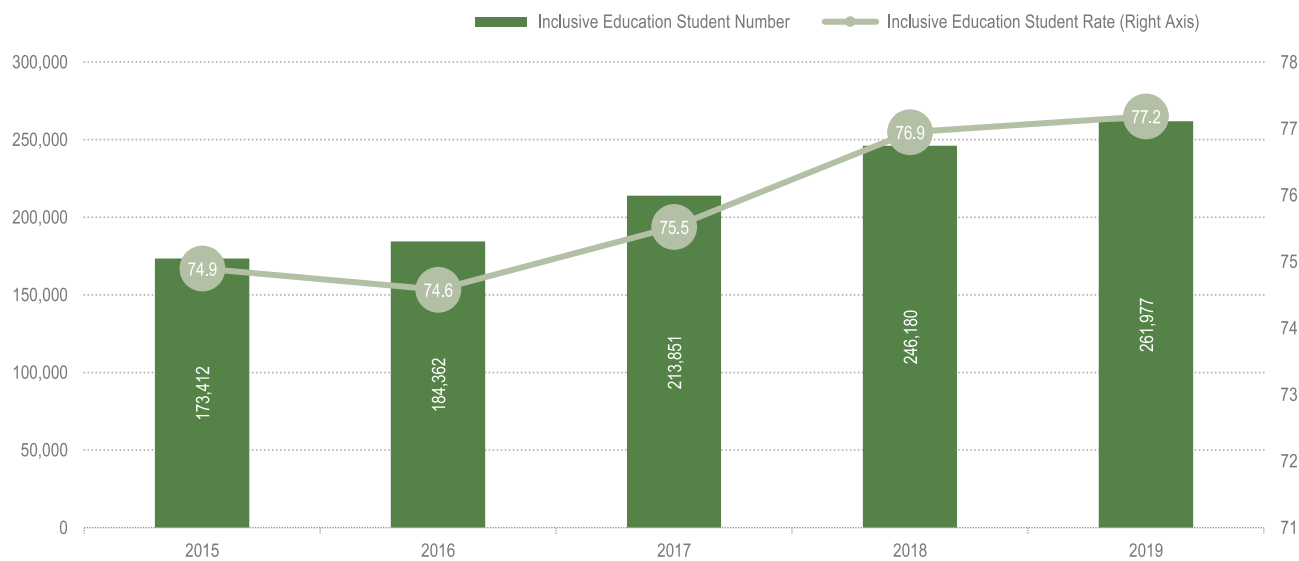
Source: The table used in the Outlook on Education 2019, has been prepared using MoNE statistics published in various years.

Table A.6.1 shows the number of students who receive special education in the preschool, primary, and secondary education level in each grade by gender between 2019 and 2015 in Turkey the total number of students receiving special education at different levels in 2015 was 288 thousand 489, while this number has increased steadily over the years and by 2019, the total number of students receiving special education increased by approximately 48% and reached 425 thousand 774. In 2019, 4,873 of the students who received special education were preschool students, 339,419 primary education students and 81,482 secondary education students. One of the most striking findings in Table A.6.1 is that the number of students receiving special education in primary education is more than four times the number of students in secondary education. The main reason for this is that children who require special education enter special education at the primary education level. With the inclusion of secondary education within the scope of compulsory education after the 4 + 4 + 4 policy started in 2012, the number of students receiving special education at the secondary education level has increased significantly since 2015. However, the fact that the number of students receiving

special education in secondary education is still quite low compared to primary education indicates that a significant portion of the children who receive special education in primary education are excluded from the system when they reach the secondary school age (Gür et al., 2018).

Figure A.6.2 shows the change in the number and ratio of students who receive inclusive education among the students who receive special education in primary education between 2015-2019. While the number of students who received inclusive education in primary education was 173 thousand 412 in 2015, it has increased steadily in the following years to 261 thousand 977 in 2019. While 74.9% of students requiring special education in primary education received education within the scope of inclusive education in 2015, this rate was 77.2% in 2019. These ratios show that in order to meet the needs of students with special educational needs in the most appropriate manner, a model of inclusive education based on the training of understanding in an environment where live a variety of constraints is implemented in education practices in Turkey (Çelik et al., 2019).

Figure A.6.2 Trends in the number and rate (%) of students receiving inclusive education among students receiving special education in primary education (2015-2019)

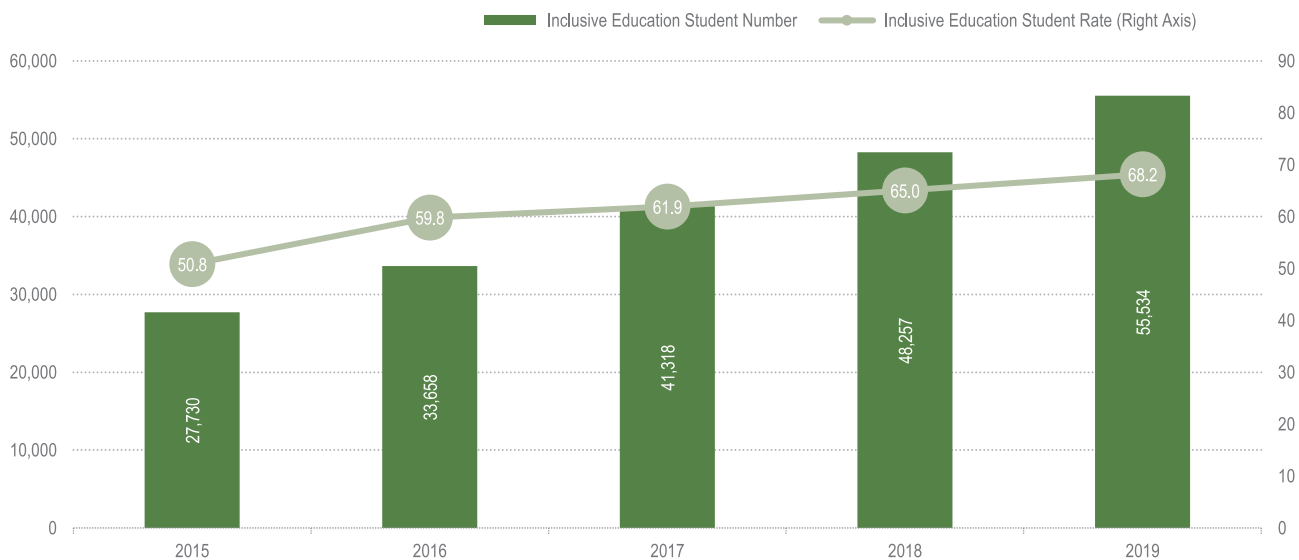


Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 Report.

Figure A.6.3 shows the trends in the number and proportion of students receiving inclusive education among the students who received special education in secondary education between 2015 and 2019. While the number of students receiving inclusive education in secondary education was approximately 28 thousand in 2015, there has been a regular increase over the years and by 2019 the number of students receiving inclusive education in secondary education increased

to 55 thousand. Parallel with the increase observed in the number of students over the years, the rate of students receiving inclusive education among special education students in secondary education has also increased. While the rate of students who received inclusive education in secondary education in 2015 was 50.8%, this rate increased to 61.9% in 2017, and by 2019 it was 68.2%. These rates are considered important as they show that the application of inclusive education

Figure A.6.3 Trends in the number and rate (%) of students receiving inclusive education among special education students in secondary education (2015-2019)



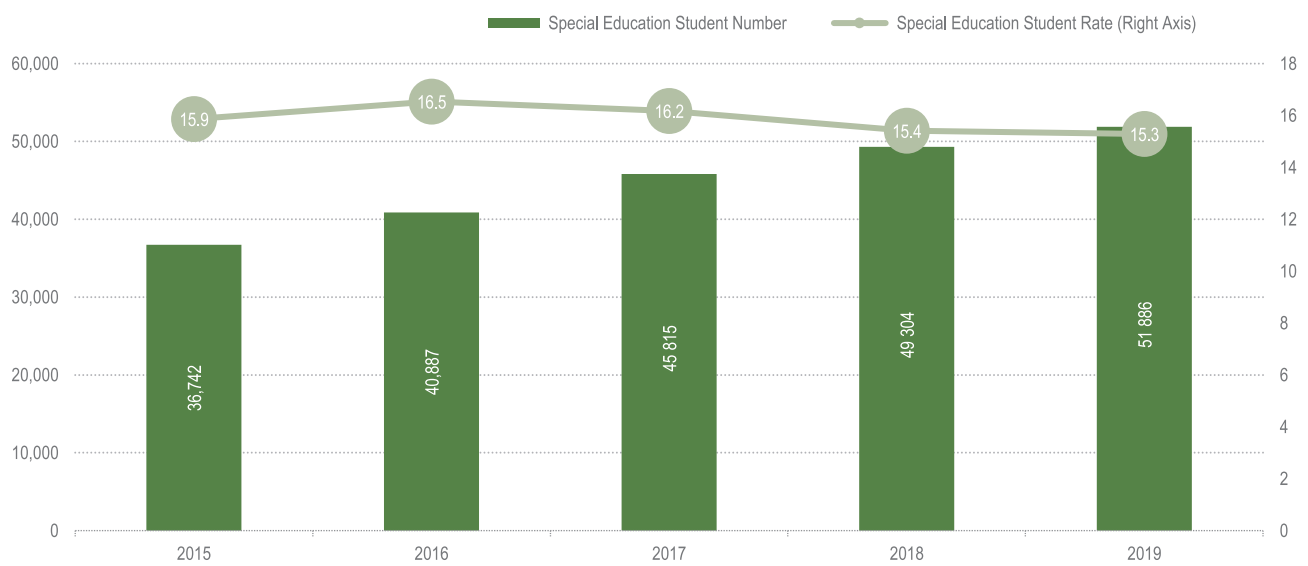
Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 Report.

in secondary education has increased considerably compared to previous years.

Figure A.6.4 shows the trends in the number of students in primary education special education classes and its share in the total number of special primary education students between 2015-2019. Special education classes are environments created by providing special equipment and educational materials for students whose disability level is not suitable for the full inclusion group and who require education in a separate classroom. While the number of students studying in the special

education class was 36 thousand 742 in 2015, this ratio among the total special education students in primary education was 15.9%. There has been a steady increase in the number of students studying in special education classes over the years, and by 2019, the number of special students studying in special education classes has increased to 51 thousand 886. While the rate of students in special education classes increased to 16.5% in 2016 due to the increase in the number of students, it decreased in the following years and reached 15.3% in 2019.

Figure A.6.4 Change in the number of students in primary education special education classes and its share (%) in the total number of primary education special students (2015-2019)



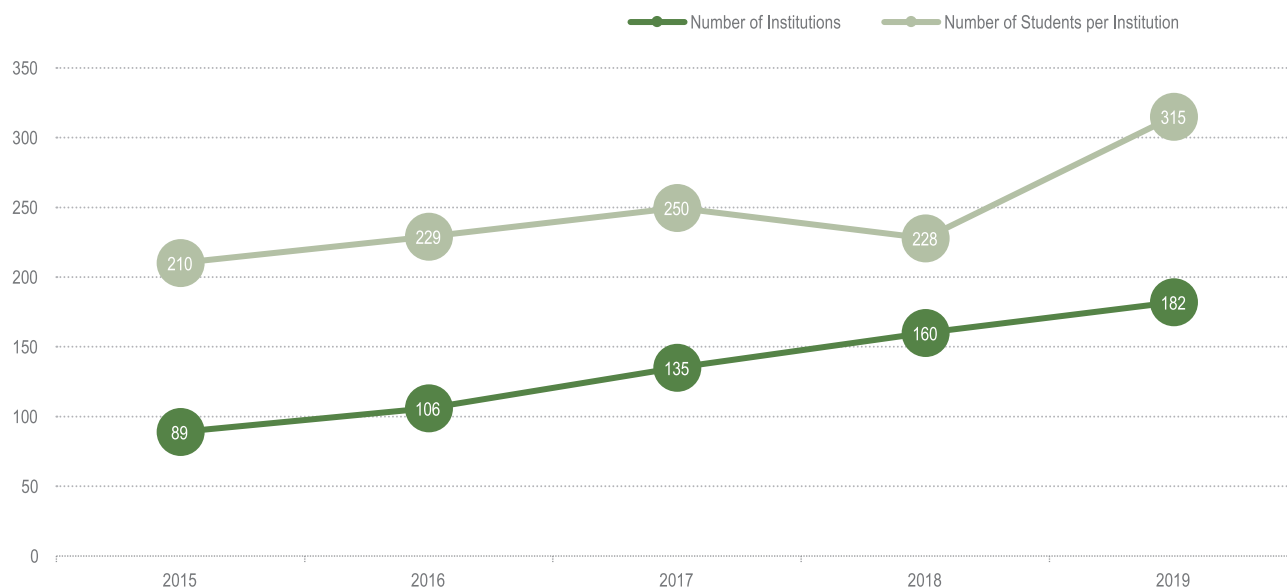
Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 Report.

Figure A.6.5 shows the change in the number of BİLSEMs and the number of students per institution between 2015 and 2019. The number of BİLSEMs, which was 89 in total at the end of 2015, has increased steadily over the years and reached 182 at the end of 2019. While the number of students per institution was 210 at the end of 2015, it reached the highest level by increasing to 250 at the end of 2017. The number, which decreased to 228 in 2018, increased significantly to 315 in 2019.

Figure A.6.6 shows the change in the number of BİLSEM students and the gender ratio between 2015 and 2019. The number of BİLSEM students has increased gradually over the years. At BİLSEM, where a total of 18 thousand 707 gifted students received education at the end of

2015, the number of students tripled and reached 57 thousand 360 at the end of 2019. The most striking point here is that the highest increase occurred in the last two years. While the number of BİLSEM students was 36 thousand 476 in 2018, it increased by 20 thousand 884 in 2019 and reached 57 thousand 360. The reason for this is the increase in the number of BİLSEM institutions in 2019 compared to the previous years. When we examine the change in the gender ratio of students attending BİLSEMs, we can see that there was an increase in favor of girls between 2015 and 2018 which decreased slightly in 2019. At the end of 2015, there were 97 female students for every 100 male students studying at BİLSEM, while the rate of female students in BİLSEMs exceeded the rates of male students at

Figure A.6.5 Change in the number of BİLSEMs and the number of students per institution (2015-2019)



Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 Report.  
 Note: The number of non-formal education trainees includes data from the end of the academic year. The data for such years do not represent the data in the academic year, but the data at the end of that year.

the end of 2017 and by the end of 2018, it increased to 113 female students for every 100 male students. In 2019, there were 106 female students for every 100 male students. The increase observed in the number of

girls attending BİLSEMs in the last five years compared to boys is considered as an important development in terms of the participation of girls with special talents in education.

Figure A.6.6 Change in BİLSEM student numbers and gender ratio (2015-2019)



Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 Report.  
 Note: The number of non-formal education trainees includes data from the end of the academic year. The data for such years do not represent the data in the academic year, but the data at the end of that year.

- Indicators on access to and participation in education show that there are still differences by levels and regions. Although there have been significant improvements in education access and participation rates at different levels of education in recent years, gender-based differences between regions still persist. The most important indicator of this is that 11% of the population in the 14-17 age group and 1.5-2.0% of the students in the 6-13 age group are still not enrolled in school, despite the country's policy of compulsory education. Moreover, the persistence of significant differences according to provinces and gender necessitates the development of urgent policies. In this context, priority should be given to projects aimed at increasing access to secondary education in general, and especially for the participation of girls in education, especially in provinces in the Eastern and Southeastern Anatolia regions where the schooling rate in secondary education is low.
- At the preschool level, the net schooling rate for the age 5 group in 2019 was 75% for both genders in total. In many OECD countries the age 5 group shows a lack of preschool enrollment despite compulsory education. This level is 95% in most OECD countries. This means that Turkey must quickly improve its enrollments rates.
- In Turkey, the majority of education in the stage age 5 and over consists of half-day training services for children (Ministry of Development, 2018). Despite this, the low enrollments rates underline the need for the development of more effective policies. In this context, priority should be given to opening new preschool institutions, especially in places where preschool education institutions are scarce. In addition, a mechanism should be established for children of socioeconomically disadvantaged families to increase their participation in preschool education.
- The increase in the number of students enrolled in open education schools, which is an important alternative in accessing education for those excluded from formal education for various reasons, continues. This situation shows the inadequacy of practices aimed at increasing the capacity of face-to-face education and causes open education to be seen as an alternative to formal education. The open education system should be no longer be seen as a type of school where unsuccessful students are placed, and steps should be taken to increase the capacity of face-to-face education opportunities.
- In recent years, there have been significant developments in indicators regarding the access of students with special education needs to education. However, the fact that the number of students who receive special education is quite low compared to the primary education level, especially at the secondary education level, makes it necessary to produce

more realistic policies for the access to and participation of individuals in need of special education in secondary education. For this, the capacity for children with special education needs should be developed.

- Female students in need of special education have access to education at a much lower rate than their male counterparts. Therefore, more effective measures should be taken to increase the schooling rates of female students with special education needs.
- The number of BİLSEMs made a significant contribution to the capacity development of gifted students, reaching 182 in 2019. This is an important development as the number of students per institution increased to 315 with an increase of nearly 50% compared to the previous year. For this reason, the density of students per institution should be reduced in BİLSEMs. In addition, the technical and physical infrastructure of these institutions should be strengthened and policies that increase the quality of human resources should be adopted.

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# CHAPTER **B**

## EDUCATION OUTPUTS

INDICATOR	B1	What is the education level of the population?
INDICATOR	B2	How is the PISA 2018 performance of Turkey?
INDICATOR	B3	What is the average success rate in the higher education institutions exam (YKS)?
INDICATOR	B4	What are the higher education transition rates and quotas?
INDICATOR	B5	What is the role of education in the labor market?
INDICATOR	B6	How much do general high school and vocational high school graduates earn?
CHAPTER	B	Recommendations

It is often stated that the most important tool of social welfare and economic growth is education (Acemoğlu & Angrist, 1999; Dee, 2004; Hanushek & Kimko, 2000; Hanushek & Wößmann, 2007; Psacharopoulos & Patrinos, 2002; Schultz, 1961). Therefore, countries are making reforms to improve the duration and quality of education. It is very important to increase the quality of education as well as to increase its duration. Individuals with qualified education participate in employment more easily and thus unemployment rates decrease (UNESCO and OECD, 2003). In order for education to contribute to the development of economic and social welfare and to reduce negative effects, educational outputs should be constantly examined and monitored. In the context of educational outcomes, issues such as how much of the population graduates, the knowledge and skill level of graduates, and employment and unemployment rates should be analyzed and monitored continuously. With this monitoring and evaluation, the issues which prevent efficiency in the education system can be determined and the education system can be improved.

In this chapter the output of the education system will be examined in order to evaluate the efficiency of the education system in Turkey. Comparisons between Turkey and Organization of Economic Cooperation and Development (OECD) countries will be given. Firstly, secondary education graduation rates will be examined. Then, students' performances will be examined in the International Student Assessment Program (PISA) held in 2018 with the transition to higher education exams. Subsequently, the rates of transition to higher education will be analyzed. The state of the relationship between supply and demand in the transition to higher education will be evaluated and the employment and unemployment rates will be discussed. Finally, the average earnings of secondary education graduates will be assessed by education levels and gender.

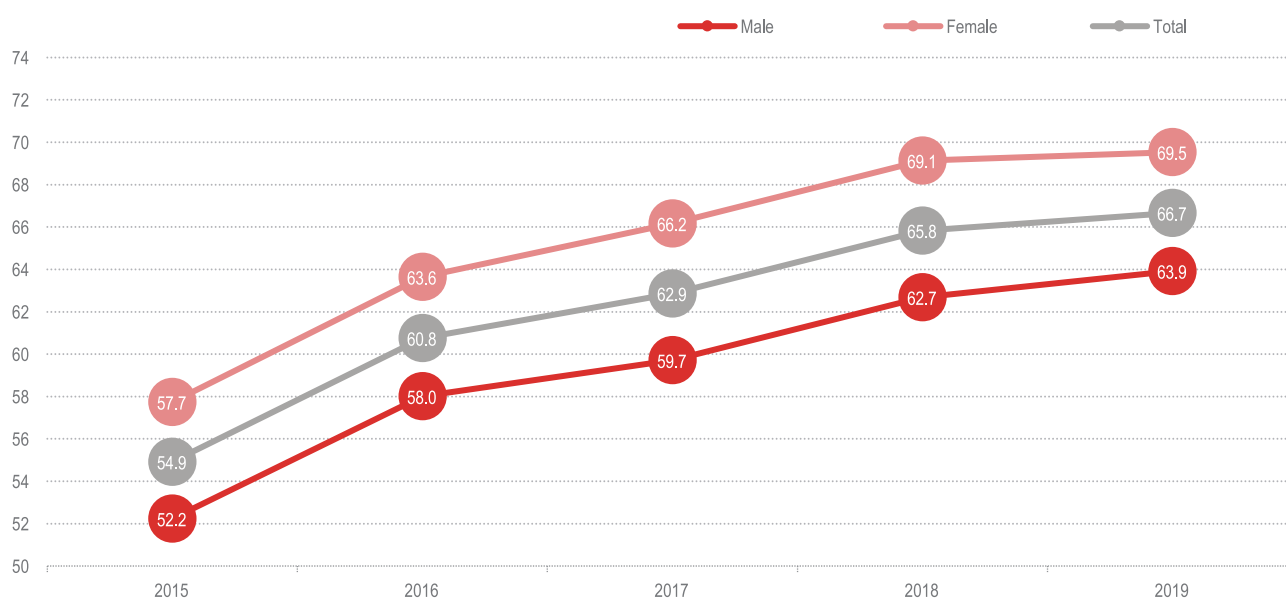


## WHAT IS THE EDUCATION LEVEL OF THE POPULATION?

This indicator will examine the change in the rate of those who are at least high school graduates in the 18-21 age group. Then, the number of graduates by school

type and gender will be presented. Finally, high school graduation rates will be given in comparison with OECD data.

Figure B.1.1 Trends in rate of at least high school graduates in the 18-21 age group, by gender (%) (2015-2019)

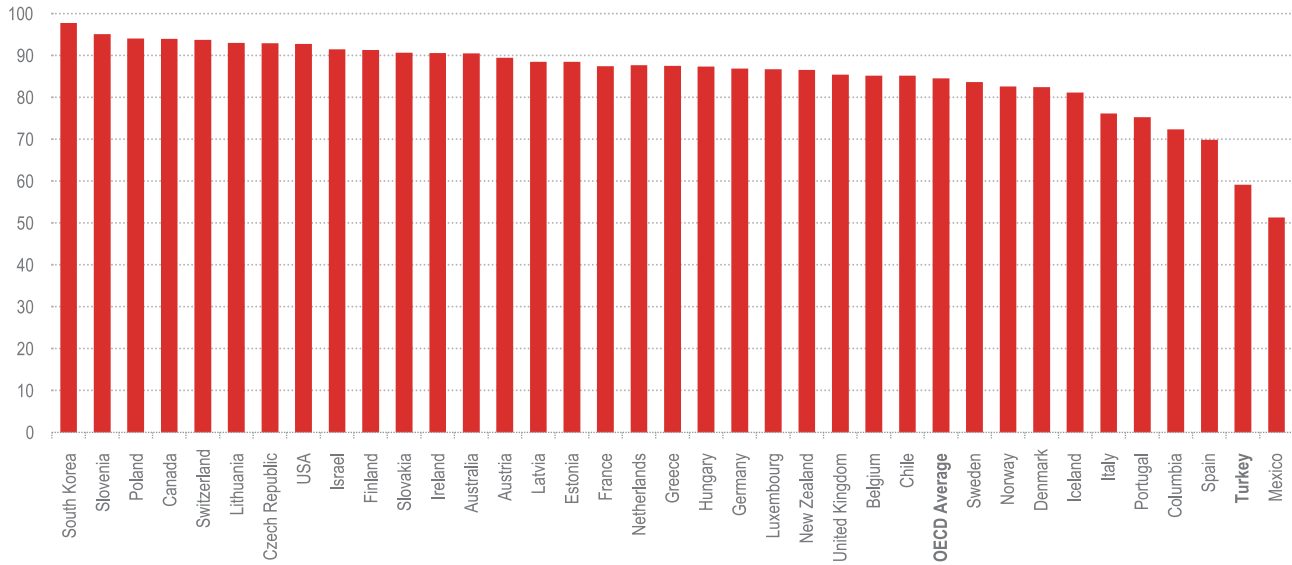


Source: The figure was prepared using the databases of TURKSTAT National Education Statistics and Address Based Population Registration System and included in the Outlook on Education 2019 report.

Figure B.1.1 shows the trends in the ratio of those who are at least high school graduates in the 18-21 age group between 2015 and 2019. The rate of those graduating from at least high school between 2015 and 2019 has increased continuously for both genders; from 52.2% to 63.9% for males, from 57.7% to 69.5% for females and from 54.9% to 66.7% in total. Another striking point in the figure is that the rate of females graduating at least high school is much higher than the of males. In addition, with the inclusion of secondary education in the scope of compulsory education and the increase in the rate of access to secondary education, it is expected that the rate of being at least high school graduate will increase even further in the coming years.

Figure B.1.2 shows the rate of at least high school graduation between the ages of 25-34 in OECD countries in 2019. The countries with the highest rate of having at least high school graduation in OECD countries are South Korea (98%), Slovenia (95%), Poland, Canada and Switzerland (94%). Among OECD countries, the countries the lowest high school graduates are Mexico (51%), Costa Rica (54%) and Turkey (59%). The rate of those who are at least high school graduates aged 25-34 in Turkey is low compared to the OECD average (85%).

Figure B.1.2 Rate of being at least a high school graduate between the ages of 25-34 in OECD countries (%) (2019)

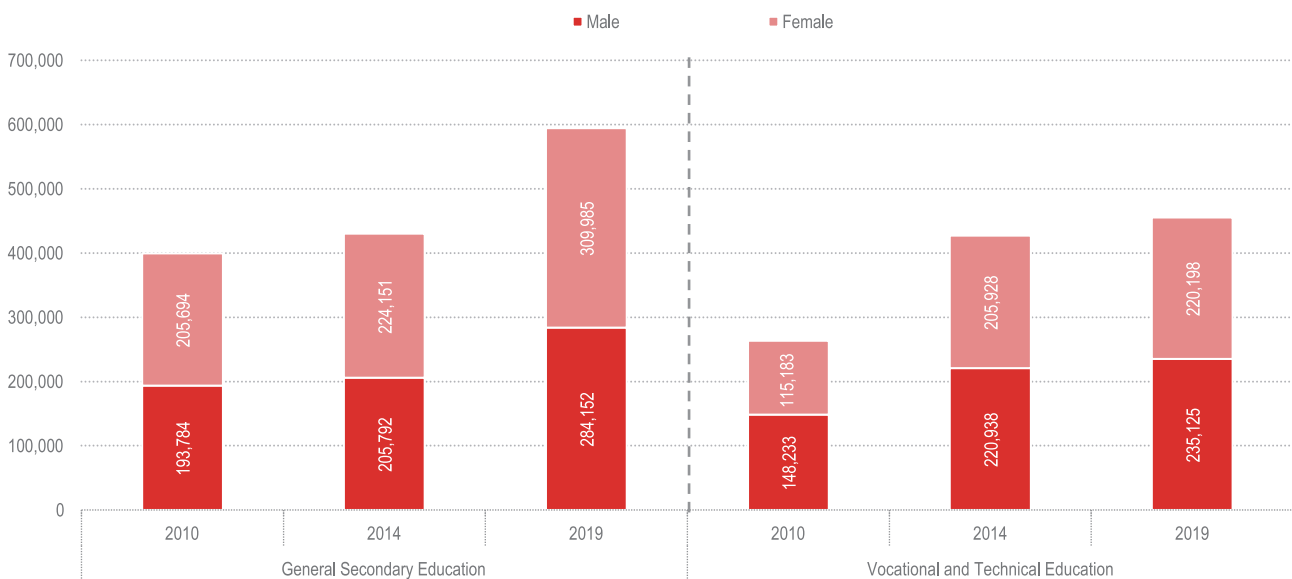


Source: OECD (2020).

Figure B.1.3 shows the change in the number of students graduating from secondary education in 2010, 2014 and 2019 by school type and gender. 193,784 males and 205,694 females graduated from general secondary education in 2010. There was a slight increase in the rate of graduation from general secondary education in 2014, and this number increased to 284,152 for males

and 309,985 for females with a significant increase in 2019. In total, graduation from general secondary education increased from 399,478 to 594,137 in 2010. In other words, the rate of graduates in general secondary education increased by 1.5 times between 2010 and 2019. In vocational and technical secondary education, 148,233 males and 115,183 females graduated in 2010.

Figure B.1.3 Change in the number of students graduating from secondary education by school type and gender (2010, 2014 and 2019)



Source: Prepared using statistics published by the Ministry of National Education in various years.

In 2014, the number of students graduating from vocational and technical secondary education increased significantly and the number of male graduates rose to 220,938 and the number of female graduates to 205,928. In 2019, the rate of increase in the number of students graduating from vocational and technical secondary education decreased and the number of male graduates rose to 235,125 and the number of female graduates to 220,198. In total, the number of graduates

from vocational and technical secondary education between 2010-2019 increased from 263,416 to 455,323. In 2019, the total number of graduates from secondary education was 1,049,460. A striking point in Figure B.1.3 is that while the number of female students graduating from general secondary education continues to be higher, the number of male graduates from vocational and technical secondary education is higher than that of female students.

The Program for International Student Assessment (PISA) is a study developed by the Organisation for Economic Cooperation and Development (OECD) in 2000 to compare the achievements of students in science, reading and mathematics. PISA, which is applied to 15-year-old students, has been undertaken every three years since 2000. The purpose of this study is to measure how much students can use what they learn in real life (OECD, 2019a). PISA provides an opportunity to compare the educational outputs of countries and show how the

performance of education systems have changed over time (MoNE, 2019). Although PISA results are not directly effective in determining education policies, they are sometimes used as a means of realizing and legitimizing education reforms (Gür et al., 2012). Approximately 600 thousand students from 79 countries and economies participated in PISA 2018 (OECD, 2019b). 6890 students from 186 schools participated from Turkey (MoNE, 2019).

Table B.2.1 Average reading, mathematics and science scores by country (PISA 2018)

Rank	Country	Reading score average	Country	Mathematics score average	Country	Science score average
	OECD average	487		489		489
1	B-S-J-Z (China)	555	B-S-J-Z (China)	591	B-S-J-Z (China)	590
2	Singapore	549	Singapore	569	Singapore	551
3	Macao (China)	525	Macao (China)	558	Macao (China)	544
4	Hong Kong (China)	524	Hong Kong (China)	551	Estonia	530
5	Estonia	523	Taiwan	531	Japan	529
6	Canada	520	Japan	527	Finland	522
7	Finland	520	South Korea	526	South Korea	519
8	Ireland	518	Estonia	523	Canada	518
9	South Korea	514	Netherlands	519	Hong Kong (China)	517
10	Poland	512	Poland	516	Taiwan	516
39	Ukraine	466	Malta	472	<b>Turkey</b>	<b>468</b>
40	<b>Turkey</b>	<b>466</b>	Croatia	464	Italy	468
42	Greece	457	<b>Turkey</b>	<b>454</b>	Israel	462
69	Kazakhstan	387	Columbia	391	Kazakhstan	397
70	Georgia	380	Brazil	384	Indonesia	396
71	Panama	377	Argentina	379	Saudi Arabia	386
72	Indonesia	371	Indonesia	379	Lebanon	384
73	Morocco	359	Saudi Arabia	373	Georgia	383
74	Lebanon	353	Morocco	368	Morocco	377
75	Kosovo	353	Kosovo	366	Kosovo	365
76	Dominican Republic	342	Panama	353	Panama	365
77	Philippines	340	Philippines	353	Philippines	357
78	Spain	-	Dominican Republic	325	Dominican Republic	336

Source: Prepared using the OECD PISA 2018 database.

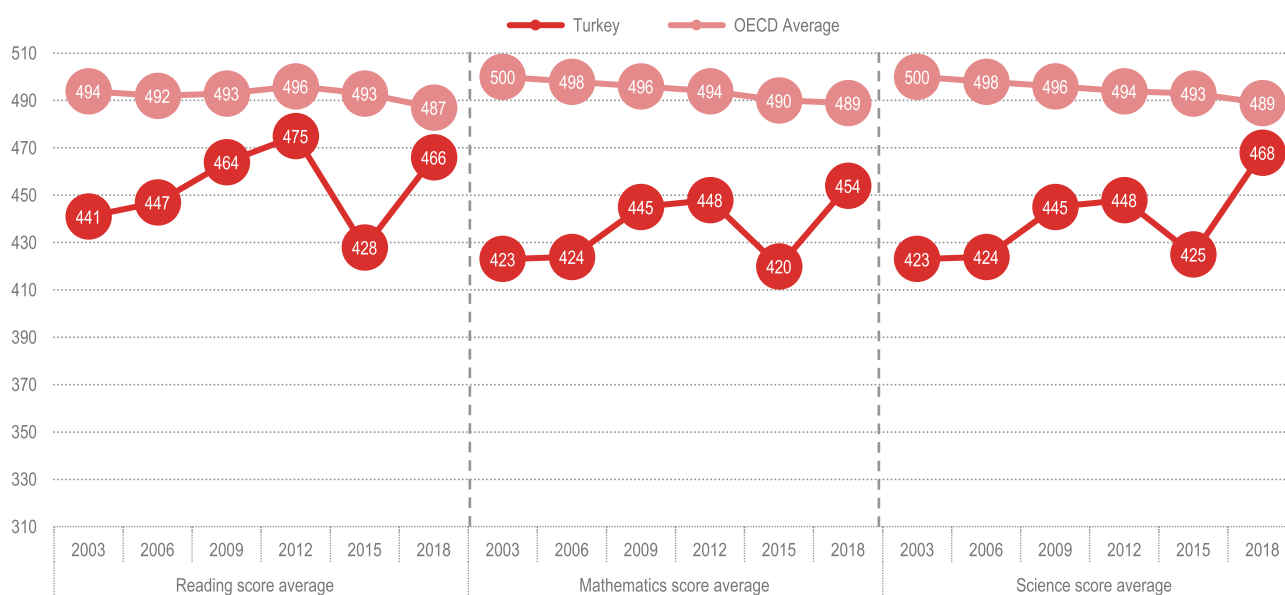
Note: The table shows the top ten rankings, the last ten rankings, and Turkey's ranking.



Table B.2.1 shows the reading, mathematics and science scores of participating countries and economies according to 2018 PISA data. Among the participating 78 countries and economies, Turkey ranked below the OECD average (487 points) in the reading section and came in 40<sup>th</sup> place with a score of 466 points. In mathematics section, Turkey ranked 42<sup>nd</sup> with a score of 454 points and was below the OECD average (489 points). In the

science section, Turkey ranked 39<sup>th</sup> with a score of 468 points, below the OECD average (489 points). Among the 37 participating OECD countries, Turkey ranked 31<sup>st</sup> in reading, 33<sup>rd</sup> in mathematics, and 30<sup>th</sup> in science. Despite ranking low amongst OECD countries, Turkey has still managed to raise its ranking in PISA 2018 compared to previous years (Yurdakul, 2020).

Figure B.2.2 Turkey and OECD countries in terms of average PISA reading, math and science scores (2003- 2018)

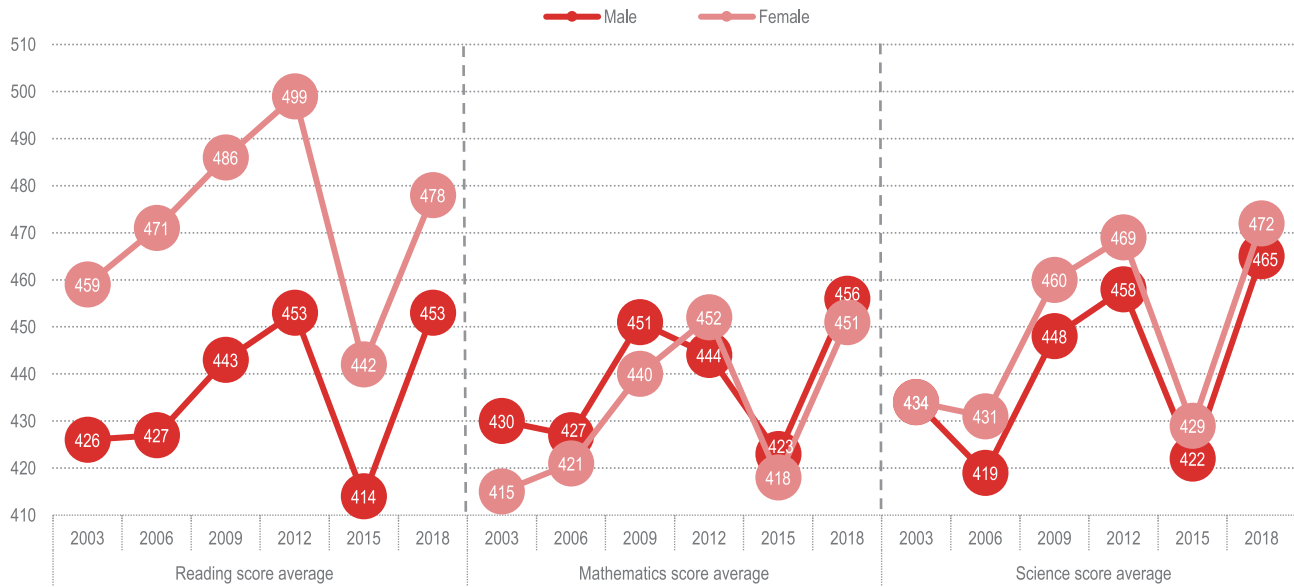


Source: Prepared using the OECD PISA database.

Figure B.2.2 shows the Turkey's average and the OECD average for reading, mathematics, and science in the PISA 2018. While Turkey consistently increased its PISA scores from 2003 to 2012 in reading, science, and mathematics, there was a sharp decline in 2015. Turkey compensated for the decline in PISA 2015 in PISA 2018, and while it had slightly higher performance in mathematics than PISA 2012, there was much higher performance in science, a lower score than PISA 2012 in reading. Compared to the OECD average in all three section, Turkey scored 21 points lower in reading, 35 points lower in mathematics and 21 points lower in science.

Figure B.2.3 shows Turkey's PISA reading literacy, mathematics and science mean scores according to gender. In all areas from PISA 2003 to PISA 2018, girls were more successful than boys in reading and science, and boys were more successful in mathematics (except PISA 2012). In PISA 2018, girls (478) scored 25 points higher than boys (453 points) in reading. Girls scored 7 points higher (472) than boys (465) in science. However, boys (456 points) scored 5 points higher than girls (451 points) in mathematics.

Figure B.2.3 Turkey's average PISA reading, math and science scores by gender (2003- 2018)

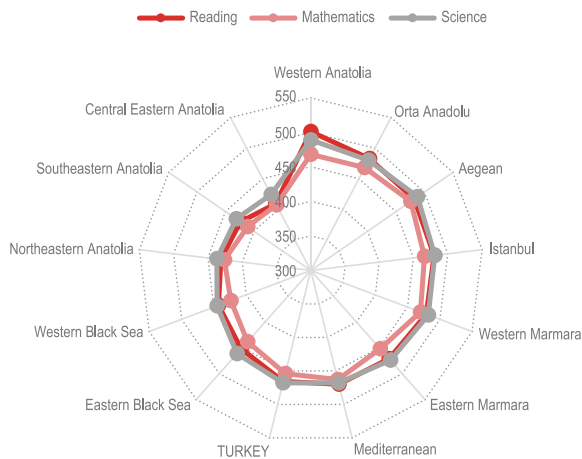


Source: Prepared using the OECD PISA database.

Figure B.2.4 shows PISA 2018 reading, mathematics and science score averages by region. There is a significant difference in points in all three areas according to the regions. While West Anatolia, Central Anatolia, Aegean, Istanbul and West Marmara have the highest scores in all three areas, the regions of Central Eastern Anatolia, Southeast Anatolia and Northeast Anatolia have the

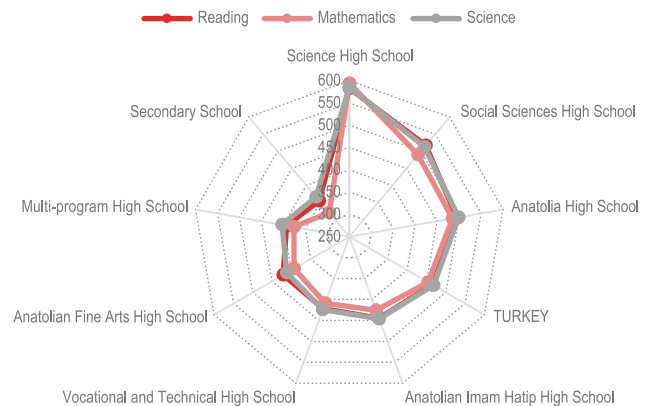
lowest scores. Average scores in all three areas of the PISA 2018 decrease from east to west in Turkey (Yurdakul, 2020). The Central Eastern Anatolia Region is 92 points below the Western Anatolia region in reading, 69 points below the Aegean Region in mathematics, and 65 points below the Western Anatolia Region in science.

Figure B.2.4 PISA 2018 reading, mathematics and science score averages by region



Source: Prepared using the OECD PISA 2018 database.

Figure B.2.5 PISA 2018 reading, mathematics and science score averages by school type

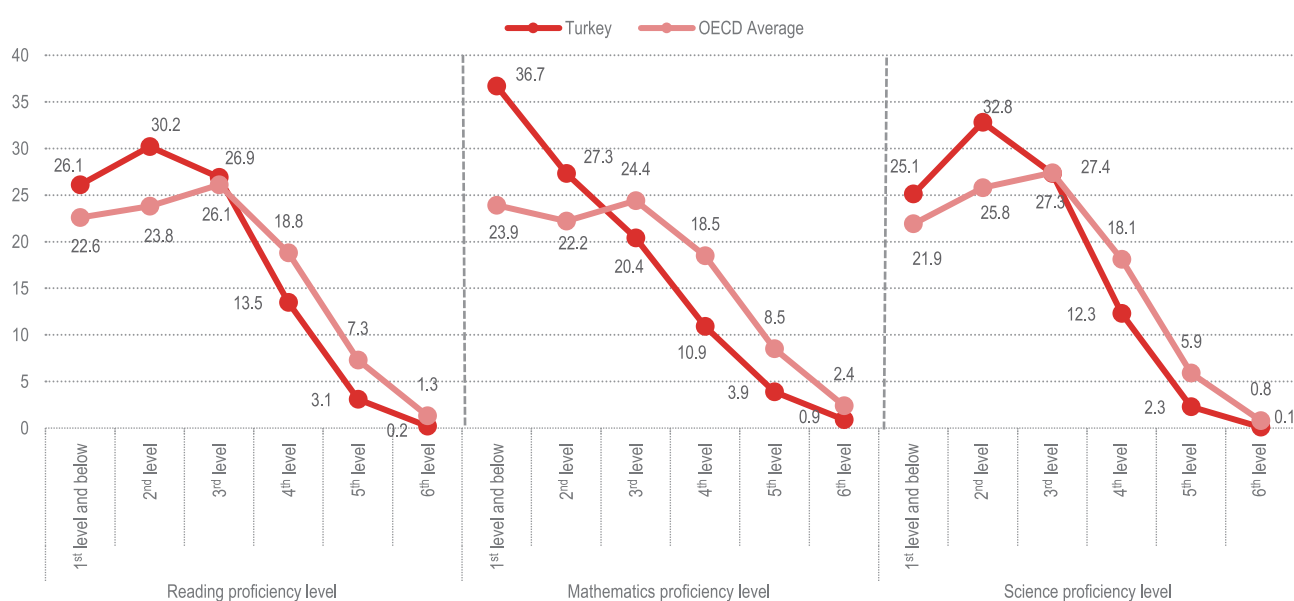


Source: Prepared using the OECD PISA 2018 database.

Figure B.2.5 shows the PISA 2018 reading, mathematics and science scores of students according to school type. PISA scores differ significantly according to school type. Science, social sciences and Anatolian high schools score above the Turkey's average. Meanwhile, Anatolian İmam Hatip, Anatolian vocational and technical, Anatolian fine arts, and multi-program high schools score below the Turkey's average. In PISA 2018, science high school students scored 583 points in reading, 594 in mathematics and 585 in science, while multi-program Anatolian high school students received 393, 376 and 403 points, respectively. In other words, there is a difference of 190 points in reading, 218 points in mathematics and 182 points in science between science

high schools and multi-program high school students. PISA 2018 does not state how many points an average school year is equal to. However, 30 points in PISA 2015 corresponds to approximately one school year. From this point of view, we can see that there is a difference of 6-7 academic years between science high school students and multi-program Anatolian high schools. This means that there is a difference of 5-6 academic years between the students of science high schools, Anatolian İmam Hatip, vocational and technical Anatolian and Anatolian fine arts high schools (Çelik et al., 2017). We can see that the difference between schools has grown even more in PISA 2018 compared to PISA 2015.

Figure B.2.6 Proportional distribution of students reading, mathematics and science scores in PISA 2018 by proficiency level



Source: Prepared using the OECD PISA 2018 database.

Figure B.2.6 shows the proportional distribution of students in PISA 2018 reading, mathematics and science areas according to proficiency level. The basic proficiency level (2nd level six) for the proportion of students in reading is 26.1% in Turkey, while the OECD average is 22.6%. In mathematics this percentage is 36.7% in Turkey, while the OECD average is 23.9%. In science this percentage is 25.1% in Turkey, while the OECD average is 21.9%. The percentages of those exhibiting peak performance (level 5 and 6) in reading was 3.3% in Turkey, 4.8% in mathematics and 2.4% in

science. The OECD average for peak performance was 8.6% in reading, 10.9% in mathematics and 6.7% in science. According to PISA 2015, the ratio of students below the basic proficiency level has decreased and the rate of students with high performance has increased (Çelik et al., 2017). However, compared to the OECD average, the rate of students below the basic level is quite high, especially in the field of mathematics, and the rate peak performance is very low, especially in the field of science.

## WHAT IS THE AVERAGE SUCCESS RATE IN THE HIGHER EDUCATION INSTITUTIONS EXAM (YKS)?

This indicator will examine the average tests of candidates who took the Higher Education Institutions Examination (YKS) between 2018-2020 in the subtests related to the Basic Proficiency Test (TYT), Field Proficiency Test (AYT) and Foreign Language Test (YDT) comparatively by year.

Table B.3.1 Number of questions in TYT according to test type and average net score of candidates (2018, 2019 and 2020)

Test type	Number of Questions	2018		2019		2020	
		Average of candidates studying in the last year of high school	Average of all candidates	Average of candidates studying in the last year of high school	Average of all candidates	Average of candidates studying in the last year of high school	Average of all candidates
Turkish	40	16.3	16.2	15.1	14.7	14.5	14.3
Social Sciences	20	6.0	6.0	6.7	6.7	7.9	7.8
Basic Mathematics	40	6.0	5.6	6.1	5.7	6.1	5.6
Science	20	3.3	2.8	2.7	2.2	3.2	2.7

Source: Prepared using LYS and AYT statistics published by ÖSYM.

Table B.3.1 shows the number of questions in the TYT according to test type between 2018-2020 and the average net score of the candidates who answered. The first point that draws attention in the table is that the net scores of the candidates studying in the last year of high school are higher except for the social sciences test. In the social sciences test, candidates studying in the senior year of high school scored the same as the average of all candidates in 2018 and 2019, and slightly higher than the average of all candidates in 2020. Another interesting point is that the average net rate in basic mathematics and science tests is much lower than in Turkish and social science tests.

Table B.3.2 shows the number of questions and the average net score of the candidates answering in the AYT according to the test types between 2018-2020. In AYT tests, students studying in mathematics, physics,

chemistry and biology in the senior year of high school have a higher average net score than all candidates, while all candidates have a higher net score average in other tests. In YDT tests, the average of the candidates studying in the last year of high school is higher than the average of all candidates in all tests and years. In addition, the net average score in all tests in AYT is quite low. We can see that the net average is much higher in the YDT test.

In Turkey, the transition to higher education exam is based on qualification levels and is not measured by years in the average net score. Therefore, the exam does not show whether there is improvement in the education system. The low scores on the examinations shows that merely graduating from the education system is not enough to reach the level of knowledge needed to succeed in these examinations.

Table B.3.2 Number of questions in AYT according to test types and average net score of candidates (2018, 2019 and 2020)

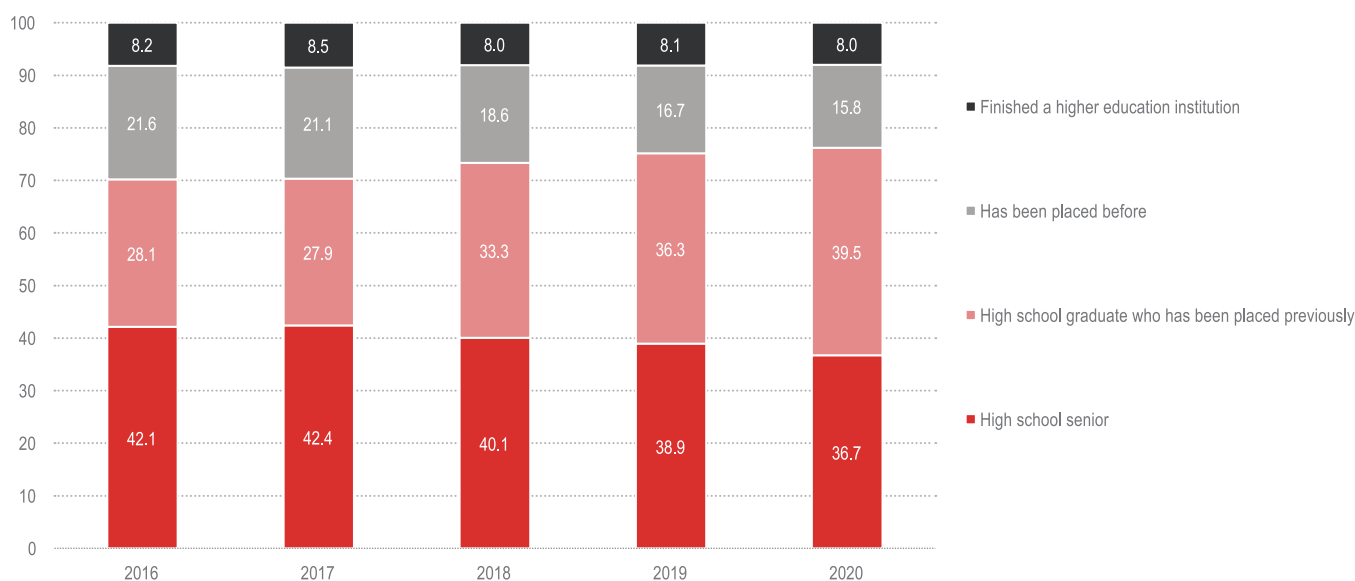
Session	Test type	Number of Questions	2018		2019		2020	
			Average of candidates studying in the last year of high school	Average of all candidates	Average of candidates studying in the last year of high school	Average of all candidates	Average of candidates studying in the last year of high school	Average of all candidates
AYT	Religion/ additional philosophy	6	1.8	2.1	0.9	1.1	0.6	0.7
	Physics	14	0.6	0.4	1.2	1.0	1.3	1.1
	Chemistry	13	1.3	1.1	1.2	1.0	1.7	1.4
	Biology	13	1.9	1.7	1.5	1.3	1.5	1.3
	History 2	11	1.2	1.4	1.6	2.0	1.1	1.5
	History 1	10	1.4	1.6	1.8	2.0	1.2	1.4
	Geography 1	6	2.0	2.4	1.9	2.2	1.4	1.6
	Geography 2	11	2.3	2.9	2.0	2.4	2.3	2.7
	Philosophy	12	1.6	2.0	2.1	2.5	2.0	2.3
	Turkish Literature	24	4.3	4.7	4.6	5.0	4.2	4.8
	Mathematics	40	4.4	3.9	5.3	4.8	8.0	7.6
	Arabic	80	-	-	11.5	13.2	32.8	36.1
	English	80	28.4	24.8	32.4	29.8	32.7	31.5
	YDT	French	80	33.6	30.0	32.7	28.2	37.7
German		80	39.0	31.4	35.7	28.9	38.0	30.6
Russian		80	-	-	42.6	33.1	45.3	37.2

Source: Prepared using LYS and AYT statistics published by ÖSYM.

## WHAT ARE THE HIGHER EDUCATION TRANSITION RATES AND QUOTAS?

This indicator will examine the number of applicants and placements to the Student Selection and Placement System (ÖSYS), the rate of transition to higher education, and the rates of those who have applied for the university entrance examination according to their high school types and graduation status.

Figure B.4.1 Trends in the proportional distribution of university entrance exam applicants according to their high school graduation and previous placement status (%) (2016-2020)



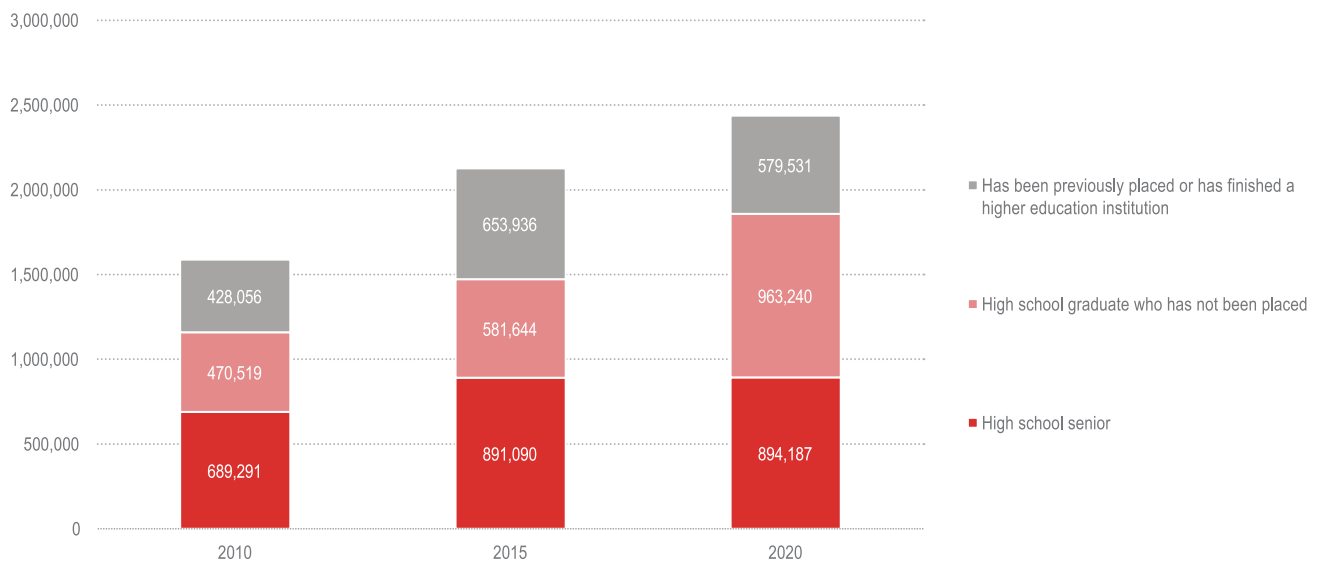
Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 Report.

Figure B.3.1 shows the trends in the proportional distribution of those who took the university entrance exam between 2016-2020 according to their high school graduation and previous placement status. The most striking point is that the rate of applicants at the senior level of high school has decreased from 42.1% to 36.7% and the rate of those who have graduated from high school who have not been placed before has increased from 28.1% to 39.5%. In other words, the rate of those who graduated from high school for the first time in 2020 has become much higher than those at the senior high school level. The main reason for this is that the demand for higher education has increased and higher education quotas have not developed at this rate despite the increase in the number of new graduates. Only 31.9% of those took the university entrance exam in the last year have been placed into a higher education program (Gür & Yurdakul, 2020). 30.1% were placed in 2019 (Çelik et al., 2019). According to this data, if the current trend

continues, there will be an increase in the number of applicants for higher education transition exams and a decrease in the ratio of senior high school students. The proportion of those who have been placed in a program or completed a higher education institution constitute one fourth of those who took the exam.

Figure B.4.2 shows the change in the numerical distribution of those who applied for the university entrance exam in 2010, 2015 and 2020 according to their high school graduation and previous placement status. In 2010, 689 thousand people at the senior level of high school took the university entrance exam. This number increased to 891 thousand in 2015 and 894 thousand in 2020. The number of high school graduates who took the university entrance exam and who were not placed before more than doubled between 2010 and 2020 and rose from 470 thousand to 963 thousand. The main reason for this increase is the increase in the number

Figure B.4.2 Change in numerical distribution of university entrance exam applicants by their high school graduation and previous placement status (%) (2010, 2015 and 2020)

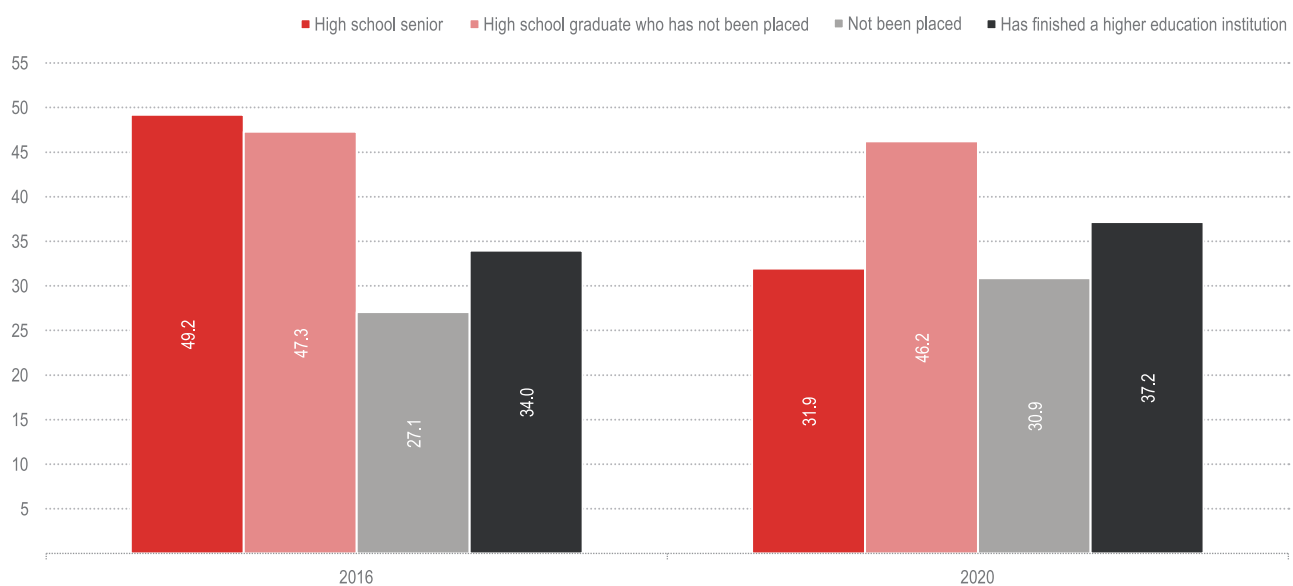


Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 Report.

of graduates from secondary education and the higher education system and the statics quota size (Çelik et al., 2019; Gür & Yurdakul, 2020). In a recent comprehensive study, a partial decrease in the rate of higher education placement of science high school students, which is the most successful secondary school type, was found, and this decrease was associated with the stagnation in

higher education quotas, not success or failure (Suna et al., 2020). In a period where the number of graduates from secondary education exceeds one million (see Figure B.1.3), the failure of the higher education system to grow will cause the supply and demand problem to reach very serious levels. Another point that draws attention here is that approximately 600 thousand

Figure B.4.3 Change in the proportion of those who took the university entrance examination, according to their high school graduation and previous placement status (%) (2016 and 2020)



Source: Prepared using MoNE statistics published in various years.

people have taken the exam again despite having been placed in a program or completed a higher education program. This means that young people spend at least one more year to prepare for university and face a serious economic and psychological burden.

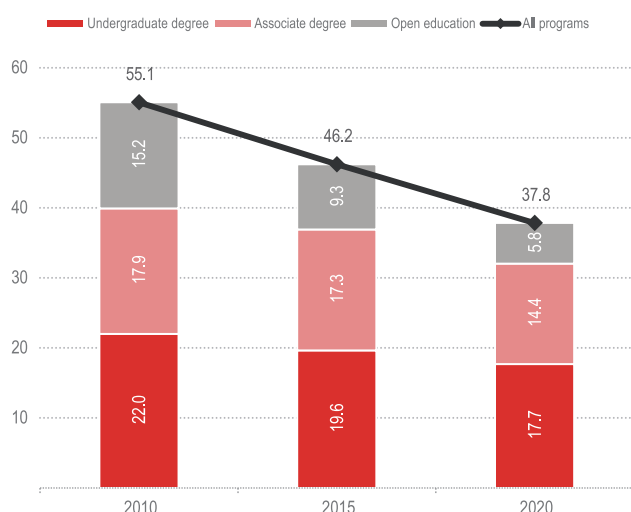
Figure B.4.3 shows the change in the rates of those who have been placed in a higher education programs among those who applied to the university entrance exam between 2016-2020, according to their high school graduation and previous placement status. In 2016, 49.2% of those who graduated from high school, 47.3% of those who graduated from high school who have not been placed before, 27.1% of those who have been placed in a program before and 34% of those who have completed a higher education program were placed in programs. 31.9% of those who applied to higher education transition exam in 2020, 46.2% of those who graduated from high school who have not been placed before, 30.9% of those who have been placed in a program before, and 37.2% of those who have completed a higher education program were placed in a program. The most striking point is the sharp decline in the rate of being placed in a high school senior level program between 2016-2020. In addition, approximately one third of those enrolled or completed a higher education program have been re-placed in a program. This situation points out

that there is an important problem in the efficiency of the higher education placement system.

Figure B.4.4 shows the change in the rate of students who have been placed in different types of higher education programs in 2010, 2015 and 2020 compared to the number of candidates taking the university entrance exam. 55.1% of those who took the exam in 2010 were placed in a program, while this rate decreased to 46.2% in 2015 and 37.8% in 2020. Considering the placement rate of the applicants according to their higher education program types, 22% of the applicants in 2010, 19.6% in 2015 and 17.7% in 2020 were placed in an undergraduate program. In other words, one out of every six applicants was placed in an undergraduate program. While the rate of being placed in associate degree programs was 17.9% in 2010, it was 14.4% in 2020. While the rate of participation in open education programs was 15.2% in 2010, it was 5.8% in 2020. The fact that higher education quotas are not growing at a similar pace as applicants causes the difference between supply and demand for higher education to grow even further.

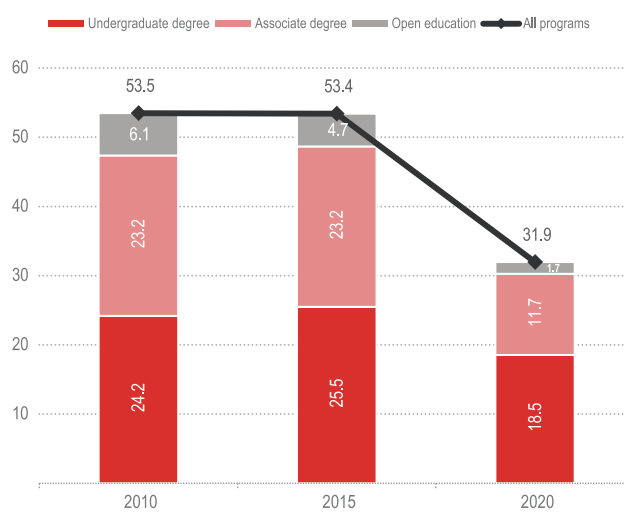
Figure B.4.5 shows the change in the rate of students who took the university entrance exam in the last year of secondary education between 2016 and 2020 and then were placed in a higher education program. While 53.5%

Figure B.4.4 Change in the ratio of students placed in different types of higher education programs to the number of candidates applying for the university entrance exam (%) (2010, 2015 and 2020)



Source: Prepared using MoNE statistics published in various years.

Figure B.4.5 Change in the percentage of students who applied for the university entrance exam in the last year of secondary education and then were placed in a higher education program (%) (2010, 2015 and 2020)



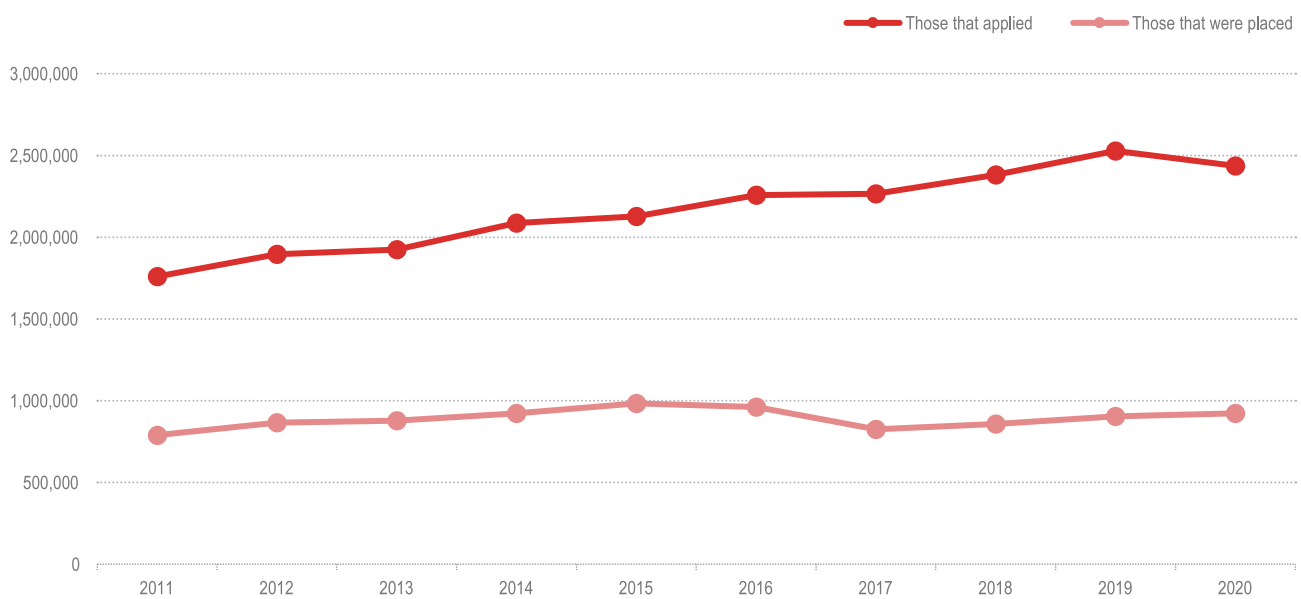
Source: The figure prepared using the Ministry of National Education statistics published in various years and included in the Outlook on Education 2019 Report.



of the candidates who took the university entrance exam in 2010 were placed in a program, this rate decreased sharply to 31.9% in 2020. Only 18.5% of the candidates who applied for the final year university entrance exam in 2020 were placed in an undergraduate program. In other words, one out of six candidates were placed in

an undergraduate program. For candidates who applied for the university entrance exam at the senior level, the rate of entering associate degree programs was 11.7% in 2020, and the rate of entering open education programs was 1.7%.

Figure B.4.6 Trends in the number of candidates who applied and were placed by ÖSYS (2011-2020)



Source: The figure was prepared using OSYM statistics published in various years and data included in the Outlook on Higher Education 2020 report.

Figure B.4.6 shows the trends in the number of candidates taking the test and placing in the ÖSYS system between 2011 and 2020. The number of candidates applying for the university entrance exam has steadily increased over the years. Between 2011-2020, the number of candidates applying to ÖSYS increased from 1,759,403 to 2,436,958. On the other hand, considering the number of candidates who settled between 2011-2020, we can see that this it displays a fluctuating trend. The number of candidates who were placed between 2011 and 2015 followed an increasing trend, but after a sharp decrease in 2017, increased slightly again. While 789,112 people were placed in the system in 2011, this number increased to 921,886 in 2020. The most important point here is that the gap between the candidates who applied to the university entrance exam and those placed in the university entrance exam between 2011-2020 was constantly widened. In the last 10 years, the number of candidates applying for the entrance examination to higher education has increased by 42%, while the

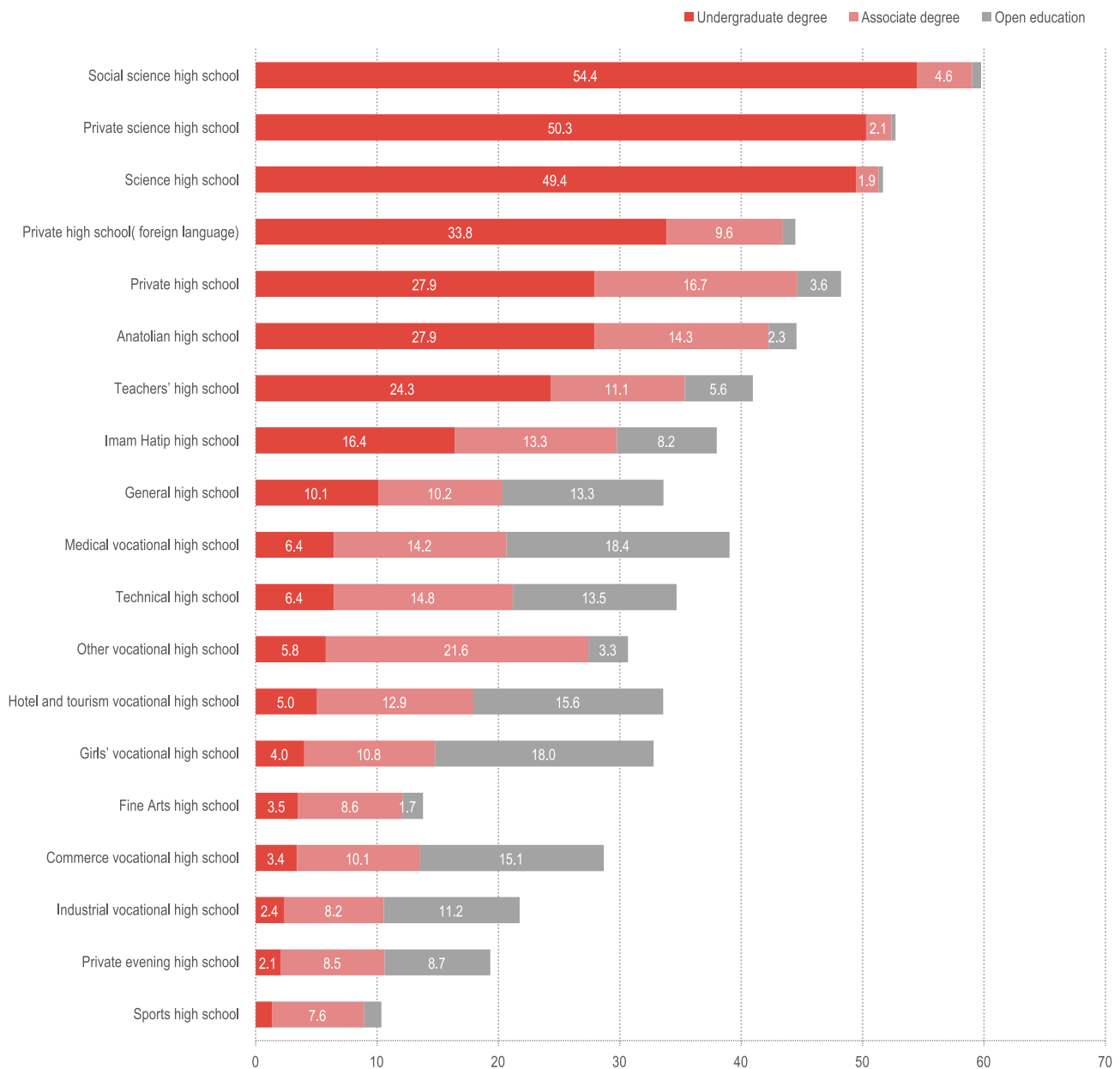
number of candidates placed has increased by 17%. The reason for this that the number of universities and available quotas have not increased. Between 2015-2020, the quota did not increase, on the contrary it decreased. This shows that the distance between supply and demand for higher education is gradually increasing (Gür & Yurdakul, 2020).

The rate of those who have been placed in a higher education program among the candidates who applied for the university entrance exam according to the type of high school in 2020 is given in Figure B.4.7. The high schools with the highest rate of enrollment in higher education programs are social sciences high schools, science high schools and private science high schools. Half or more of the students in these high schools have been placed in an undergraduate program. The rate of enrollment in associate degree and open education programs from these high schools is very low. On the other hand, the number of students from different types

of vocational high schools, private evening high schools, sports high schools and fine arts high schools have been placed in at least one are very low. At least 1.3-6.4% of

the students in these programs have only been placed in an undergraduate program. This table shows very clearly the disparity between high school type.

Figure B.4.7 Proportion of applicants for the university entrance exam by type of high school (%) (2020)

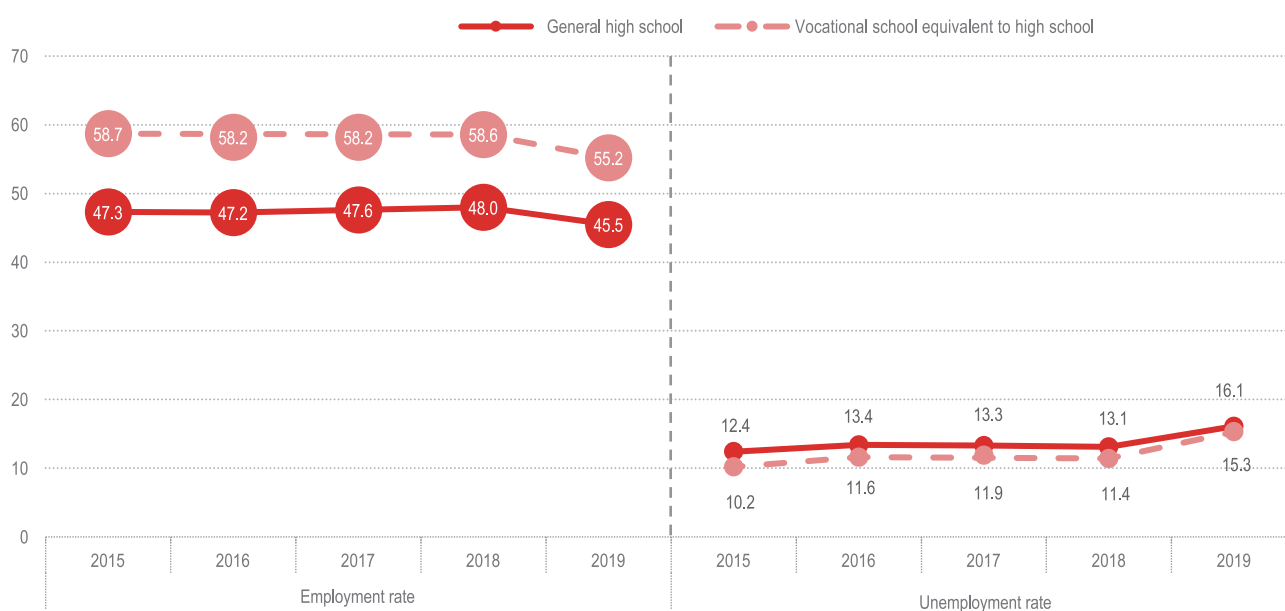


Source: Prepared using numerical information regarding the 2020 YKS placement results published by ÖSYM.

## WHAT IS THE ROLE OF EDUCATION IN THE LABOR MARKET?

This indicator examines employment and unemployment rates by different education levels, age categories and gender. This data will be analyzed in comparison with OECD countries.

Figure B.5.1 Trends in employment and unemployment rates of high school graduates in the 15+ age group by school type (%) (2015-2019)



Source: The figure prepared using TURKSTAT labor force statistics and data from the Outlook on Education 2019 report.

Figure B.5.1 shows the trends in the employment and unemployment rates of high school graduates in the 15+ age group according to school type between 2015-2019. Between 2015 and 2019, there was a decrease in the employment rates of both general high school and high school equivalent vocational school graduates. Between 2015-2019, the employment rate of general high school graduates fell from 47.3% to 45.5%, and the employment rate of high school and equivalent vocational school graduates fell from 58.7% to 55.2%. Considering the unemployment rates, a significant increase was observed in the unemployment rates of both high school graduates between 2015-2019. Between 2015-2019, the unemployment rate of general high school graduates increased from 12.4% to 16.1%, and the unemployment rate of high school and equivalent vocational school graduates increased from 10.2% to 15.3%. Another interesting point is that

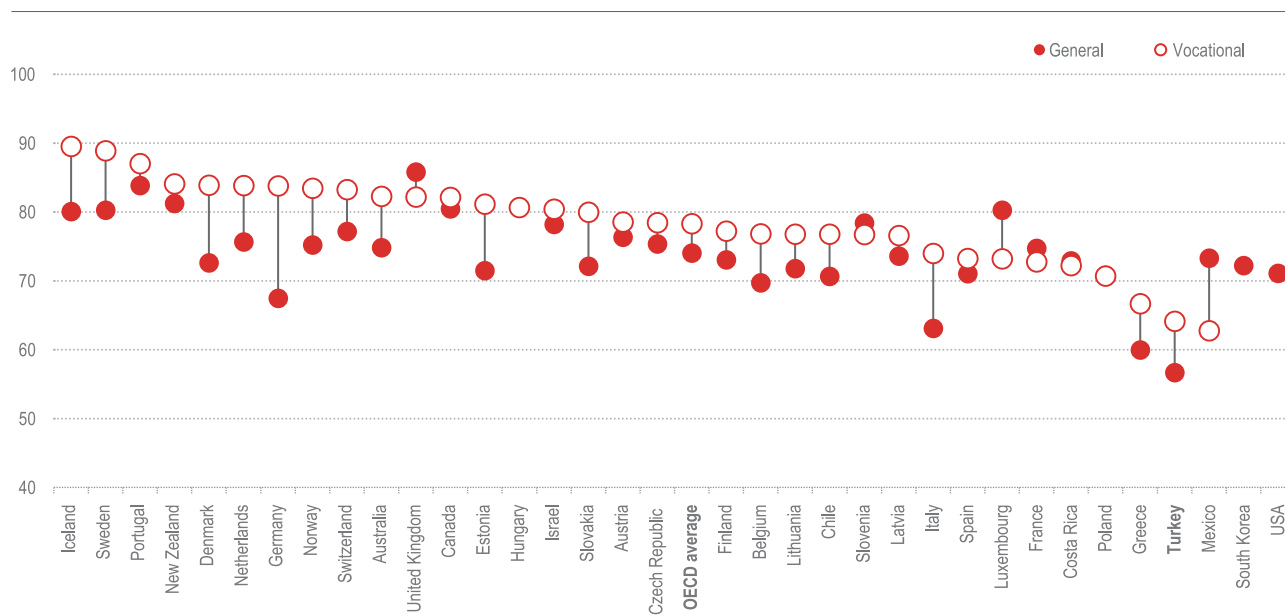
the employment rate of vocational school graduates is equivalent to those that are high school graduates or higher and unemployment rates are lower than that of general high school graduates.

Figure B.5.2 shows the employment rate of secondary education graduates between the ages of 25-64 in OECD countries in 2019 by school type. Looking at the average for OECD countries, the employment rate of vocational education graduates (78%) is higher than that of general secondary graduates (74%). In Turkey the employment rates of both general secondary education graduates (57%) and graduates of vocational education (64%) is lower compared to OECD countries. Czech Republic, Iceland, Estonia, Luxembourg, New Zealand, Portugal, Sweden and the United Kingdom are countries with the highest employment rates of general secondary education graduates among OECD countries. In these

countries, the employment rate of general secondary education graduates is 80% and above. Among OECD countries, the employment rates of vocational secondary education graduates are highest in Australia, Canada, Czech Republic, Denmark, Estonia, Germany, Hungary,

Iceland, Israel, Netherlands, New Zealand, Norway, Portugal, Sweden and the United Kingdom. In these countries, the employment rate of vocational secondary education graduates is 80% and above.

Figure B.5.2 Employment rate of 25-64 year-old secondary education graduates by school type (%) in OECD countries (2019)



Source: OECD (2020).

Table B.5.3 shows the rate of unemployment and non-employment among 25-34 years old secondary education graduates in OECD countries in 2019 by school type. According to the OECD, individuals other than those who are employed and those who are unemployed are defined as those who are not employed. Individuals who continue their education and do not seek a job are among those who are not employed (OECD, 2020). According to the average for OECD countries, the unemployment rate of those who are not employed is 8% for general secondary education graduates and 7% for vocational secondary education graduates. The unemployment rate in Turkey for general secondary school graduates is (17%). Greece (21%), Spain (17%) and Italy (16%) are among the OECD countries with the highest rates. The lowest unemployment rates among general secondary education graduates in OECD countries are in Czech Republic (2%), Hungary, Great Britain (3%), Mexico, New Zealand (4%), Estonia, Israel, the Netherlands and Norway (5%). When we look at the unemployment rate of graduates of vocational training we see that

Greece (30%), Spain (16%), Costa Rica (14%), Turkey and Italy (13%) are the countries with the highest rates of unemployment. On the other hand, the unemployment rate of vocational secondary education graduates in the Czech Republic, Germany, Hungary, Iceland, the Netherlands, Norway, Sweden and the United Kingdom the lowest countries with a rate of 3% or less.

Providing data for the unemployed will provide a better understanding of unemployment rates. 21% of those who graduated from general secondary education between the ages of 25-34 in OECD countries and 12% of those who graduated from vocational secondary education are not in employment. Germany (35%), Italy (40%) and Turkey (32%) have the highest employment rates of graduates of general secondary education. On the other hand, the countries with the lowest employment / inactive rates of general secondary education graduates are Portugal (11%), United Kingdom (12%), Estonia (14%), Slovenia and Costa Rica (15%). Vocational training graduates have the highest rate of non-employment

in Turkey (24%), the Netherlands and Italy (20%). The countries with the lowest rates of vocational education graduates who are not in employment are Austria, Canada, Germany, Greece, Iceland, Norway, Slovenia, Sweden and Switzerland. The rate of those not in

employment in these countries is below 10%. Turkey has one of the highest proportions of secondary school graduates in unemployment. This data implies that among OECD countries, Turkey has one of the lowest rates of non-employment for those aged 25-34.

Table B.5.3 Proportion of unemployment and non-employment of 25-34 year-old secondary education graduates by school type in OECD countries (%) (2019)

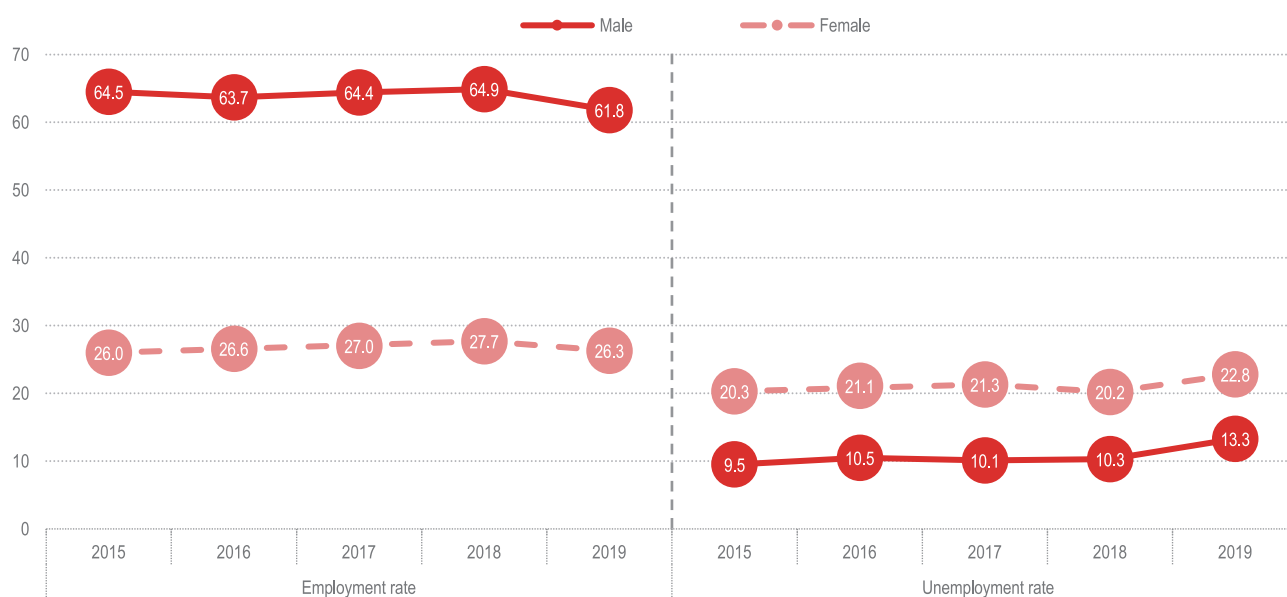
	Unemployed		Not in Employment	
	General	Vocational	General	Vocational
Italy	16	13	40	20
Germany	6	3	35	9
<b>Turkey</b>	<b>17</b>	<b>13</b>	<b>32</b>	<b>24</b>
Denmark	7	5	29	11
South Korea	7	-	29	-
Israel	5	6	27	14
Mexico	4	5	26	20
Chile	10	7	25	17
Finland	9	7	25	14
Austria	8	4	23	7
Norway	5	2	22	8
Sweden	8	3	22	7
Greece	21	30	22	9
Netherlands	5	3	21	10
<b>OECD average</b>	<b>8</b>	<b>7</b>	<b>21</b>	<b>12</b>
USA	6	-	21	-
Hungary	3	3	21	13
Poland	4	4	20	17
Spain	17	16	20	10
Belgium	7	6	20	11
Canada	8	5	19	7
France	11	12	19	13
Czech Republic	2	3	18	14
New Zealand	4	4	18	13
Slovakia		6	18	14
Iceland	7	3	17	4
Australia	6	4	17	13
Switzerland	9	4	17	7
Latvia	7	8	16	13
Lithuania	9	8	16	12
Costa Rica	12	14	15	18
Slovenia	8	5	15	8
Estonia	5	5	14	15
United Kingdom	3	3	12	13
Portugal	6	6	11	6

Source: OECD (2020).

Figure B.5.4 shows the change in employment and unemployment rates of 15+ age group graduates of general high school between the years 2015-2019 by gender. While the employment rate of general high school graduates decreased from 64.5% to 61.8% between 2015 and 2019, the employment rate of

females increased from 26% to 26.3%. Considering the unemployment rates, the unemployment rate of general high school graduates increased from 20.3% to 22.8%, and the unemployment rate of males from 9.5% to 13.3% between 2015-2019.

Figure B.5.4 Change in employment and unemployment rates of the general high school graduates in the 15+ age group by gender (%) (2015-2019)



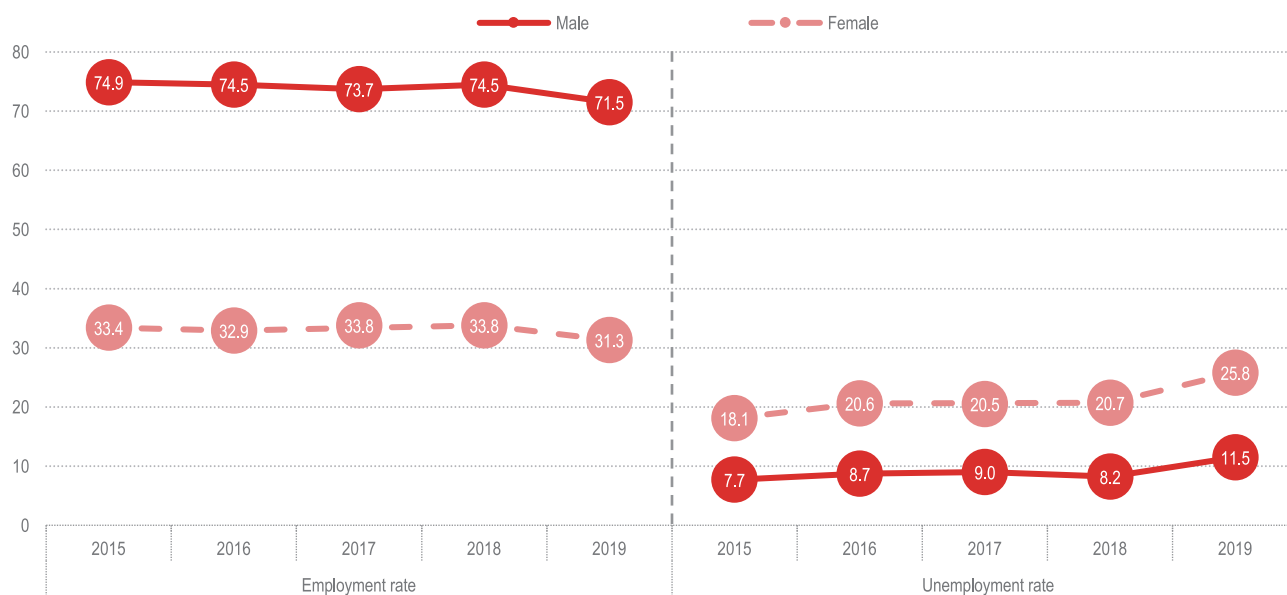
Source: The figure was prepared using TURKSTAT labor force statistics and data from the Outlook on Education 2019 report.

Figure B.5.5 shows the change in the employment and unemployment rates of those who are 15+ age group and equivalent vocational school graduates between the years 2015-2019 by gender. Between the years 2015-2019, the employment rate of males who graduated from high school equivalent vocational school decreased from 74.9% to 71.5% and the employment rate of females from 33.4% to 31.3%. Considering the unemployment rates, the unemployment rate of males who graduated from high school equivalent vocational schools increased from 7.7% to 11.5%, and the unemployment rate for females from 16.1% to 25.8% in 2015-2019. In general, in the last five years, the employment rates of females and males who graduated from high school equivalent vocational schools have decreased and unemployment rates have increased significantly. An increase of 9.7 points is observed in unemployment rates especially among females.

the ages of 25-34 in OECD countries in 2019 by gender. According to the average of OECD countries, the unemployment rate of males with vocational education is 6% and the rate of females is 9%. Turkey (10%), France (10%), Italy (11%), Spain (14%) and Greece (24%) have the highest unemployment rates for vocational high school graduate males. New Zealand, Switzerland, Australia, Austria, Germany, the United Kingdom, Poland, Norway, the Netherlands, Iceland, Hungary, Estonia, Sweden and Czech Republic have the lowest unemployment rates for males graduating from vocational secondary education among OECD countries with an unemployment rate of 3% or less. Turkey (25%), Greece (38%), Spain (18%), Italy (17%) and France (14%) have the highest unemployment rates for vocational secondary school graduate females among OECD countries. Canada, Switzerland, Austria, Germany, the United Kingdom, the Netherlands and Hungary have the lowest unemployment rates for females with vocational secondary education among OECD countries, with an unemployment rate of 5% or less.

Figure B.5.6 shows the unemployment rates of vocational secondary education graduates between

Figure B.5.5 Change in employment and unemployment rates of 15+ age group with high school equivalent vocational school graduates (%) (2015-2019)

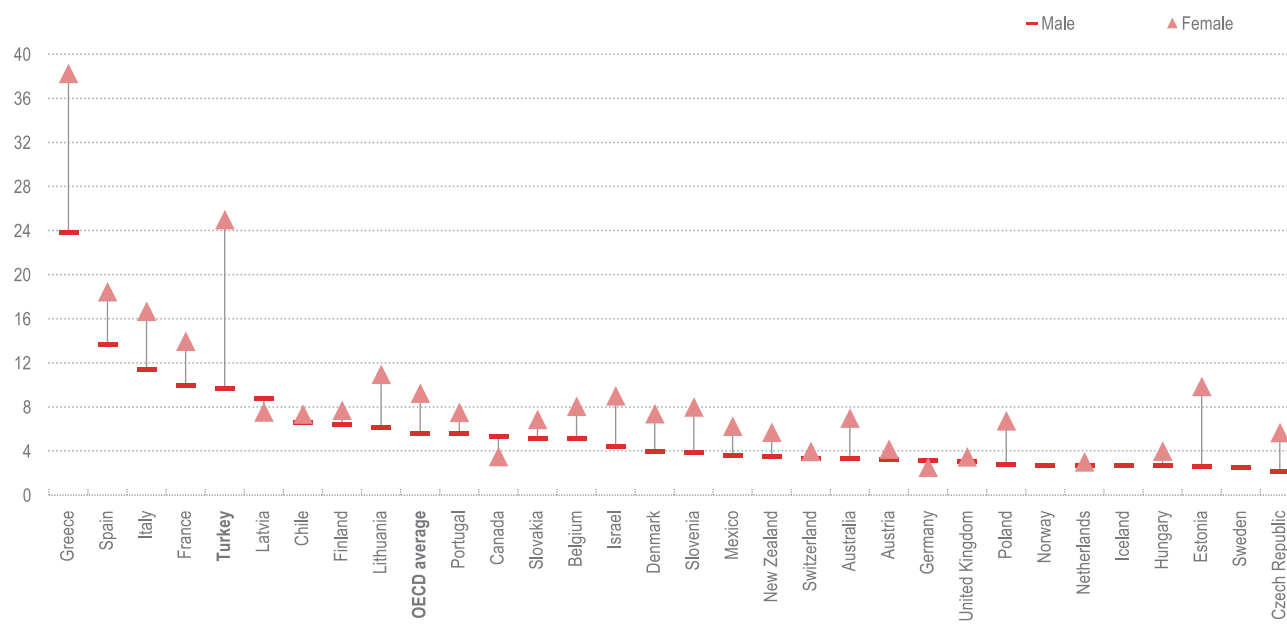


Source: The figure was prepared using TURKSTAT labor force statistics and data from the Outlook on Education 2019 report.

Figure B.5.7 shows the rate of those who are neither in employment nor education (NEET) between the ages of 20-24 in OECD countries in 2009 and 2019. In OECD countries, the rate of NEET fell from 18.7% to 15.2% between 2009-2019. The NEET rate between the years of 2009-2019 fell the fastest in the following countries: Turkey (from 48.1% to 33.3%), Israel (from 37.5% to

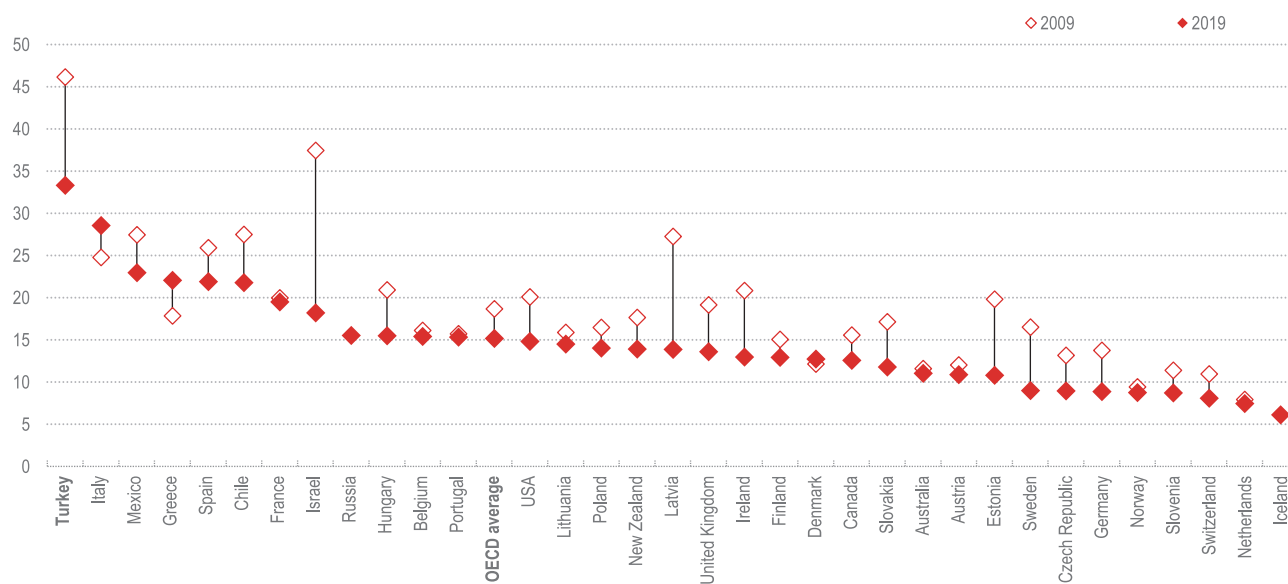
18.2%) and Latvia (27.3% to 13.9%). While Turkey's NEET rate has significantly decreased, NEET data for 2019 shows that it still ranks among the countries with the highest NEET rates. Sweden, Czech Republic, Germany, Norway, Slovenia, Switzerland, the Netherlands and Iceland have a NEET rate of less than 10%.

Figure B.5.6 Unemployment rate of 25-34 year-old vocational secondary education graduates by gender in OECD countries (%) (2019)



Source: OECD (2020).

Figure B.5.7 Proportion (%) of 20-24 year-olds neither at work nor in employment (NEET) in OECD countries (2009, 2019)

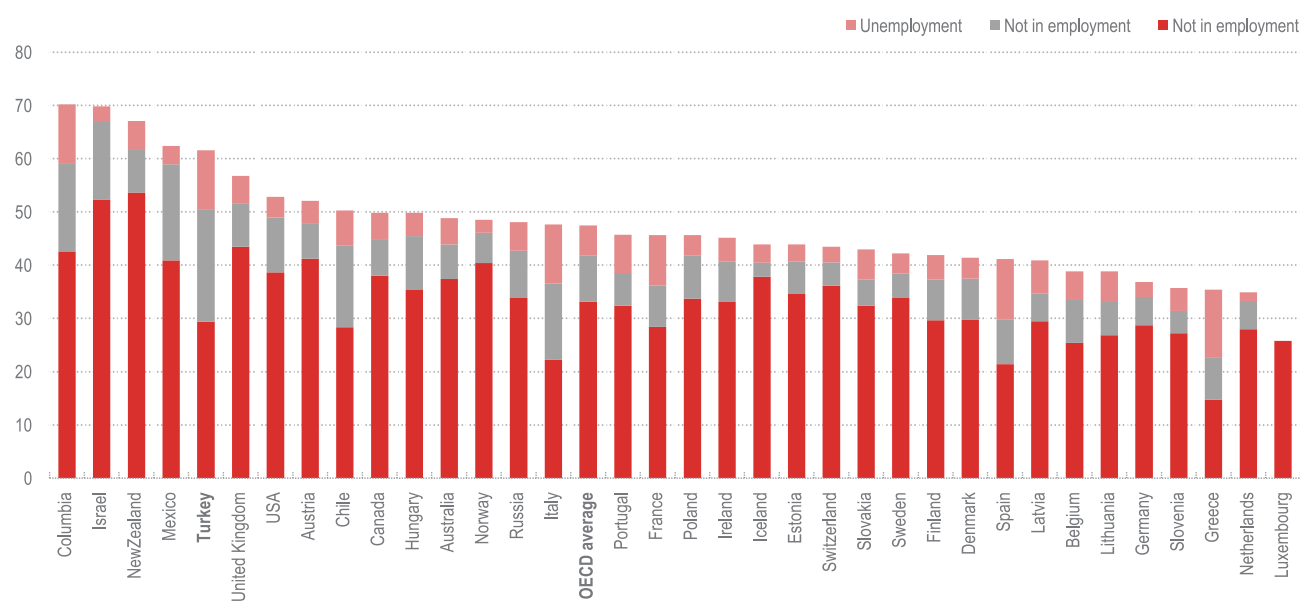


Source: OECD (2020).

Figure B.5.8 shows the distribution of those who are not in education between the ages of 18-24 in OECD countries in 2019 by the status of the labor market. According to the average for OECD countries, the total rate of those who are not in education is 47%. 33% of those who are not in education are in employment, 6% are unemployed and 9% are not in employment. The

distribution of the non-education population in Turkey is as follows: 29% are in employment, 11% are unemployed and 21% are not in employment. Compared to OECD countries, Turkey ranks among the highest in terms of those unemployed and not in education, while it ranks among the lowest in terms of those not in education and employed.

Figure B.5.8 Distribution of 18-24 year-olds not in education by labor market status in OECD countries (%) (2019)



Source: OECD (2020).

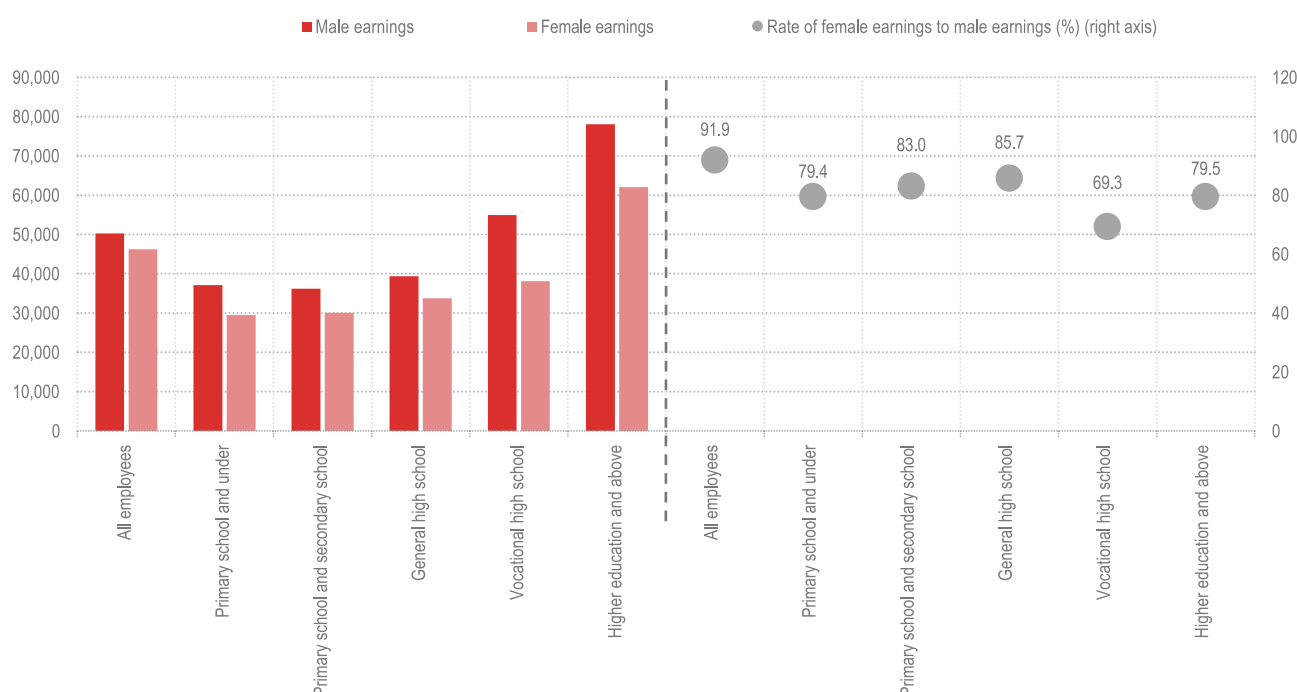


## HOW MUCH DO GENERAL HIGH SCHOOL AND VOCATIONAL HIGH SCHOOL GRADUATES EARN?

This indicator will use data from the Turkish Statistical Institute (TSI) Wage Structure Survey to analyze the annual average gross earnings of employees

with secondary education lower education levels in comparison to other OECD countries.

Figure B.6.1 Average annual gross earnings of employees by gender and education level (₺) (2018)



Source: Prepared using the data of TURKSTAT Earnings Structure Survey.

Figure B.6.1 shows the annual average gross earnings of employees for 2018 by gender and education level. This figure has been prepared using data from the TURKSTAT Earnings Structure Survey. According to this figure, the higher the education level for both genders, the higher the level of earnings. The earnings of primary school and below graduates are higher than primary and secondary school graduates. Men earn higher wages than women at all levels of education and all employees. General high school graduate men earn 39,344 TL, while women earn 33,177 TL. For vocational high school graduate men this amount is 54,970 TL and for women it is 38,096 TL. In general high schools, women earn 85.7% of the earnings of men, and women who are vocational high school

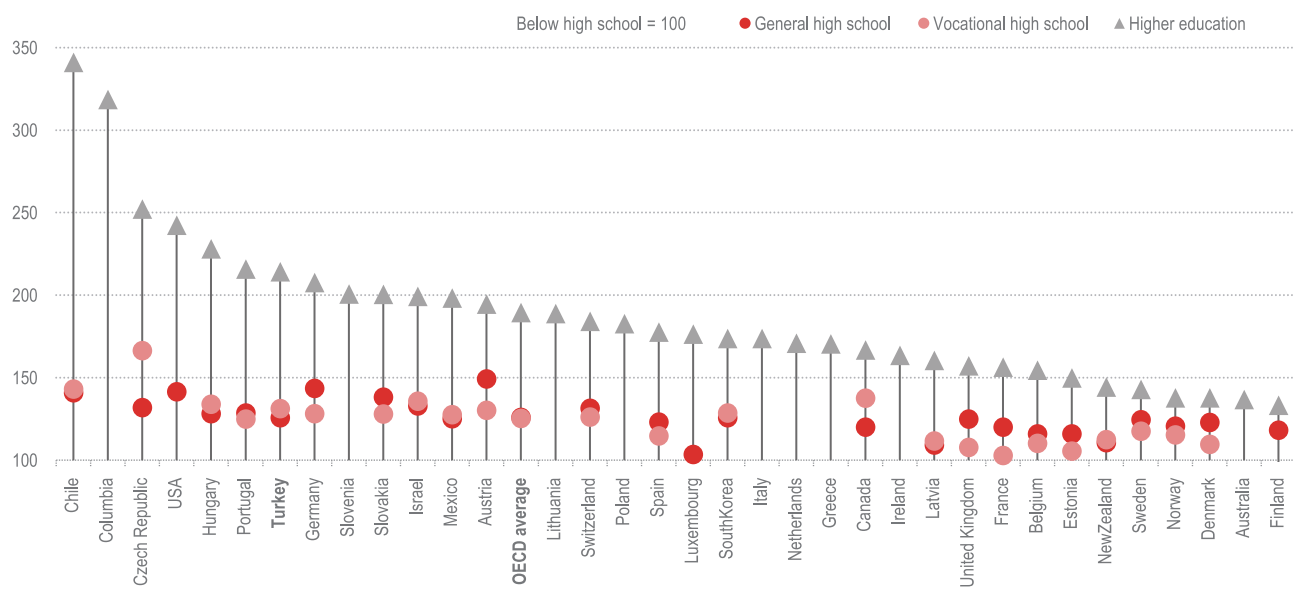
graduates earn 69.7% of the earnings of men. Vocational school graduate women and men earn higher wages than general high school graduates. In short, there is a difference in earnings between men and women against women in terms of all education levels (Gür & Yurdakul, 2020).

Figure B.6.2 shows the relative earnings of employees by education level in OECD countries for 2018. While making this calculation, the earnings of employees who are less than high school graduates are fixed to 100. Other education levels are calculated with reference to this figure. Compared to the average level of OECD countries, general high school graduates earn 126,

vocational high school graduates 125, and higher education graduates 189. High school graduates and vocational high school graduates working in Turkey earn between 131 to 126 compared to general high school graduates who have fewer relative earnings. Higher education graduates earn 214 relative earnings, more

than twice that of high school graduates, 1.6 times more than general high school and vocational high school graduates and 1.7 times more than general high school graduates. Turkey has the highest rate of differentiated earnings by education level compared to any other country.

Figure B.6.2 Relative earnings of employees by education level in OECD countries (below high school = 100) (2018)



Source: OECD (2020).

- After secondary education was included within the scope of compulsory education in 2012, the rate of graduation from secondary education increased significantly. The number of graduates from secondary education exceeded one million. Despite this increase, Turkey remains one of the countries with the lowest high school graduation rate in young people aged 25-34. Therefore, Turkey must continue its efforts to increase high school graduation rates and develop more effective policies for the regions in which the high school education rate is low. For this, more effective policies should be developed to reduce the dropout rates of particularly disadvantaged children and projects that prioritize increasing the graduation rates of this population should be developed.
- The number of applicants to the university entrance exam in Turkey is around 2.5 million. Only one third of the applicants at the senior level are placed in a program. Over the years, the gap between the number of candidates applying for the exam and those placed has widened. To put it more clearly, the problematic supply-demand balance in higher education placements is becoming an even bigger problem. The quotas allocated for higher education are growing in a very limited manner. This means that the number of candidates applying for higher education entrance exams will increase in the coming years. Another point that draws attention here is that only one out of every six candidates applying for higher education entrance exams is placed in an undergraduate program. Therefore, it is necessary to increase the number of higher education programs in a way to meet the social demand, especially to increase the quotas for undergraduate programs and allow the higher education system to grow.
- Approximately 600 thousand people who have been placed in or graduated from a higher education program take the higher education exams again. One-third of those who retake the exam are placed in a program again. This situation negatively affects the efficient use of higher education quotas. Therefore, establishing a system that will facilitate the transition of candidates who have been placed in a program to different programs will reduce the pressure on higher education entrance exams.
- Turkey's success in PISA 2018, has increased since PISA 2015 and PISA 2012. However, Turkey is still well below the level of performance and achievement demonstrated by the OECD average. The rate of students performing below the basic level is quite high, and the rate of students with high level performance is very low. In addition, the average net score of candidates in university entrance exams is also very low. This data shows that young people graduate from the education system in Turkey without having basic knowledge and skills. One of the most important traditional reasons for this situation is that students move up to upper grades levels without having the minimum knowledge and skills necessary to graduate from the system (Gür & Çelik, 2009). Therefore, we must

ensure that students acquire the basic knowledge and skills while moving to the next class or graduating. In this sense, robust compensation mechanisms should be established to support students and this system should be used effectively.

- PISA 2018 data shows that the difference in success between high school types is quite large. This shows that there is a clear stratification between high schools. Due to the TEOG placement system, an overly hierarchical education system was established. With the transition system to new high schools, excessive differentiation between schools is expected to decrease. With additional steps, schools should have a more heterogeneous student structure rather than an overly homogeneous student structure. A system in which student achievement is heterogeneously distributed and peer learning is performed better should be targeted.
- According to PISA 2018 data, the difference in success between regions is quite distinct. Overall, the level of success in PISA 2018 in Turkey gradually decreases from west to east. Therefore, priority should be given to disadvantaged regions in the distribution of physical and human resources in order to reduce inequality between regions.
- The unemployment rate for graduates has been increasing over time for general and vocational secondary education graduates in Turkey. Especially when compared with OECD countries in terms of general and vocational secondary school graduates the employment and unemployment rates in Turkey we can see that employment rates are quite low. Moreover, the rate of the young population that is neither in education nor employed is very high in Turkey, among the highest in terms of OECD countries. The high unemployment rates of vocational education graduates who receive training for employment the unemployment rates of general high school graduates point to the problems in the quality of the education provided in vocational education. Therefore, effective policies that improve the quality of vocational education and increase employment opportunities should be developed.

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# CHAPTER

# TEACHERS AND SCHOOL PRINCIPALS

INDICATOR	C1	What is the profile of teachers?
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It is widely accepted by educators, researchers and policy makers that teachers are the most important factor in determining the quality of education, is teachers. Teachers are the most fundamental element that will close the physical and technological deficiencies of teaching materials and schools and eliminate the disadvantage of disadvantaged children (Barber Mourshed, 2007 Çelik & Bozgeyikli, 2019; Darling-Hammond & Rotman, 2011; UNESCO, 2015; Yurdakul et al., 2016). Today, expectations from teachers and school principals have increased considerably. Teachers have many skills, such as having deeper knowledge about the subjects they teach, getting to know their students better, having the ability to examine and research, support their students socially, emotionally and economically, and cooperate with other teachers and their parents to raise students in a more qualified way requested. School principals are expected to optimize the school environment for education, to lead teachers in teaching, to support their professional development, and to be in strong in their cooperation with teachers and parents (OECD, 2019).

The key to a having a quality education system, is teachers and school principals. Therefore, their education, working conditions, wages, participation in professional development activities should be examined. The first section will analyze the profile of teachers. In this context, number of teachers in Turkey, and their age and sex ratio data will be examined and compared with Organization for Economic Cooperation and Development (OECD) data. The number of teachers will then be examined in relation to the demand situation in Turkey. For this, the number of newly appointed teachers, the number of students enrolled and graduated from faculties of education, and candidate teachers who take the Public Personnel Selection Examination (KPSS) will be presented. Then, how the salaries of teachers and school principals differ according to the levels and experience will be analyzed. Finally, the responsibilities of teachers and school principals will be presented in comparison with OECD countries.

## WHAT IS THE PROFILE OF TEACHERS?

This indicator will examine the number of teachers in Turkey in public and private institutions. Then, the proportional distribution of female teachers according to

level and change over time will be discussed. Finally, the ratio of female teachers will be presented in comparison with OECD countries.

Figure C.1.1 Trends in the number of teachers by grade (2015-2019)



Source: The figure was prepared using MoNE statistics published in various years and data from the Outlook on Education 2019.

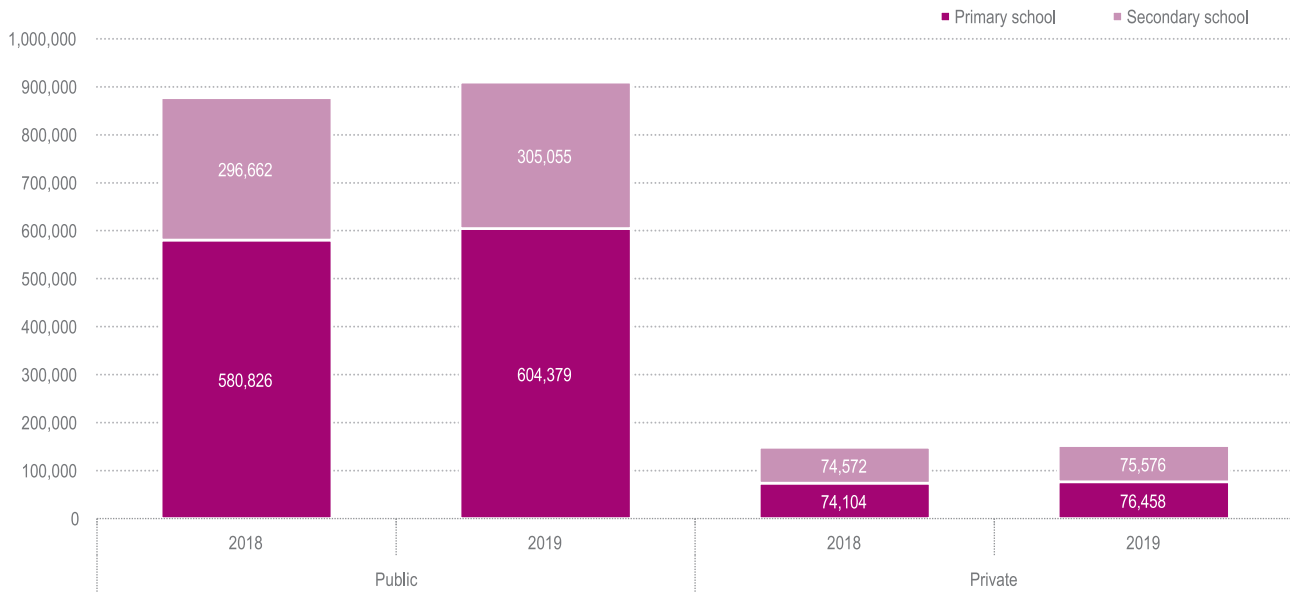
Figure C1.1 shows the trends in teachers between the years 2015-2019. The number of teachers in all levels and in total has increased regularly every year. Between the years 2015-2019, the number of preschool teachers went from 72,228 to 98,825; the number of teachers in primary education from 587,864 to 638,230; the number of teachers in secondary education from 333,702 to 380,631; and in total, the number of teachers increased from 993,794 to 1,117,686.

Figure C.1.2 shows the number of teachers in public and private primary and secondary schools for 2018 and 2019. From 2018 to 2019, the number of teachers

in public primary schools increased from 580,826 to 604,379, in private primary schools from 74,104 to 76,458; in secondary education, it increased from 296,662 to 305,055 in public schools and from 74,572 to 75,576 in private schools. The striking point here is that the number of teachers working in public primary education schools is almost twice the number of teachers in public secondary education schools, while the teachers working in private primary and secondary education institutions are similar. This situation shows that the density of private schools in secondary education is higher than in primary education.



Figure C.1.2 Number of teachers in public and private primary and secondary schools (2018 and 2019)

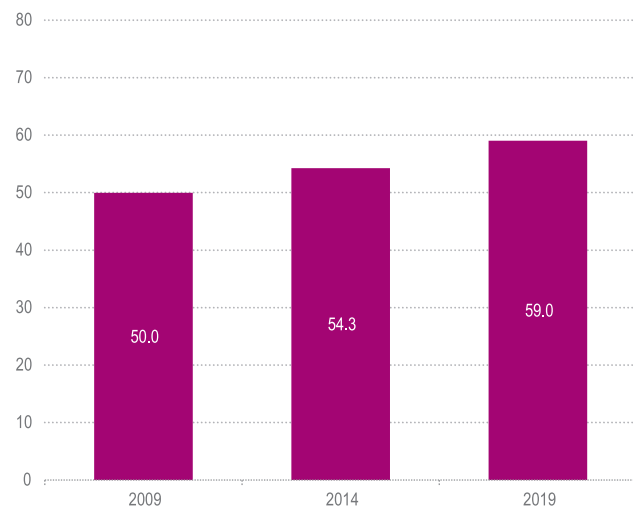


Source: Prepared using MoNE statistics.  
 Note: Preschool is not included.

Figure C.1.3 shows the change in the ratio of female teachers in 2009, 2014 and 2019. The ratio of female teaching staff, which was 50% in 2009, has increased continuously over the years to 54.3% in 2014 and 59% in 2019. The main reason for this is that most of the newly appointed teachers in recent years are female. Considering the high proportion of women among new enrollments (see Figure C.2.4) and graduates (see Figure C.2.5) in faculties of education, it is expected that the ratio of female teachers will increase in the coming years (Çelik et al., 2019).

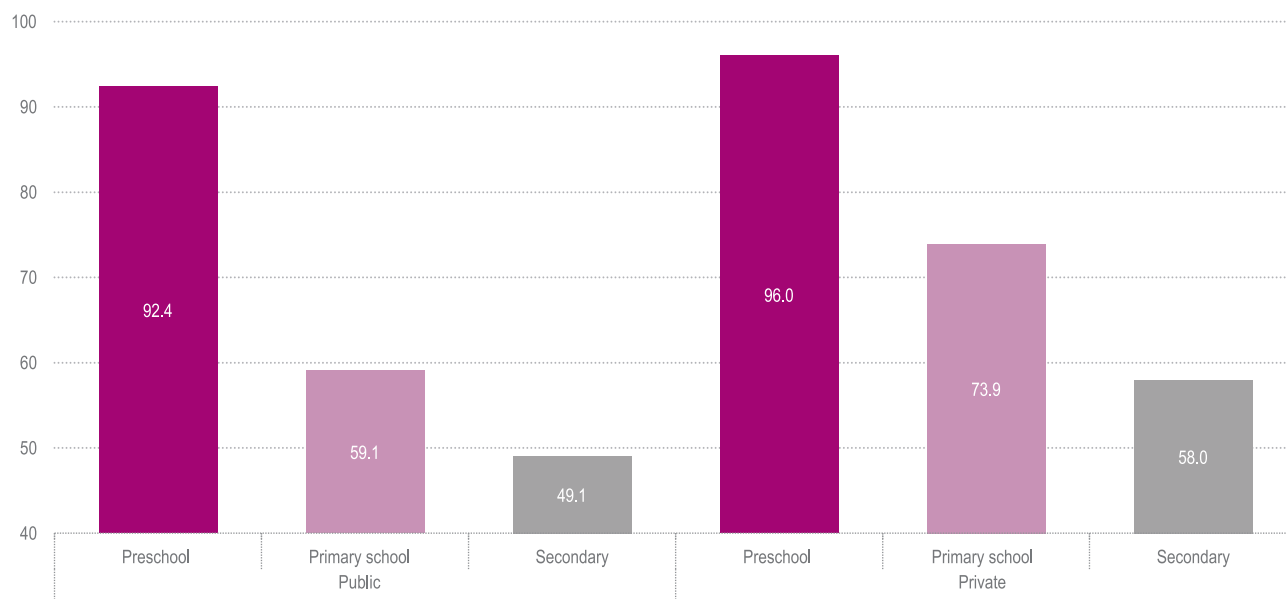
In Figure C.1.4, the ratio of female teachers in public and private schools in 2019 is shown. In 2019, 92.1% of preschool teachers, 59.1% of primary education teachers and 49.1% of secondary education teacher in public schools were female. In private education schools, 96% of preschool teachers, 73.9% of primary education teachers and 58% of secondary education teachers were female. The rate of female teacher is higher in private education schools compared to public schools. In addition, the higher the education level, the lower the rate of female teachers in both public and private education schools.

Figure C.1.3 Change in the ratio of female teachers (%) (2009, 2014 and 2019)



Source: Prepared using MoNE statistics published in various years.

Figure C.1.4 Ratio of female teachers by grades in public and private schools (%) (2019)



Source: Prepared using MoNE statistics published in various years.

In Figure C.1.5, the ratio of female teaching staff in OECD countries in 2018 is shown. The ratio of female teachers among kindergarten teachers in 2018 is 96% in OECD countries. Turkey remains below this average with 95%. 100% of kindergarten teachers in Czech Republic, Slovakia and Hungary; 99% of kindergarten teachers in Austria, Chile, Estonia, Greece, Ireland, Israel, Italy, South Korea, Latvia, Lithuania and Portugal are female. On the other hand, Denmark (89%), France (91%) and Norway (92%) are the countries with the lowest proportion of female teachers at the kindergarten level. According to the average for OECD countries, 82% of teachers working at primary school level are women. Lithuania (97%), Hungary (96%), Italy (96%), Czech Republic (94%) and Austria (92%) have the highest levels of female teachers at the primary education level, while Turkey (62%), Japan (64%), Denmark (68%) and Mexico (69%) have the lowest proportions of female teachers in primary school. The average of teachers working at secondary school level in OECD countries is 67%. The countries with the highest ratio of female teachers working in secondary schools are Latvia with 85%, Estonia with 83%, Lithuania and Estonia with 82%. The countries with the lowest female employees in middle school are Japan with 43%, Colombia with 51%, Luxembourg with 54%, Mexico, Netherlands, Turkey and Switzerland with

56% and 57%. The ratio of female teachers working at secondary education level is 60% in OECD countries. The countries with the highest share of female teachers working in secondary education are Latvia with 80%, Lithuania with 79%, Canada with 75% and Slovakia with 72%. The countries with the lowest rates for female teacher in secondary education are Japan with 31%, 45% in Switzerland, and Turkey with 49% and 50% in Mexico and Colombia. The most striking point in this table is that the ratio of female teachers at all levels is high in most OECD countries, and the ratio of female teachers in all countries decreases as the levels rise from pre-primary to secondary education.

Figure C.1.6 shows the age distribution of teachers in OECD countries in 2018. According to the average of OECD countries, 11% of the teachers are under the age of 30, 54% are between 30-49 and 35% are 50 and over. The highest percentage of teachers under 30 years are in the United Kingdom (23%), Chile (19%), Turkey (18%), Japan and Belgium (16%). The countries with the lowest rate of teacher under 30 years old are Portugal (1%), Italy (2%), Greece and Lithuania (4%). Turkey (70%), Costa Rica (67%), Ireland (65%), South Korea and Canada (65%) are the countries with the highest percentage of teachers between 30-49 years of age. Italy (39%), Estonia (42%),

Table C.1.5 Rate of female teachers by grades in OECD countries (%) (2018)

	Preschool	Primary school	Secondary school	Secondary education
Iceland	94	83	82	-
Latvia	99	92	85	80
Lithuania	99	97	82	79
Canada	-	75	-	75
Slovakia	100	90	76	72
Israel	99	86	79	70
Ireland	99	85	-	70
Estonia	99	90	83	70
Portugal	99	81	72	69
Slovenia	97	89	-	67
Poland	98	83	75	66
Italy	99	96	77	64
Hungary	100	96	77	63
Belgium	97	83	64	63
New Zealand	97	84	67	61
Finland	97	80	75	61
United Kingdom	96	86	63	60
Czech Republic	100	94	78	60
France	91	83	61	60
<b>OECD average</b>	<b>96</b>	<b>82</b>	<b>67</b>	<b>60</b>
USA	94	87	67	58
Costa Rica	94	79	57	57
Germany	95	87	66	56
Chile	99	81	68	56
Austria	99	92	72	56
Spain	93	77	60	56
Luxembourg	96	76	54	55
Norway	92	74	74	55
Greece	99	72	67	54
Netherlands	88	87	54	54
Sweden	96	82	65	54
South Korea	99	78	71	53
Denmark	89	68	62	51
<b>Turkey</b>	<b>95</b>	<b>62</b>	<b>57</b>	<b>50</b>
Columbia	97	77	51	49
Mexico	96	69	54	49
Switzerland	97	83	56	45
Japan	97	64	43	31

Source: OECD (2020).

Note: A full census has been made, including public and private schools.

Austria (43%), Lithuania (44%), Latvia (45%) and Greece (46%) are the countries with the lowest proportion of teachers aged 30-49. Turkey (12%), the United Kingdom (20%), Ireland (22%), Luxembourg and Costa Rica (23%) and South Korea (24%) are the countries with the lowest rate of teachers 50 years and older. On the other hand, Italy (59%), Lithuania (53%), Greece and Estonia (49%)

are the countries with the highest rate of teachers aged 50 and over. According to this table, among OECD countries, Italy, Estonia, Lithuania and Greece are the countries with the oldest teacher populations, and Turkey is one of the countries with the youngest average teacher age.

Table C.1.6 Distribution of teachers' ages in OECD countries (%) (2018)

	30 and under	30-49 year	50 and above
<b>Turkey</b>	<b>18</b>	<b>70</b>	<b>12</b>
Costa Rica	9	67	23
Ireland	13	65	22
Canada	10	63	27
South Korea	13	63	24
Israel	12	62	26
Luxembourg	15	62	23
France	11	61	29
Poland	6	60	34
Spain	6	58	36
Slovenia	7	58	35
United Kingdom	23	56	20
Finland	7	56	37
Portugal	1	56	43
Chile	19	55	25
Belgium	17	55	28
USA	15	55	30
Slovakia	8	55	37
<b>OECD average</b>	<b>11</b>	<b>54</b>	<b>35</b>
Sweden	8	53	38
Norway	16	52	32
Germany	7	52	41
Denmark	12	52	36
Hungary	5	52	44
Switzerland	13	52	36
Columbia	11	51	37
Japan	17	50	32
Czech Republic	7	48	44
New Zealand	12	48	40
Netherlands	14	47	39
Greece	4	46	49
Latvia	9	45	45
Lithuania	4	44	52
Austria	13	43	44
Estonia	9	42	49
Italy	2	39	59

Source: OECD (2020).

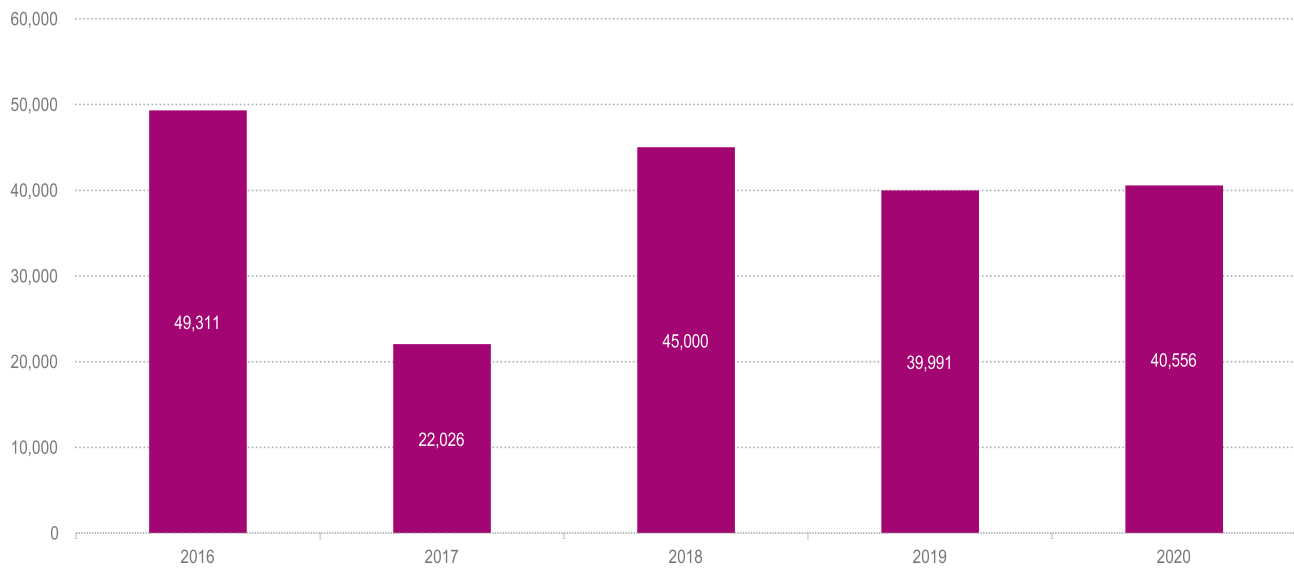
Note: A full census has been made, including public and private schools.

## WHAT IS THE TEACHER SUPPLY AND DEMAND SITUATION?

This indicator will examine the number of teachers assigned to public schools and their distribution by fields, the proportional distribution of teachers appointed by

regions, the number of new enrollments and graduates in faculties of education, and the number of candidates participating in the KPSS educational sciences test.

Figure C.2.1 Trends in the number of teachers assigned to public schools (2016-2020)



Source: The figure was prepared using MoNE statistics published in various years and data from the Outlook on Education 2019.

Figure C.2.1 shows the trends in the number of teachers assigned to public schools between 2016-2020. A total of 196,884 teachers were assigned in the last five years. While around 50 thousand new teachers assignments were made in 2016, this number decreased to around 40 thousand in the last two years. Table C.2.2 shows

the distribution of newly appointed teachers by fields in 2019 and 2020. We can see that most appointments are made to primary school teacher, English, religious culture and ethics, preschool and primary school mathematics teachers.

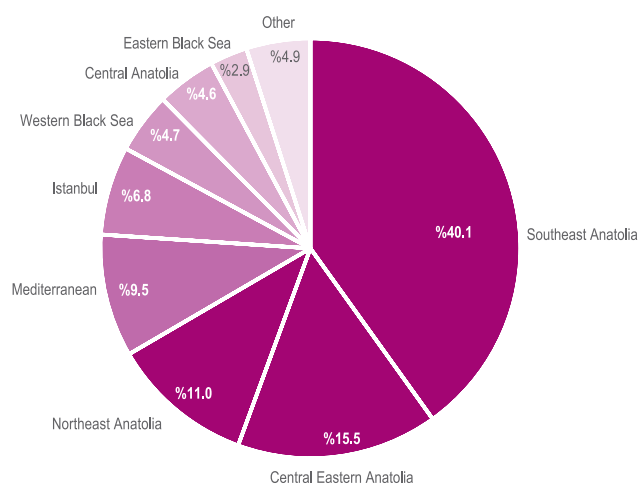
Table C.2.2 Distribution of assigned teachers by field (2019 and 2020)

Field name	Assignment number
Primary school teacher	10,931
English	7,501
Religion and ethics	7,500
Preschool teacher	6,262
Primary school mathematics	6,257
Turkish	4,865
Guidance	4,821
Special education	4,635
Science and technology	4,112
Physical education	3,201
Social sciences	2,597
Mathematics	2,150
Turkish literature	1,758
Imam Hatip vocational	1,637
Music	1,482
Art	1,382
History	1,347
Information technologies	1,190
Arabic	1,086
Physics	813
Chemistry	790
Philosophy	674
German	641
Geography	592
Other	2,323
<b>Total</b>	<b>80,547</b>

Source: MoNE Personnel General Directorate (2020).

Figure C.2.3 shows the proportional distribution of 39,827 teachers who were assigned contracts in 2020, by region. Two out of every five newly appointed contracted teachers have been appointed to the Southeastern Anatolia Region. Two-thirds of the newly appointed contracted teachers were assigned to the Southeast Anatolia, Central Eastern Anatolia and Northeast Anatolia regions. The rate of newly appointed contracted teachers in West Anatolia, West Marmara, East Marmara and Aegean regions is below 5%.

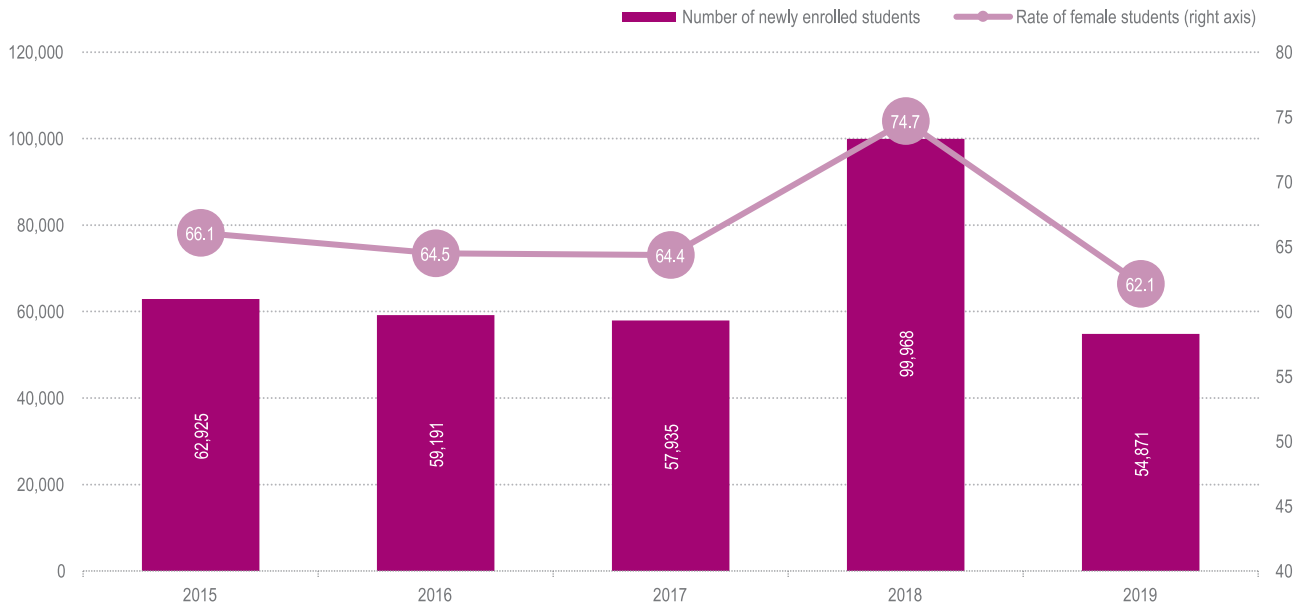
Figure C.2.3 Proportional (%) distribution of 39,827 teachers appointed on a contract basis by region (2020)



Source: MoNE Personnel General Directorate (2020).

Note: 729 handicapped teacher appointments made in 2020 are not included.

Figure C.2.4 The number of new enrollments in faculties of education and the trends in the ratio of female students (2015-2019)

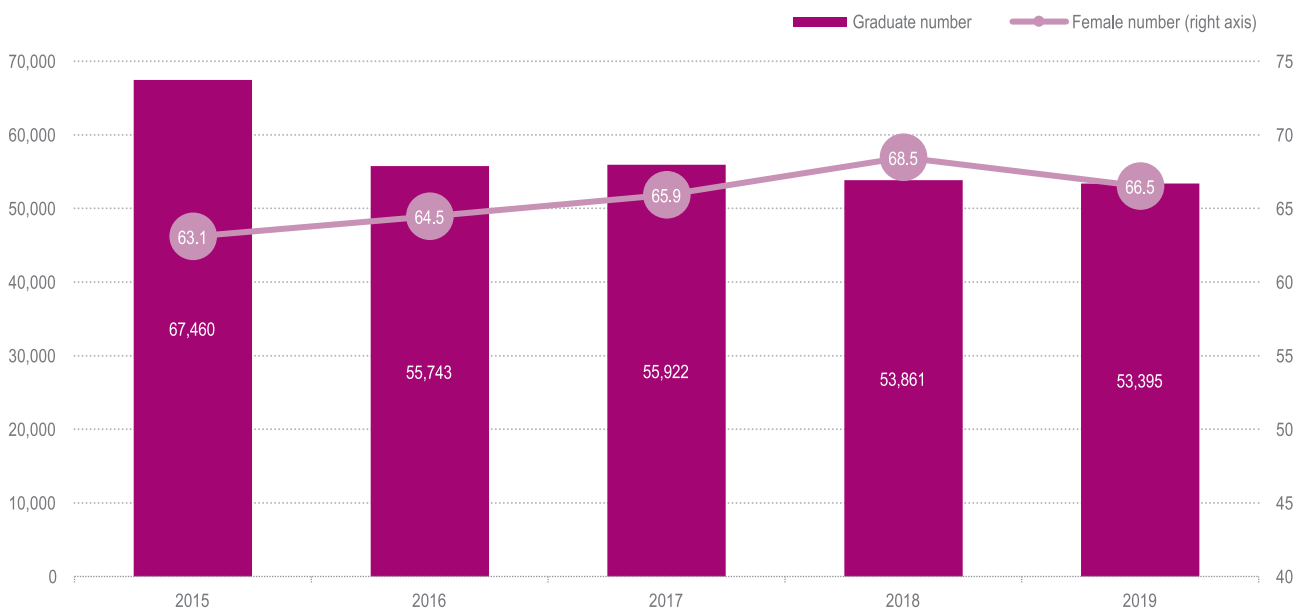


Source: The figure was prepared using MoNE statistics published in various years and data from the Outlook on Education 2019.

Figure C.2.4 shows the trends in the number of new students enrolled in faculties of education and the ratio of female students between 2015-2019. The number of students enrolled in faculties of education between 2015-2019 decreased from 62,925 to 54,871. Compared to 2018, the number of new registrations has almost

been halved. The reason for this is that 39 thousand people were newly enrolled in the child development department of Istanbul University Open and Distance Education Faculty in 2018 (Çelik et al., 2019). When 2018 is excluded, the rate of female students newly enrolled in faculties of education between 2015 and 2019 decreased

Figure C.2.5 Trends in the number of graduates from faculties of education and the rate of females who graduated (2015-2019)



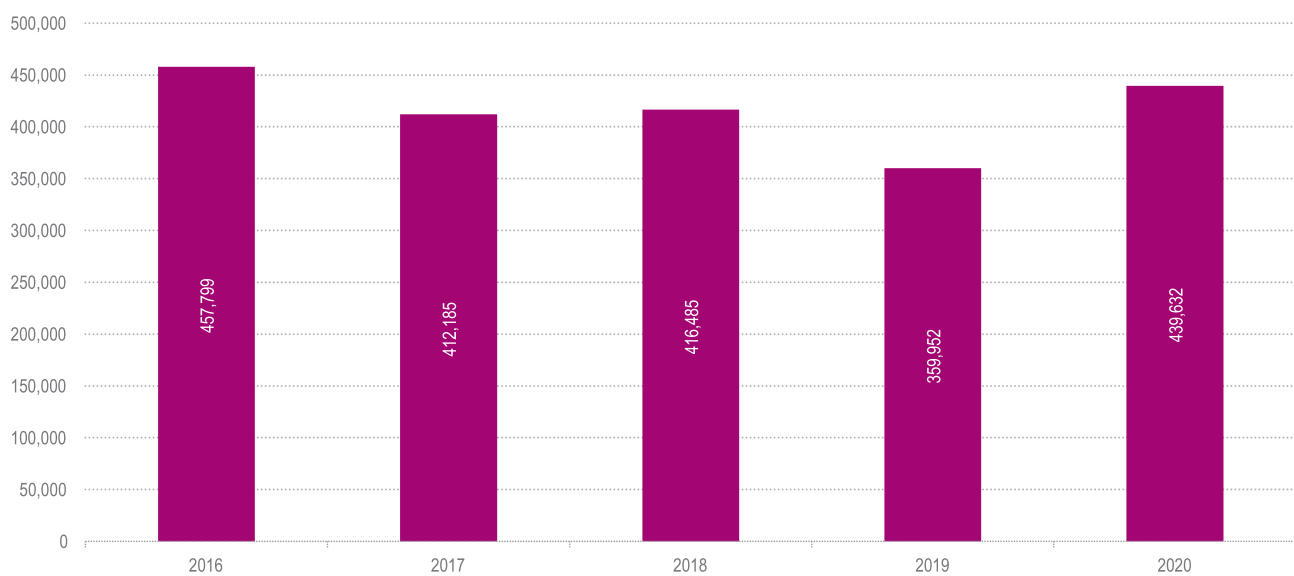
Source: The figure was prepared using MoNE statistics published in various years and data from the Outlook on Education 2019.

from 66.1% to 62.1%. Although the proportion of women newly enrolled in faculties of education remains high, it still exhibits a decreasing trend.

Figure C.2.5 shows the number of graduates from faculties of education and the trends in the rate of women graduating between 2015-2019. Between the years of 2015-2019, there has been a continuous

decrease in the number of people graduating from faculties of education and the number of graduates has decreased from 67,460 to 53,395. The proportion of women among those who graduated between these years has increased from 63.1% to 66.5%. In other words, two out of every three people who graduated from faculties of education in the 2019-2020 academic year are women.

Figure C.2.6 Trends in the number of candidates taking the KPSS educational science test (2016-2020)



Source: The figure was prepared using MoNE statistics published in various years and data from the Outlook on Education 2019.

Figure C.2.6 shows the trends in the number of candidates taking the KPSS educational sciences test between 2016-2020. The number of candidates taking the KPSS educational sciences test has followed a fluctuating course over the years. While 457,799 candidates entered the KPSS educational sciences exam in 2016, the number of candidates who took the exam until 2019 has generally decreased. However, this rate showed a rapid increase in 2020 compared to the previous year and reached 439,632.

According to data from the last five years, Turkey continues to appoint new teachers at an annual average of around 40 thousand. We can see that the number of newly enrolled students in faculties of education, which is the most important source of teaching, displays

a decreasing trend. The number of newly enrolled students in faculties of education has dropped to around 55 thousand. Although there is a decrease in the rate of female students in new student enrollments in faculties of education except in 2018, nearly two thirds of the new enrollments are women. The number of graduates from faculties of education also tends to decrease over the past five years. The number of new graduates has decreased to 53.5 thousand and two thirds of these are women. On the other hand, the number of people taking the KPSS educational sciences is around 440 thousand. This data indicates that a significant compliance problem still exists in terms of the supply-demand balance in Turkey. Current data show that this supply-demand problem will continue to exist in the coming years.



## WHAT ARE THE SALARIES OF TEACHERS AND SCHOOL PRINCIPALS?

This indicator will examine how teachers' salaries differ according to experience and level in comparison to

OECD countries. Then, the salaries of school principals is analyzed comparatively with OECD countries.

Figure C.3.1 Annual salaries of secondary school teachers by career level in OECD countries (\$), considering purchasing power parity (2019)



Source: OECD (2020).

Figure C.3.1 shows the annual salaries of secondary school teachers in OECD countries according to their career levels in 2019 are shown taking into consideration purchasing power parity. Purchasing power parity is the exchange rate that equates the purchasing power of different currencies of the basket of goods and services defined in detail. The first point that strikes attention is that the salaries of teachers vary greatly across countries. Secondly, all countries show great variation in the starting salary and the salaries of secondary school teachers with 15 years of experience. Denmark, Iceland, Turkey, and Sweden do not show large variances in salary among those with 15 years of experience and beginners. Among the OECD Turkey has the least difference between starting salaries and salaries at up to 15 years of experience. The salary of secondary school teachers with 15 years

of experience is 1.4 times the starting salary, compared to the average in OECD countries. The highest starting salary of secondary school teachers in OECD countries are in Luxembourg (\$79.7 thousand), Germany (\$69.7 thousand), Switzerland (\$67 thousand) and Denmark (\$50.5 thousand). Among the OECD countries, the countries with the lowest starting salary for teachers are Costa Rica (14.5 thousand \$), Slovakia (15 thousand \$), Latvia (15 thousand \$) and Hungary (16 thousand \$). Turkey is below the OECD average of (\$35 thousand) and has a starting salary of average of (\$29.4 thousand) Teachers with 15 years of experience have the highest annual salaries in Luxembourg (\$110.6 thousand), Germany (\$84.5 thousand), the Netherlands (\$80 thousand), Australia and the USA (\$65 thousand). Meanwhile, Hungary (\$20.9 thousand), Slovakia (\$21 thousand), Greece (\$26.8 thou-

Table C.3.2 15-year teachers' salaries by grade in OECD countries, considering purchasing power parity (\$) (2019)

	Preschool	Primary school	Secondary school	Secondary education
Luxembourg	102,630	102,630	110,573	110,573
Germany	-	77,638	84,497	88,893
Netherlands	64,867	64,867	77,936	77,936
Canada	-	70,698	70,698	70,698
Australia	64,926	64,926	65,028	65,028
USA	61,235	61,145	65,086	64,244
Mexico	34,089	34,089	43,586	63,992
Ireland	-	62,179	62,781	62,781
Denmark	49,466	57,859	58,416	62,537
Austria	-	53,952	56,624	61,927
South Korea	56,587	56,587	56,648	55,920
Spain	48,760	48,760	54,408	54,408
Norway	41,633	48,481	48,481	53,029
United Kingdom	51,520	51,520	51,520	51,520
New Zealand	-	50,967	50,967	50,967
<b>OECD average</b>	<b>42,821</b>	<b>46,801</b>	<b>48,562</b>	<b>50,701</b>
Finland	34,050	43,345	46,813	50,023
Japan	-	49,133	49,133	49,133
Sweden	44,261	46,850	48,192	48,576
Scotland	47,761	47,761	47,761	47,761
Iceland	43,434	43,134	43,134	46,756
Portugal	43,681	43,681	43,681	43,681
Slovenia	41,848	43,415	43,415	43,415
Italy	37,735	37,735	41,084	42,227
France	38,173	38,173	39,814	39,814
Columbia	38,736	38,736	38,736	38,736
Chile	35,034	35,034	35,034	36,249
Israel	36,881	32,165	35,571	34,930
Costa Rica	31,499	31,816	32,802	32,802
Lithuania	24,799	32,102	32,102	32,102
<b>Turkey</b>	<b>31,359</b>	<b>31,359</b>	<b>31,359</b>	<b>31,359</b>
Poland	27,879	27,879	27,879	27,879
Greece	26,782	26,782	26,782	26,782
Czech Republic	23,671	26,425	26,425	26,425
Hungary	20,890	20,890	20,890	23,211
Slovakia	15,389	21,040	21,040	21,040

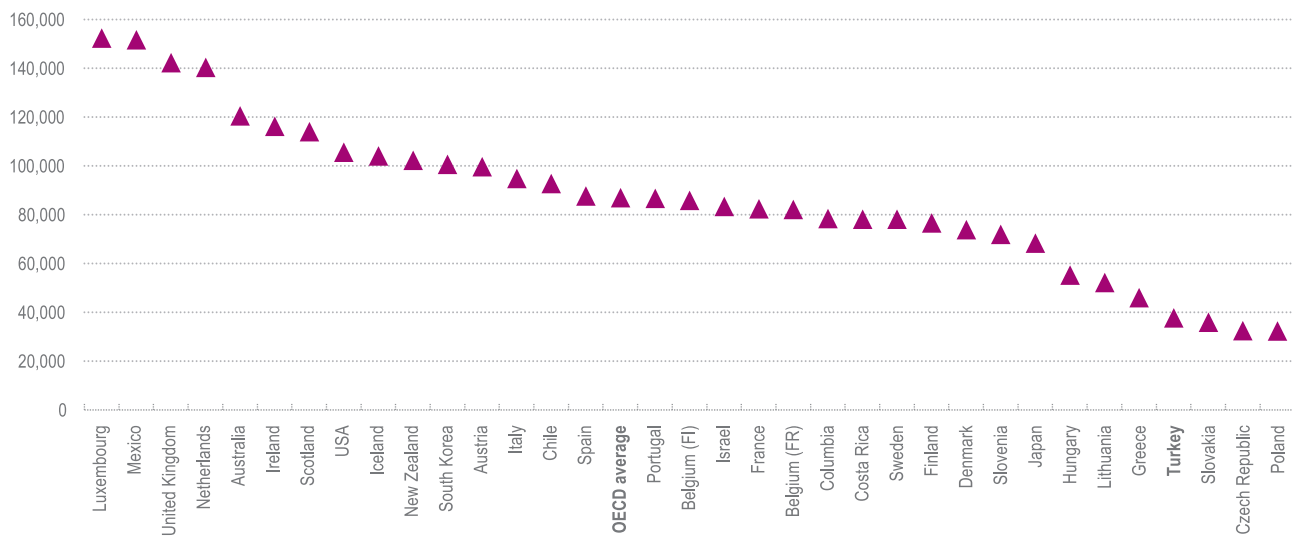
Source: OECD (2020).

sand) and Turkey (\$31.4 thousand) are the countries that pay the lowest wages. The average salary of teachers with 15 year of experience in Turkey is well below the OECD average (\$48.6 thousand).

Considering purchasing power parity, Table C.3.2 shows the annual salaries of teacher in 15 years of experience in OECD countries in 2019. In OECD countries, as grade level progresses from pre-primary to secondary education,

teaching salaries also increase. According to the average of OECD countries, teachers with 15 years of experience earn \$42.8 thousand in preschool, \$46.8 thousand in primary school, \$48.5 thousand in secondary school and \$50.7 thousand in secondary education. Table C.3.2. shows that salaries in Scotland, England, Turkey, Poland and Greece have not been specified. In the pre-school salary Japan, Ireland and New Zealand salaries of teachers at all levels are the same. In countries such

Figure C.3.3 Highest annual statutory salaries of secondary school principals in OECD countries considering purchasing power parity (\$) (2019)



Source: OECD (2020).

as Austria, Denmark, Finland, Germany, Luxembourg, Mexico, the Netherlands, Norway and Spain, the wage difference between levels is considerably higher than in other countries.

Considering the purchasing power parity, Figure C.3.3 shows the highest annual legal salaries of middle school principals in OECD countries in 2019. Legal salaries refer to salaries planned according to official salary scales (OECD,

2020). In OECD countries, the countries in which school principals receive the highest salaries are Luxembourg, Mexico, England and the Netherlands. In these countries, principals earn more than \$140 thousand a year. On the other hand, Turkey, Slovakia, Czech Republic, and Poland offer the lowest salaries among OECD countries at about \$40 thousand. The annual salary of secondary school principals in Turkey is well below the OECD average (\$87 thousand).

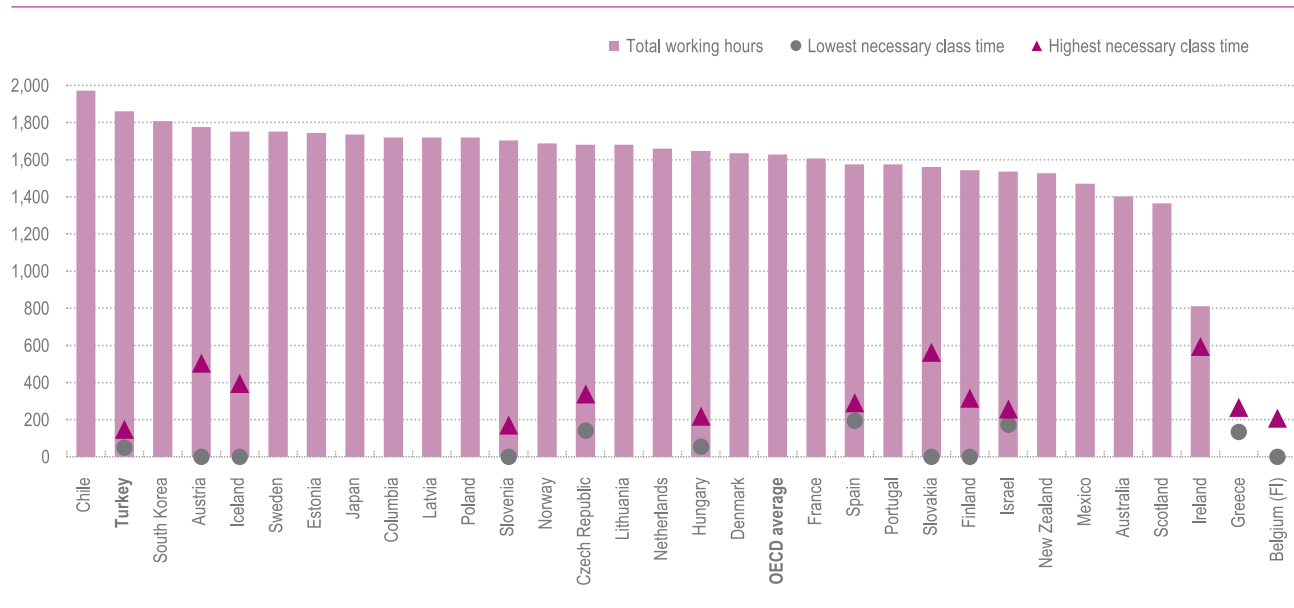
## WHAT ARE THE WORKING HOURS OF SCHOOL PRINCIPALS?

This indicator will examine the time that principals spend teaching and their total working time in comparison with OECD countries.

Figure C.4.1 shows the annual education period and total working time of school principals at the secondary school level in OECD countries in 2019. School principals are not expected to attend classes in most OECD countries. In Turkey, Czech Republic, Hungary, Spain and Israel, school principals are required to teach a minimum

number of courses. In addition to these countries, Austria, Iceland, Slovenia, Slovakia, Finland, Ireland and Belgium (Flemish Community) school principals have a defines teaching time. Looking at the total working time in OECD countries, school principals work an average of 1,628 hours per year. In Turkey, Chile, South Korea, Austria, Iceland and Sweden the working hours of school principals are the highest. In Belgium (Flemish Community), Greece, Ireland and Scotland and Australia, school principals less hours.

Figure C.4.1 Annual teaching time for school principals at secondary level in OECD countries and total working time (hours) 2019



Source: OECD (2020).

Note: Calculated over 60 minutes.

- Most of those newly enrolled in and graduated from faculties of education are women. Moreover, women make up three to five percent of teachers in Turkey. Considering that the rate of women in the system has increased in recent years, it is expected that the number of female teachers will increase in the coming years. However, despite the high number of female teachers, the rate of school principals is low (Kurnaz-Baltacı et al., 2020). Therefore, it is necessary to increase the number of female principals and develop incentive policies for women to become principals.
- 440 thousand people participated in the KPSS educational sciences test, and more than 50 thousand people have newly enrolled and graduated from faculties of education. In recent years, approximately 40 thousand teaching appointments have been made. When this data is taken into consideration, we can see that there is an important incompatibility problem between the teacher supply and demand. In order to solve the problem between this supply and demand, the annual number of appointments should be increased by considering the existing candidate teachers and realistic career goals should be set for the candidate teachers.
- Compared with other OECD countries, the starting salary of teachers in Turkey is low. In OECD countries, salaries increase as professional experience increases. However, the salaries of newly appointed teachers and experienced teachers in almost the same in Turkey. The salary of teachers affects many issues such as interest in the profession, staying in the profession, and the preference of more qualified candidates to become teachers. Therefore, in order to include more qualified candidates in the system and increase the professional satisfaction of teachers in the system, it is necessary to increase the salaries of teachers in general and to establish a system that provides salary increases according to professional experience.
- In Turkey, school principals work the most in terms of hours, but receive the lowest salaries among OECD countries. Therefore, it is important to increase the salaries of school principals.



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# CHAPTER **D**

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## EDUCATION-TEACHING ENVIRONMENTS

INDICATOR	D1	What is the number of schools, divisions and classrooms?
INDICATOR	D2	What is the average size of school, class, and division?
INDICATOR	D3	What is the student-teacher ratio?
INDICATOR	D4	What is the number of students in bussed-school?
CHAPTER	D	Recommendations



One of the important indicators determining the quality of education in a country is the quality of the environments in which educational activities are carried out. Data regarding the education-teaching environment in an education system provides important information in terms of showing how the available resources are used and to what extent they are equally distributed. In addition to the number of schools, classrooms and divisions in the education system, the average size of class and student-teacher ratio provides information on how learning environments in the system keep up with developments, how the budget spent on education is managed and which areas require investments (Çelik et al., 2019). In other words, education and teaching environments are the visible face of education policies in a country.

This chapter will examine the current situation of the education-teaching environment in our country. In this context, some indicators related to the number of schools, classrooms and units in our country and the average size of school, division, and class, student-teacher ratio have been shared and some indicators related to bussed school rates have been discussed.



## WHAT IS THE NUMBER OF SCHOOLS DIVISIONS AND CLASSROOMS?

This indicator will examine the number of schools, divisions and classrooms. Then, the change in the number of public and private schools in different levels and types in the last five years is discussed. Subsequently, the number of classrooms and units according to levels

is analyzed in detail. The situation in the number of classrooms and divisions at the secondary education level is assessed according to school type. Lastly, the change in the number of new classrooms between 2015 and 2019 at different levels is considered.

Table D.1.1 Number of schools / institutions by level (2015-2019)

Year	Preschool		Primary school		Middle school		General secondary education		Vocational and technical secondary education		All Levels Total
	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private	
2015	3,074	3,714	25,133	1,389	15,788	1,555	2,807	2,504	4,820	419	61,203
2016	3,951	4,291	24,249	1,274	16,475	1,414	2,944	2,208	5,076	368	62,250
2017	4,855	5,218	23,349	1,618	16,876	1,869	3,111	2,606	5,683	383	65,568
2018	5,317	5,352	22,931	1,808	16,875	2,060	3,066	3,176	5,851	413	66,849
2019	5,830	5,655	22,808	1,982	16,917	2,351	3,444	3,481	5,720	401	68,589

Source: Prepared using MoNE statistics published in various years.

Table D.1.1 shows the change in the number of public and private schools at different levels between 2015 and 2019. The number of schools at all levels, which was 61 thousand 203 in 2015, increased to 68 thousand 589 and increased by 7,386 in 2019. Considering the change in the number of schools at different levels, we can see that the highest increase is in pre-school institutions with 69.2%. The number of preschool institutions, which was 6,788 in 2015, 3,714 of which were private and 3,074 of which were state, increased to 11,485 in total, 5,655 of which were private and 5,830 of which were state. The most striking point in Table D.1.1 is that there is a 6.5% decrease in the total number primary schools in the last five years. Although the number of private primary schools increased by 42.7% in the same period, the number of primary schools, which was 26 thousand 522 in 2015, decreased to 24 thousand 790 by 2019. Especially in recent years, despite the increase in the number of private primary schools, the decrease observed in the number of formal primary schools is thought to be due to the closure of schools in rural areas where the number of students is very low, and the transfer of these students to more central schools with bussed education (Çelik et al., 2019).

The number of middle schools, which was 17,343, 1,555 of which were private and 15,788 of which were public in 2015, increased by 11.1% in 2019, to a total of 19 thousand 268 schools, of which 2,351 were private and 16,917 were state schools. The most striking point about the increase in the number of middle schools in the last five years is that the number of private secondary schools increased by approximately 51.2% compared to 2015. The number of middle in general secondary education, on the other hand, increased from 5 thousand 311, of which 2 thousand 504 were private and 2 thousand 807 of which were public, in 2015, to 6 thousand 925 in 2019, of which 3 thousand 481 were private and 3 thousand 444 were public. Although there is an increase of approximately 30% in the number of institutions in general secondary education in 2019 compared to 2015, the number of private high schools has exceeded the number of high schools in the public, especially in the last two years. In other words, in 2019, the rate of private high schools in general secondary education is 50.2%, while the rate of public high schools is 49.8%.

Table D.1.2 Number of schools by types of schools in the public sector (2015-2019)

Year	İmam Hatip middle school	İmam Hatip middle school within İmam Hatip high school	İmam Hatip high school	Science high school	Social sciences high school	Anatolian high school
2015	1,961	339	1,149	261	92	2,332
2016	2,777	410	1,408	294	93	2,434
2017	2,859	427	1,605	310	92	2,552
2018	2,847	547	1,623	310	91	2,664
2019	2,822	615	1,650	316	92	2846

Source: Prepared using MoNE statistics published in various years.

There has been an increase of approximately 16.8% in the number of vocational high schools in the last five years. In 2015, the number of vocational high schools, which was 5 thousand 239, 419 of which were private and 4 thousand 820 of which were state, increased to 6 thousand 121, 401 of which were private and 5 thousand 720 of which were state, by 2019.

Table D.1.2 shows the number of public İmam Hatip middle schools, İmam Hatip high schools, science high schools, social science high schools and Anatolian high schools between 2015 and 2019. The number of İmam Hatip middle schools, which was 1,961, of which 1,961 are independent, in 2015, and 339 İmam Hatip high schools, increased by 49% in 2019, and for a total of 3,437, 615 of which İmam Hatip and 2,822 of which were independent. It has reached 437. The number of İmam

Hatip high schools, which was 1,149 in 2015, increased by 44% in the last five years to 1,650 in 2019.

In the last five years, there has been an increase of approximately 21% in the number of science high schools, the total number of science high schools, which was 261 in 2015, increased to 310 in 2017 and 2018, and increased to 316 in 2019. The number of social science high schools, which was 92 in 2015, remained constant. When looking at the number of Anatolian high schools, which are the most common type of school in secondary education, we can see that there has been an increase of approximately 22% in the last five years. The number of Anatolian high schools, which was 2 thousand 332 in 2015, increased to 2 thousand 846 by 2019.

Table D.1.3 Number of classrooms and divisions by level (2015-2019)

Year	Preschool		Primary				Secondary education				All Levels Total	
	Total		Total		Private		Total		Private		Classroom	Divisions
	Classroom	Divisions	Classroom	Divisions	Classroom	Divisions	Classroom	Divisions	Classroom	Divisions		
2015	25,301	71,003	411,033	459,695	40,336	29,147	182,530	214,871	41,727	29,348	618,864	745,569
2016	37,880	75,942	422,874	458,901	38,896	27,143	189,783	230,276	37,353	27,152	650,537	765,119
2017	44,587	84,637	437,945	464,924	49,266	31,629	204,268	241,039	43,153	33,288	686,800	790,600
2018	46,967	88,150	444,561	471,550	56,264	35,017	214,487	194,531	51,334	34,269	706,015	754,231
2019	50,831	91,737	457,009	478,408	58,867	36,271	219,507	192,029	51,403	33,548	727,347	762,174

Source: Prepared using MoNE statistics published in various years.

Table D.1.3 shows the change in the number of classrooms and divisions between 2015 and 2019 according to the level. The total number of classrooms went from 618 thousand 864 to 727 thousand 347 between 2015-2019 and the number of units increased from 745 thousand 569 to 762 thousand 174. In other words, the total number of classrooms in Turkey in the last five years has increased by 2.2% while the number of division has increased by 17.5%. This data shows that the size of class and division at all levels and the number of double-shift education schools decreased significantly. The most striking point in Table D.1.3. is that the decline in the number of division in the secondary education level in 2018 continued in 2019. As a matter of fact, while the total number of division in secondary education was around 241 thousand in 2017, it decreased by 19% in 2018 to 194 thousand 531 and in 2019 decreased to 192 thousand 20. The fact that the number of classrooms (219,507) in 2019 in secondary education is approximately 14% higher than the number of divisions indicates that there is no need for dual double-shift at this level. However, despite the increase

in the number of classrooms at the secondary education level, the decrease in the number of divisions, especially in the last two years, causes the problem of the increase in the class size and therefore crowded classes. The most important indicator of this is that the class size, which was 18 in 2017 at the secondary education level, increased to 22 in the last two years (see Figure D.2.1.).

When the number of classrooms and size of class and division is examined by year between 2015 and 2019, we can see that there is a 100% increase in the number of classrooms and 29% in the preschool level. The number of classrooms, which was 25,301 in preschool in 2015, reached 50,831 in 2019. While the number of divisions was 71 thousand 3 in 2015, it was 91 thousand 737 in 2019. This shows that the rate of increase in the number of classrooms decreased with the increase in the number of divisions. At the primary education level, the data of 457 thousand 9 classrooms and 478 thousand 408 division in 2019 show that there is a progress in the double-shift problem at this level.

Table D.1.4 Number of classrooms and units by stages (2015-2019)

Year	General secondary education				Vocational and technical secondary education			
	Total		Private		Total		Private	
	Classroom	Division	Classroom	Division	Classroom	Division	Classroom	Division
2015	90,806	90,749	34,401	26,397	91,724	124,122	7,326	2,951
2016	88,885	93,433	30,476	24,417	100,898	136,843	6,877	2,735
2017	96,452	128,140	35,320	27,564	107,816	112,899	7,833	6,024
2018	103,324	86,126	42,340	28,966	111,163	108,405	8,994	5,303
2019	108,982	89,723	42,728	28,205	110,525	102,306	8,675	5,343

Source: Prepared using MoNE statistics published in various years.

Table D.1.4 shows the trends in the number of classrooms and divisions in general high schools and vocational high schools in the last five years. A significant increase was observed in the number of classrooms and divisions in both types of high schools between 2015-2018. In 2015, the total number of 90,806 classrooms in general high schools increased by 20% in 2019, reaching 108,982. When the data on the increase in the number of classrooms in general high schools is analyzed, we

can see that the biggest increase was experienced in private high schools. While the number of classrooms in private high schools was 34 thousand 401 in 2015, this increased by 24% to 42 thousand 728 in 2019. Considering the increase in the number of classrooms in private high schools, there was an increase of 7% in the number of divisions, which was 26 thousand 397 in 2015 and increased to 28 thousand 205 in 2019.

In vocational high schools, the increase in the number of classrooms in the last five years has been similar to that of general secondary education (20%). While the number of classrooms in 2015 was 91 thousand 724, it increased steadily in the following years and reached 111 thousand 163 in 2018. However, in 2019, the number of classrooms decreased to 110 thousand 525, decreasing compared to the previous year. Similar to general high schools, there has been a significant increase in the number of classrooms and units, especially in private

vocational high schools. The number of classrooms in private vocational high schools increased by 18% from 7 thousand 326 in 2015 to 8 thousand 675 in 2019, while the number of units, which was 2 thousand 951 in 2015, increased by 81% to 5 thousand 343. The most striking point here is that while there is an increase in the number of both classrooms and units in private vocational and technical secondary education, there is a decrease of 17% in the number of units in total.

Table D.1.5 Number of newly built classrooms in the public sector (2015-2019)

Year	Total	Primary school	Secondary education (vocational and technical included)	General education	Built from 100% support to education
2015	15,145	9,158	4,468	1	1,518
2016	19,978	9,200	7,781	12	2,985
2017	14,405	6,763	5,364	221	2,057
2018	18,307	9,212	6,910	368	1,817
2019	21,637	13,343	6,145	559	1,590
Total	89,472	47,676	30,668	1,161	9,967

Source: Prepared using MoNE statistics published in various years.

Table D.1.5 shows the number of newly built classrooms in the public sector between 2015 and 2019, according to the level. A total of 89 thousand 472 classrooms were built in the last five years. There has been an increase of approximately 43% in the number of new classrooms

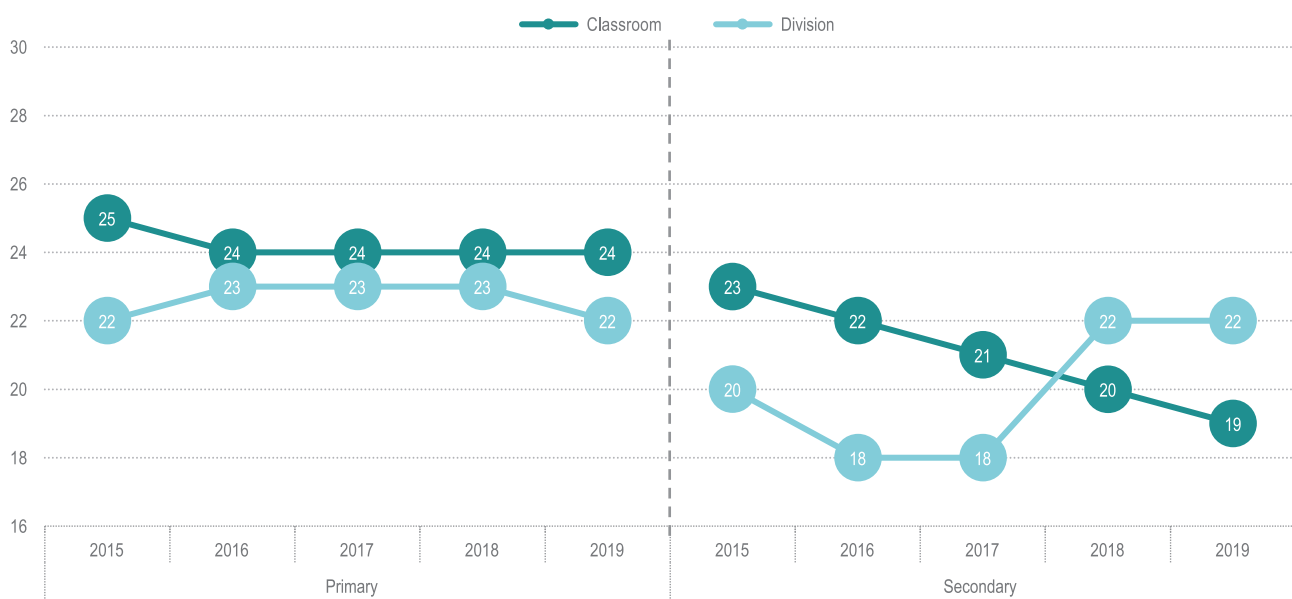
between 2015 and 2019. 47 thousand 676 of the classrooms were made for primary education, 30 thousand 668 for secondary education and 1,161 for non-formal education.

## WHAT IS THE AVERAGE SIZE OF SCHOOL CLASS, AND DIVISION?

This indicator will examine the change in average size of classroom and division primary and secondary education levels in the last five year. Later, the division in size private primary and secondary education institutions is discussed, and the change in the number of students

in primary and secondary education is analyzed on the basis of division and school. Finally, the average size of division and school different levels is evaluated in detail in terms of regions and provinces.

Figure D.2.1 Trends in the average size of division and classroom in primary and secondary education (2015-2019)



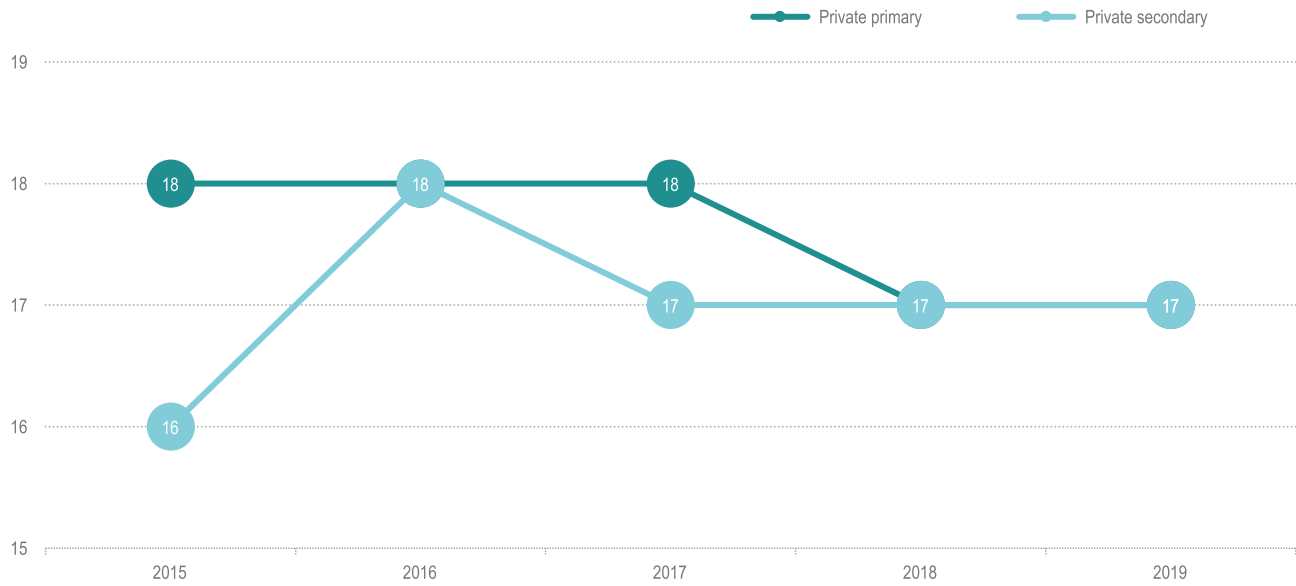
Source: The figure prepared by using MoNE statistics published in various years and included in the Outlook on Education 2020 report.

Figure D.2.1 shows the trends in the average size of division and classroom primary and secondary education levels between 2015 and 2019. While the average size of division primary education remained constant at 22/23 between 2015 and 2019, it followed a more unstable course in secondary education. While the average size of division secondary education was 20 in 2015, this decreased to 18 in 2016 and 2017, and increased again in the last two years to 22. The average class size in primary education has remained constant at 24 in the last four years. At the secondary education level, there has been a significant decrease in the average class size the last five years and a decrease from 23 to 19 has occurred. The convergence of the average class and

division size in both primary and secondary education indicates that double-shift practice has decreased in primary education (Çelik et al., 2019).

Figure D.2.2 shows the trends in the size of division private education between 2015 and 2019 in primary and secondary education. The average the size of division in private primary education was 18, while it was 16 in private secondary education in 2015, and 17 in both levels in the last two years. In the last two years, size of division in private education schools has been at the same level both in primary education and in secondary education.

Figure D.2.2 Trends in the division size in primary and secondary education in private education (2015-2019)

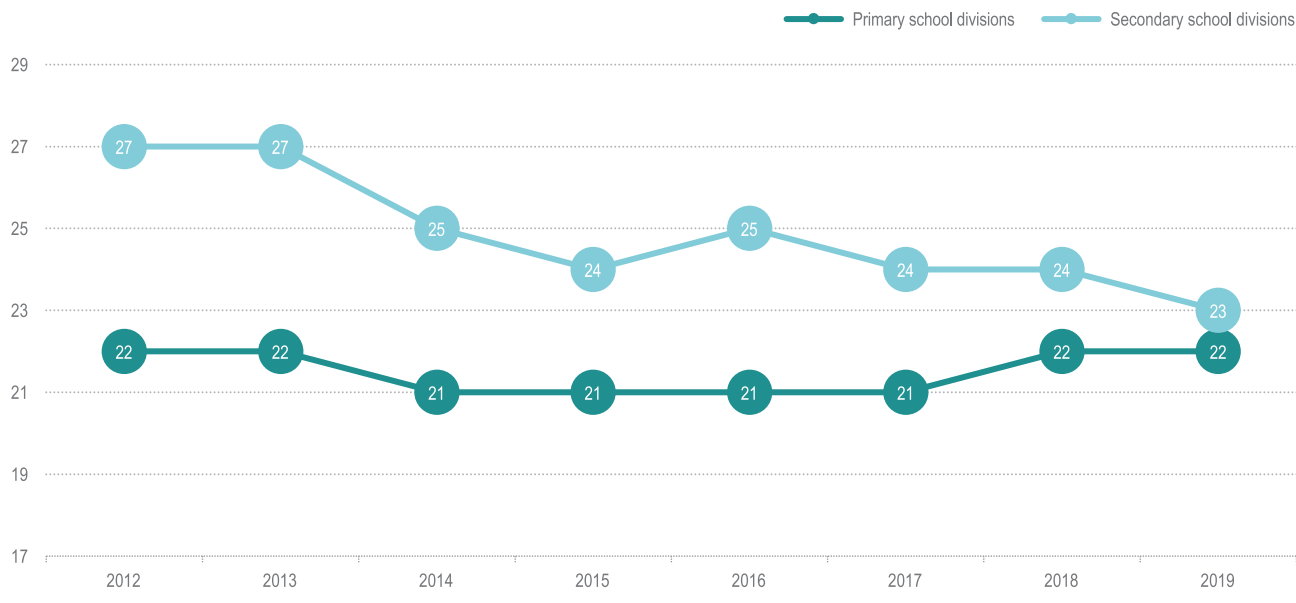


Source: The figure prepared by using MoNE statistics published in various years and included in the Outlook on Education 2020 report.

Figure D.2.3 shows the trends in the average division size in primary and secondary schools between 2012 and 2019. While the division size in primary school was 22 in 2012, it decreased to 21 between 2014 and 2017 and

increased to 22 again in the last two years. In secondary schools, the division size, which was 27 in 2012, decreased in the following years and reached 23 by 2019.

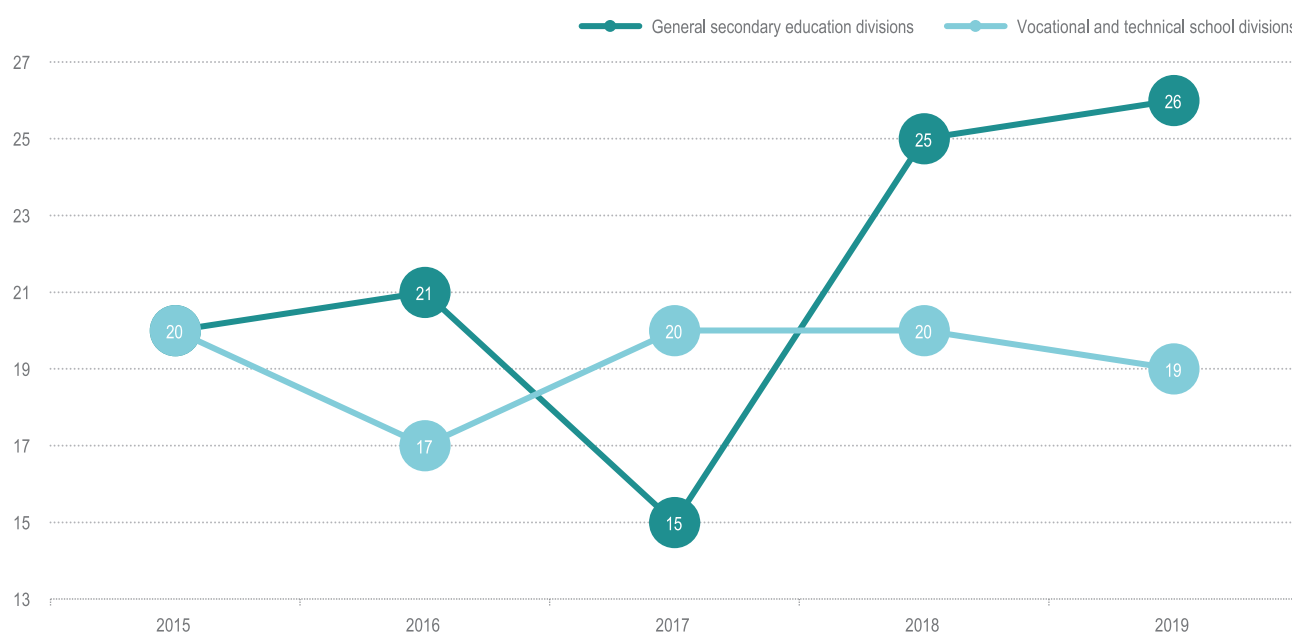
Figure D.2.3 Trends in the division size in primary and secondary schools (2012-2019)



Source: The figure prepared by using MoNE statistics published in various years and included in the Outlook on Education 2020 report.



Figure D.2.4 Trends in the division size in secondary education by school type (2015-2019)



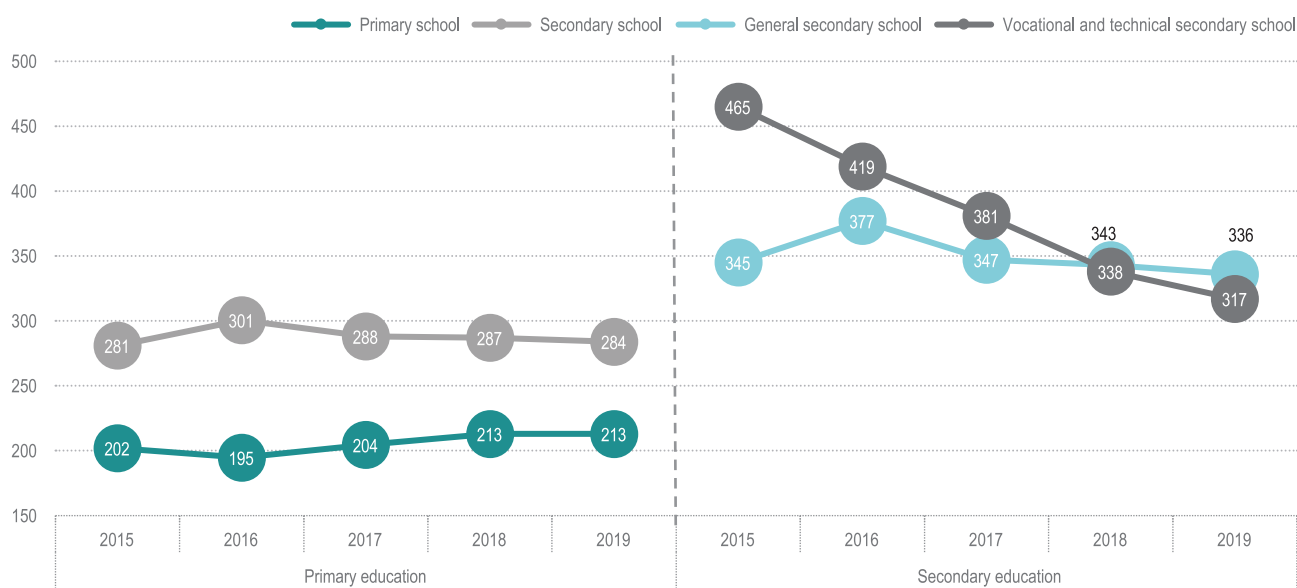
Source: The figure prepared by using MoNE statistics published in various years and included in the Outlook on Education 2020 report.

Figure D.2.4 shows the trends in the division size in general high schools and vocational high schools in the last five years. While the average of division size in both school types was equal to each other (20) in 2015, they differed significantly in the following years. The division size in vocational high schools decreased to 17 in 2016 and increased again in 2017 and 2018 to 20. By 2019, it fell back to 19. A more unstable course was observed in general high schools compared to vocational high schools. The division size, which was up to 15 in 2017, increased by 11 to 26 in 2019. One of the reasons for this is the decrease observed in the number of divisions in general secondary education despite the increase in the number of classrooms in the last two years (see Table D.1.4). Another reason is the effect of the change made in the transition process to secondary education with the elimination of Transition from Basic Education to Secondary Education (TEOG) exam in 2018. With the abolition of TEOG, the practice of directing students who could not be placed in general secondary education within the scope of central placement to vocational and technical secondary education was abandoned (Çelik

et al., 2017). As a result, with the Ministry of National Education (MoNE) trying to arrange quotas by taking student preferences into consideration, a significant increase has been experienced in the number of students who turn to general secondary education.

Figure D.2.5 shows the trends in the number of students per school in primary, secondary and high schools between 2015-2019. While the number of students per school was 202 in primary schools and 281 in secondary schools in 2015, the number of students per school was 213 in primary schools and 284 in secondary schools in 2019. When we look at the change in the number of students per school in general high schools and vocational high schools in secondary education between 2015 and 2019, the number of students per school in vocational high schools decreased from 465 in 2015 to 317 in 2019. In general high schools the number of students per school was 345 in 2015, while it increased to 377 in 2016, and then declined and was 336 by 2019.

Figure D.2.5 Trends in the number of students per school by school type in primary and secondary education (2015-2019)

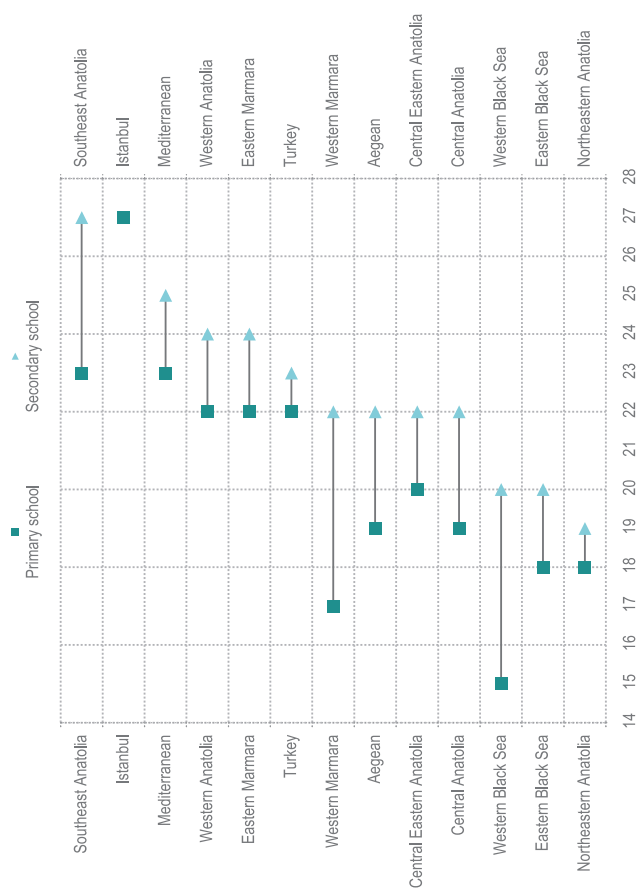


Source: The figure prepared by using MoNE statistics published in various years and included in the Outlook on Education 2020 report.

Figure D.2.6 shows the division size in primary and secondary schools in 2019 by region. The divisions size 2019 was 23 in secondary schools, while 22 was the average for elementary schools in Turkey. We can see that there is great variation among regions in terms of the division size, especially in primary schools. In 2019, the division size in primary schools was 27 in Istanbul, 23 in Southeast Anatolia and the Mediterranean, 15 in Western Black Sea, 17 in West Marmara, 18 in Northeast Anatolia and Eastern Black Sea. Considering that the 2019 average division size in primary schools is 22, we can observe that there is still a significant difference between regions.

Considering the division size in secondary schools in 2019, we can observe that the difference between regions at this level is less compared to primary schools. While the regions with the highest division size in secondary schools are Istanbul and Southeastern Anatolia regions with an average of 27 students, Northeast Anatolia stands out as the region with the lowest average of students per division with an average of 19. The average number of students in secondary schools in Turkey is 23 per division (see. Figure D.2.3) Given that the differences between regions that still continues, we can conclude that the difference compared to primary school is less.

Figure D.2.6 Division size in primary and secondary schools by region (2019)



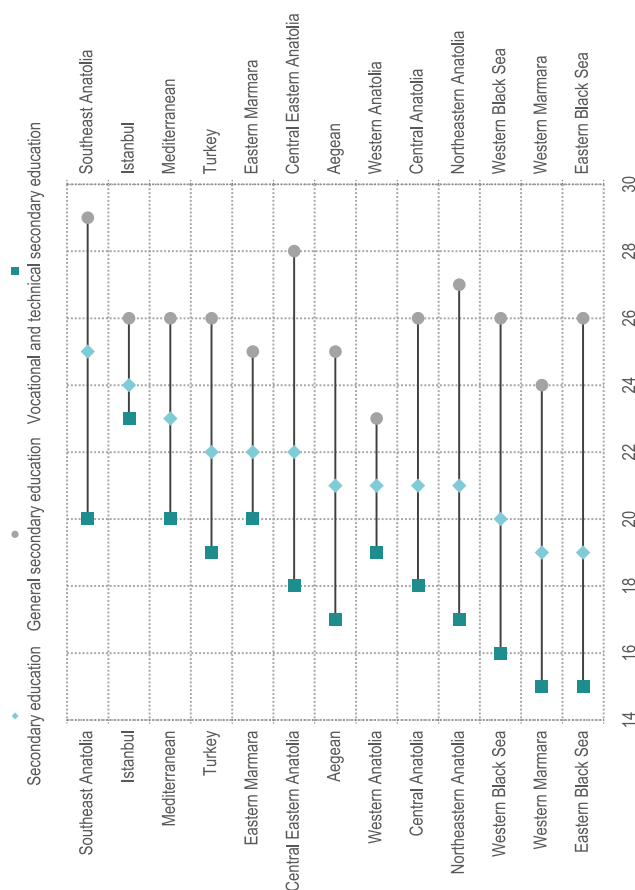
Source: Prepared using MoNE statistics published in 2020.

Another point that draws attention in Figure D.2.6 is that the average of students per division in both primary and secondary schools in Istanbul is equal to 27.

In Figure D.2.7, the division size in secondary education by region in 2019 is given by school type. According to this, the average number of students per secondary unites across Turkey in general secondary education is 22 per class and 26 per division, regardless of school type. The average number of vocational and technical education students per division is 19. Regardless of school type, the regions with the highest division size are Southeast Anatolia with an average of 25 and Istanbul with 24, while West Marmara and Eastern Black Sea are the regions with the lowest division size in secondary education with an average of 19. Regardless of school type, we can maintain that the difference between regions in the division size in secondary education is lower than that of primary and secondary schools. However, there is a clear difference between the regions in terms of the division size in general and vocational high schools. For example, the Southeastern Anatolia Region is the region with the highest division size in secondary education, with an average of 29 in general high schools and 20 in vocational high schools. The Western Black Sea, Eastern Black Sea and Northeastern Anatolia regions also stand out as the regions where the difference between the division size in general high schools and vocational high schools is the highest. While the division size in general high schools in all three regions is around 26-27, the division size in vocational high schools is around 15-17. It is striking that the division size in general high schools in all regions is higher compared to vocational high schools. Istanbul is the region with the least difference between the division size in general secondary education (26) and vocational and technical secondary education (23).

In Figure D.2.8, the number of students per school in primary and secondary schools by region in 2019 is given. The average number of students per school is 284 students in primary schools in Turkey while it is 213 at secondary schools. The region with the highest

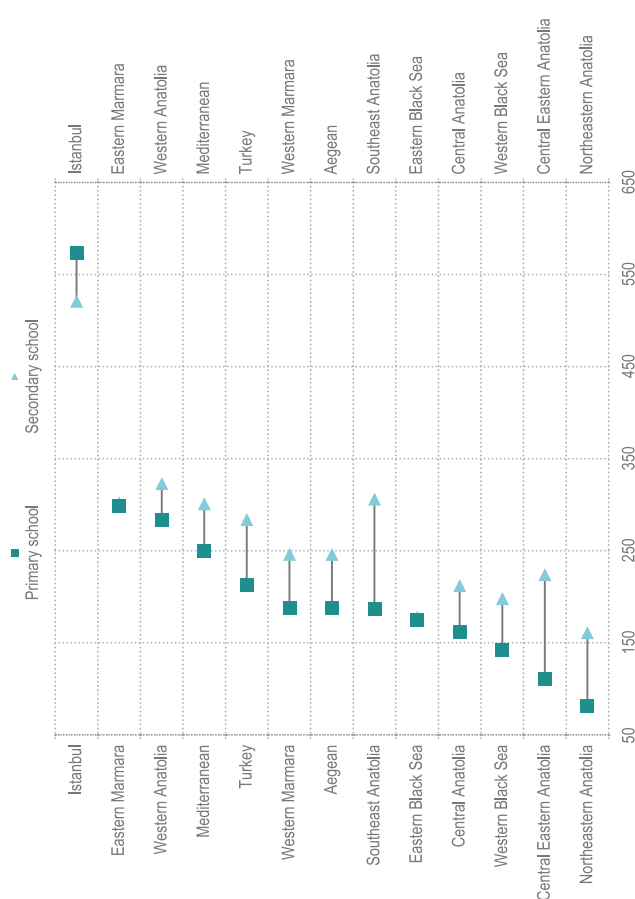
Figure D.2.7 Division size in secondary education by school type and regions (2019)



Source: Prepared using MoNE statistics published in 2020.

number of students per school in both primary schools (573 students) and secondary schools (521 students) is Istanbul. In addition, Istanbul draws attention as it is the only region where the number of students per school is higher in primary schools than in secondary schools. The regions with the lowest number of students per school in primary schools are Northeast Anatolia with 81 students and Mideast Anatolia with 111 students. While the region with the highest number of students per school after Istanbul in secondary schools is the West Anatolia Region with 323 students. The East Marmara Region is the only region where the number of students per school in both primary and secondary schools is equal to 299. The Southeastern Anatolia Region draws attention as the region where the difference is highest with an average of 187 students in primary schools and

Figure D.2.8 Number of students per school in primary and secondary schools by region (2019)

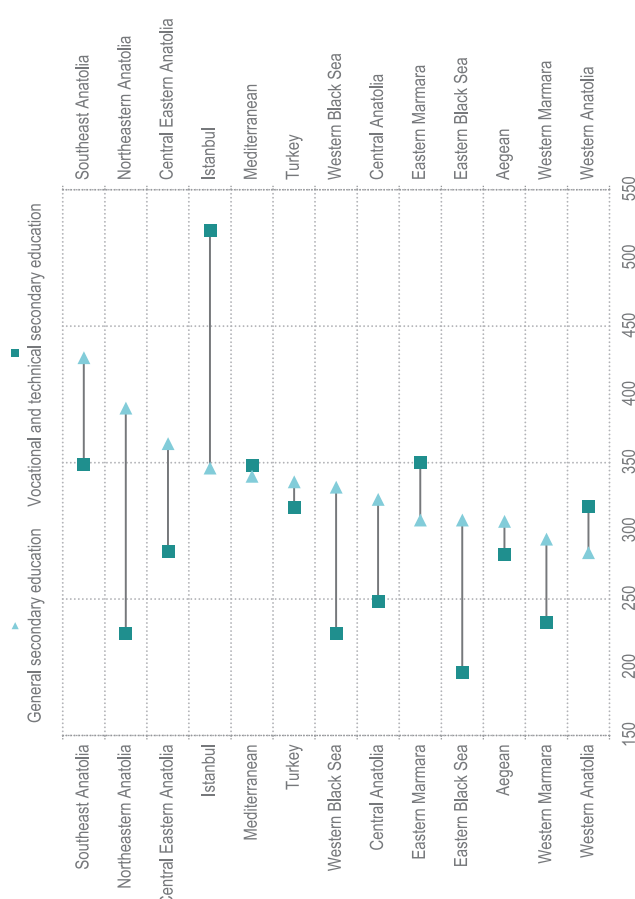


Source: Prepared using MoNE statistics published in 2020.

306 students in secondary schools. The region with the lowest number of students per school in secondary schools is the Northeastern Anatolia Region with 81 students, as with primary schools.

In Figure D.2.9, the number of students per school in general high schools and vocational high schools in 2019 is given. In Turkey the average number of students per school is 317 for general secondary education, while for vocational and technical education it is 336. The regions that fall below the Turkish average are South Eastern Anatolia with 427 students, Northeastern Anatolia with 390, Mideast Anatolia with 350 and Istanbul with 346. While the number of students per school in vocational and technical secondary education is higher than in general secondary education in Istanbul, Mediterranean,

Figure D.2.9 Number of students per school in secondary education by school type and region (2019)



Source: Prepared using MoNE statistics published in 2020.

Eastern Marmara and Western Anatolia regions, the number of students per school in general secondary education is higher in other regions. The regions with the lowest number of students per school in general high schools are West Anatolia with 284 students and West Marmara with 294 students. An important point that draws attention in Figure D.2.9 is that the difference between the number of students per school in general secondary education and the number of students per school in vocational and technical secondary education in Northeastern Anatolia, Western Black Sea and the Eastern Black Sea region. Istanbul differs significantly from other regions with 350 students per school general secondary education and 520 students per school in vocational and technical secondary education.

In Figure D.2.10, the average division size in primary and secondary schools in 2019 is given by province. The average division size in Turkey is 22 and varies in terms of provinces. The division size is above the average of Turkey in 16 provinces including Gaziantep (28), Istanbul (27), Adana (25), Istanbul (24), Sanliurfa (24) and Bursa (24). The division size is lowest in Kars (12), Ardahan (13), Bitlis (13), Tunceli, Gümüşhane and Erzurum (14).

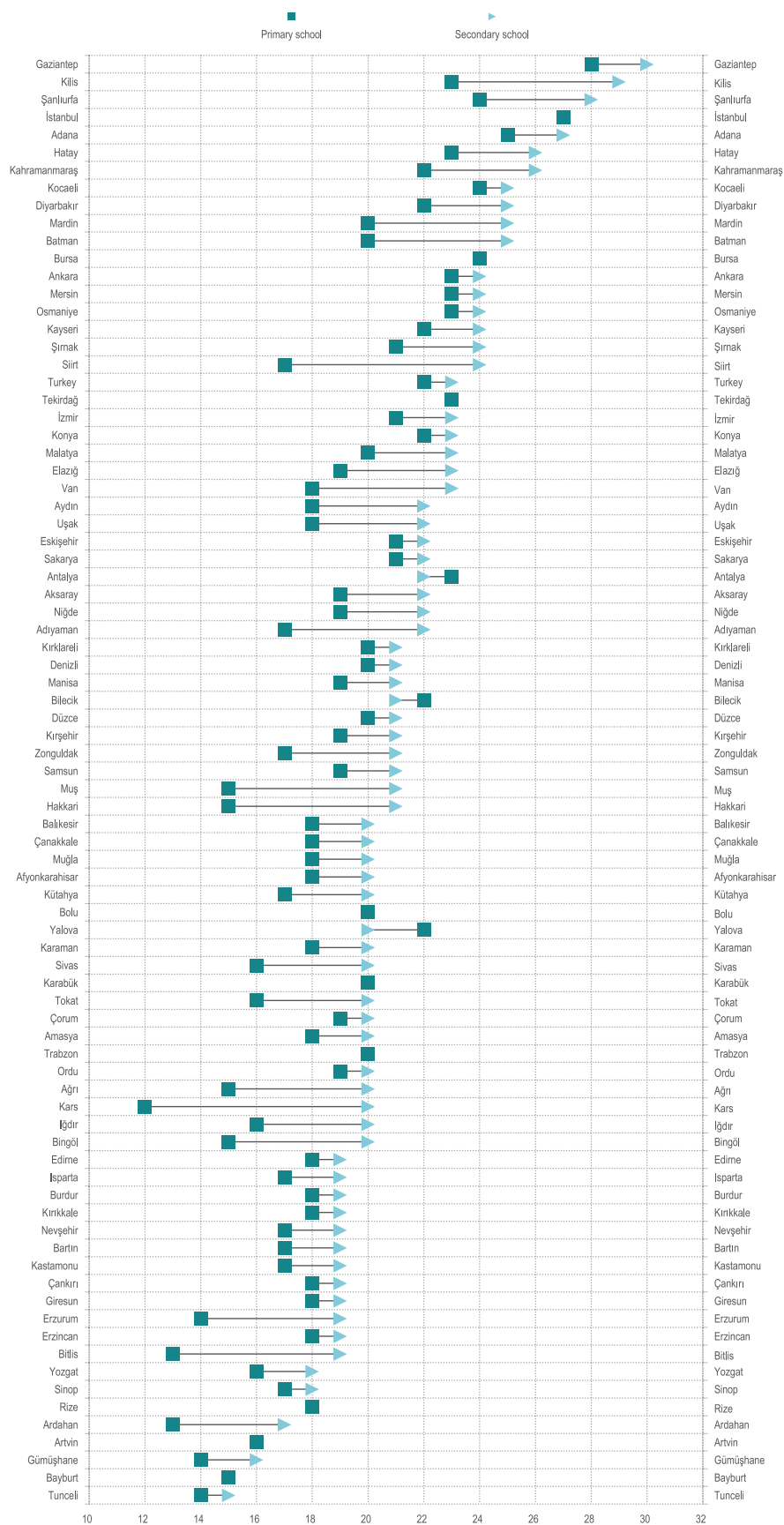
Turkey's average number of students in secondary schools in 2019 was 23 per division. The division size in the secondary schools is higher than the national average in 19 provinces. As in primary schools, Gaziantep comes first in secondary schools with an average of 30 students per unit, followed by Kilis with 29 students, Şanlıurfa with 28 students and Istanbul, Adana and Hatay with an average of 27 students. The provinces with the lowest division size in secondary schools are Tunceli (15), Bayburt (15), Gümüşhane (16), Artvin (16) and Ardahan (17).

In Figure D.2.11, the division size in secondary education according to provinces in 2019 is given in terms of school type. The division size in general high school in 2019, is 26 and this number is 19 in vocational schools. 30 provinces were above the national average in terms of

students per unit in secondary education. The provinces with the highest number were Van, Kilis, Diyarbakir and Sirnak with 32 students per division. These provinces are followed by Kahramanmaraş, Ardahan and Adiyaman with an average of 30 students. In terms of the number of students in vocational schools per division, 20 provinces had a higher division size. Istanbul has the highest division size in vocational high schools with 23 students, followed by Adana and Gaziantep with an average of 22 students, followed by Siirt, Hatay, Şanlıurfa, Batman, Kocaeli and Bursa with an average of 21 students. Tunceli has the lowest division size in vocational high schools, with an average of 9 students, followed by Artvin with 11 students, and Sinop, Çanakkale and Ardahan with 23 students.

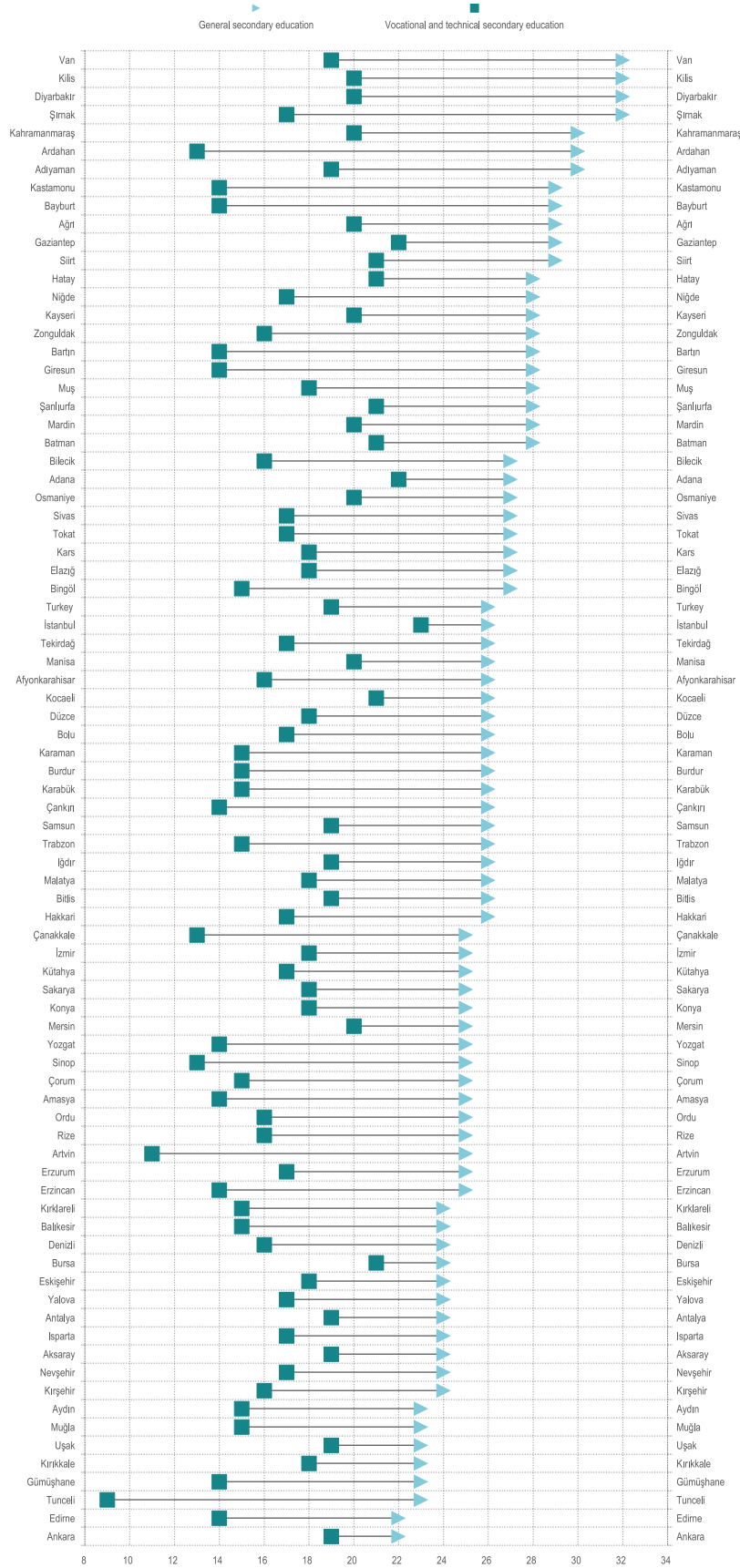
While the provinces with the lowest difference between the division size in general high schools and vocational high schools in 2019 were Istanbul, Bursa and Ankara, the provinces with the highest difference were Ardahan, Bayburt, Kastamonu and Şırnak. While the division size in general high schools (30) in Ardahan is 17 more than the division size in vocational high schools (13), the difference between school types in Şırnak, Kastamonu and Bayburt is 15.

Figure D.2.10 Division size in primary and secondary schools by province (2019)



Source: Prepared using MoNE statistics published in 2020.

Figure D.2.11 Division size in secondary education by school type and province (2019)



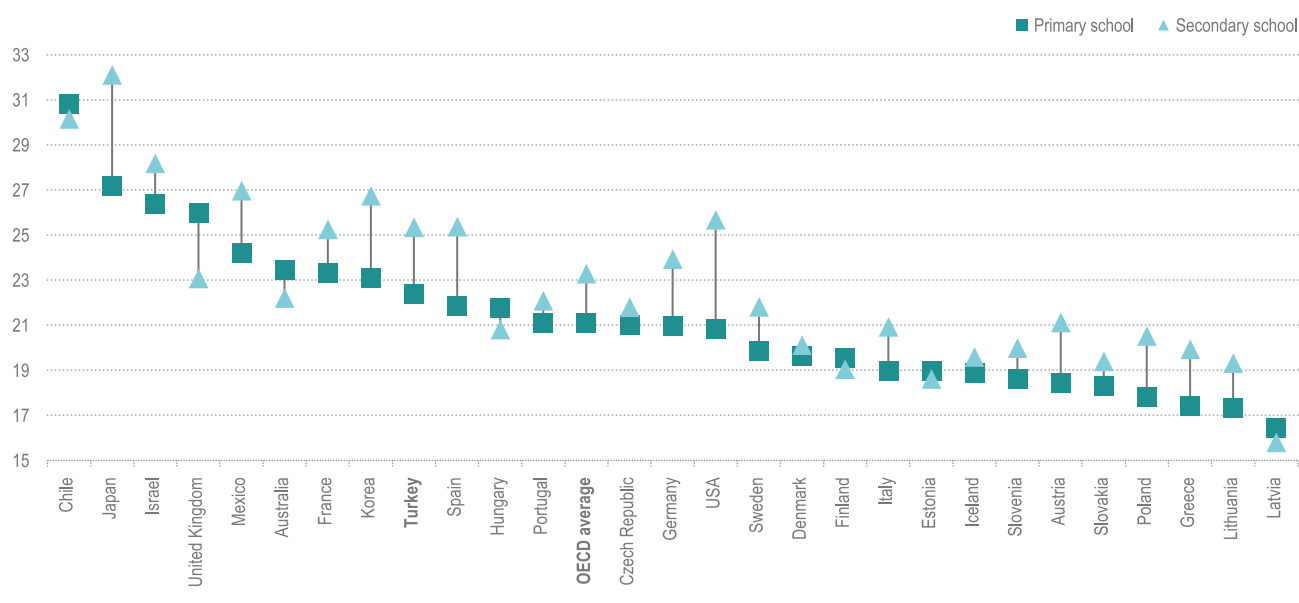
Source: Prepared using MoNE statistics published in 2020.

Figure D.2.12 show the average class sizes in primary school and secondary school in Turkey alongside the average class sizes of some Economic Cooperation and Development (OECD) countries for 2018. The average for class size for OECD countries in primary schools is 21 students in secondary schools. The country with the highest average class size in primary schools is Chile with 31 students, followed by Japan with an average of 27 students, Israel and the United Kingdom with an average of 26 students, and Mexico with an average of 24 students. The lowest average is in Latvia with 16 students per unit, followed by Lithuanian and Greece

with 17 students. Turkey and Hungary both have an average of 22 students per unit.

Japan has the largest class average in secondary schools with 32 students, followed by Chile with 30 students. With an average secondary school class size of 25 students, Turkey has a lower average class size than Japan, Chile, Israel, Mexico, and Korea. Latvia has the lowest class size with 16 students per class. Overall, while Turkey's primary school and secondary school average class size is above the OECD average, the difference is not by a high margin.

Figure D.2.12 Average class size in primary and secondary schools in some OECD countries (2018)



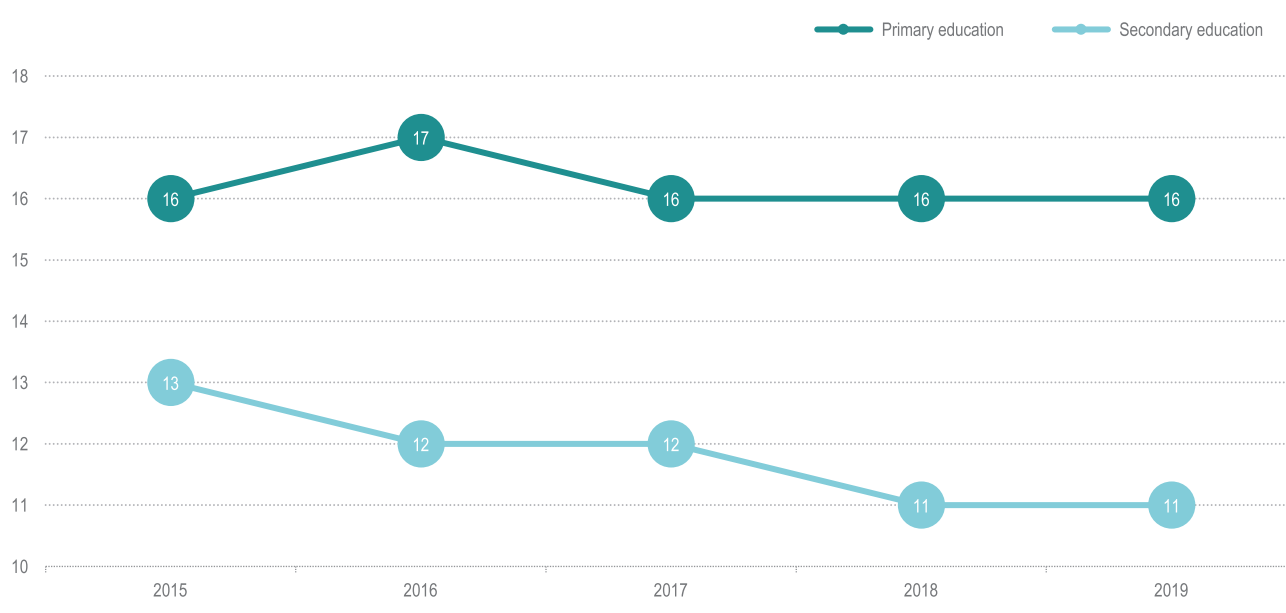
Source: Prepared using OECD / UIS / Eurostat (2020) data.



This indicator will examine the student-teacher ratio in the last five years between 2015 and 2019. Then, the situation on the basis of regions and provinces is analyzed in detail according to the level. Finally, in order

to see how Turkey ranks compared to other countries in terms student-teacher ratio, data from other countries has been presented comparatively.

Figure D.3.1 Trends in the student-teacher ratio (2015-2019)

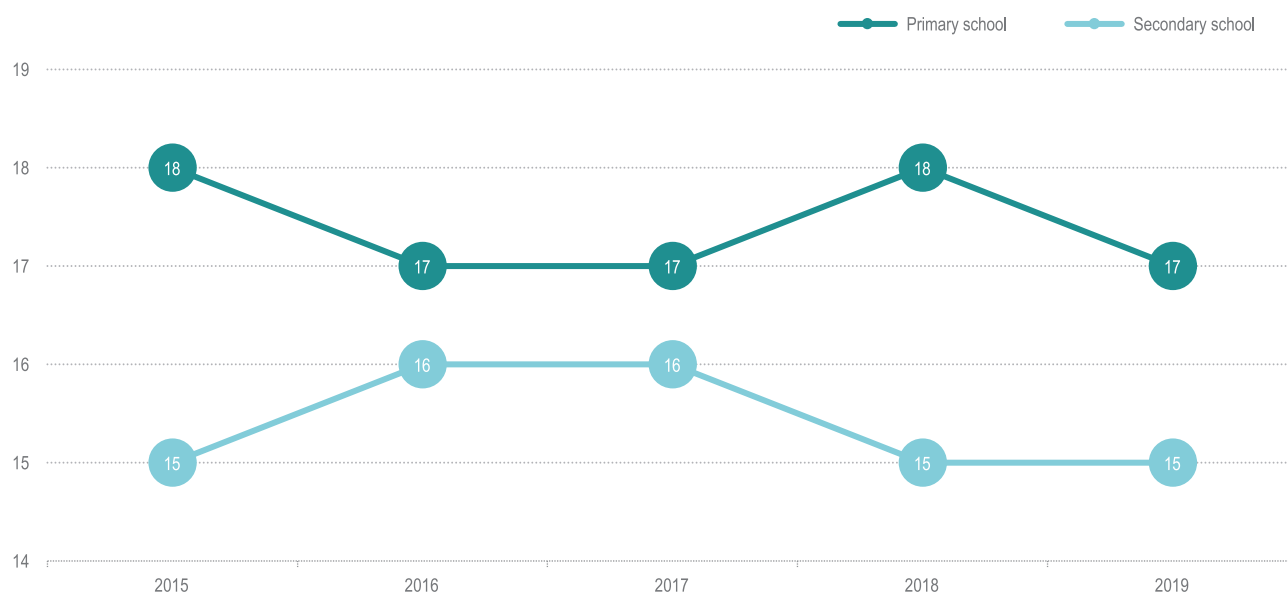


Source: The figure prepared by using MoNE statistics published in various years and included in the Outlook on Education 2020 report.

Figure D.3.1 shows the trends in the student-teacher ratio at the primary and secondary education levels in the last five years between 2015 and 2019. While the student-teacher ratio in the primary education level was 16 in 2015, it increased to 17 in 2016 and was 16 in the last three years. In secondary education, the student-teacher ratio decreased from 13 in 2015 to 12 in 2016 and 2017 and to 11 in 2018 and 2019.

Figure D.3.2 shows the student-teacher ratio in primary and secondary schools in the five-year period between 2015 and 2019. While the student-teacher ratio in primary schools was 18 in 2015, this number decreased to 17 in 2016 and 2017, increased to 18 in 2018, and decreased again to 17 in 2019. In secondary schools, the student-teacher ratio increased from 15 in 2015 to 16 in the next two years, and then decreased to 15 in 2018 and 2019. There has been no significant change in the student-teacher ratio in both primary and secondary schools in the last five years.

Figure D.3.2 Trends in the student-teacher ratio in primary and secondary schools (2015-2019)

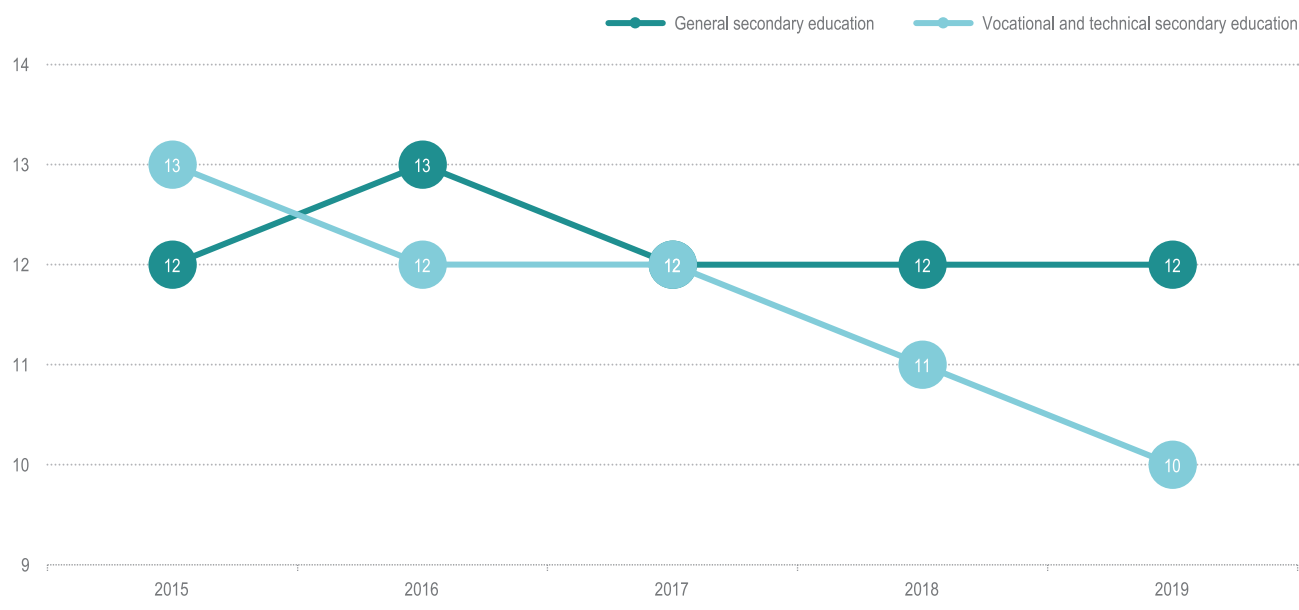


Source: The figure prepared by using MoNE statistics published in various years and included in the Outlook on Education 2020 report.

In Figure D.3.3, the student-teacher ratio in secondary education between 2015 and 2019 is given by school types. The student-teacher ratio in vocational and technical secondary education was 13 in 2015, and 12 in

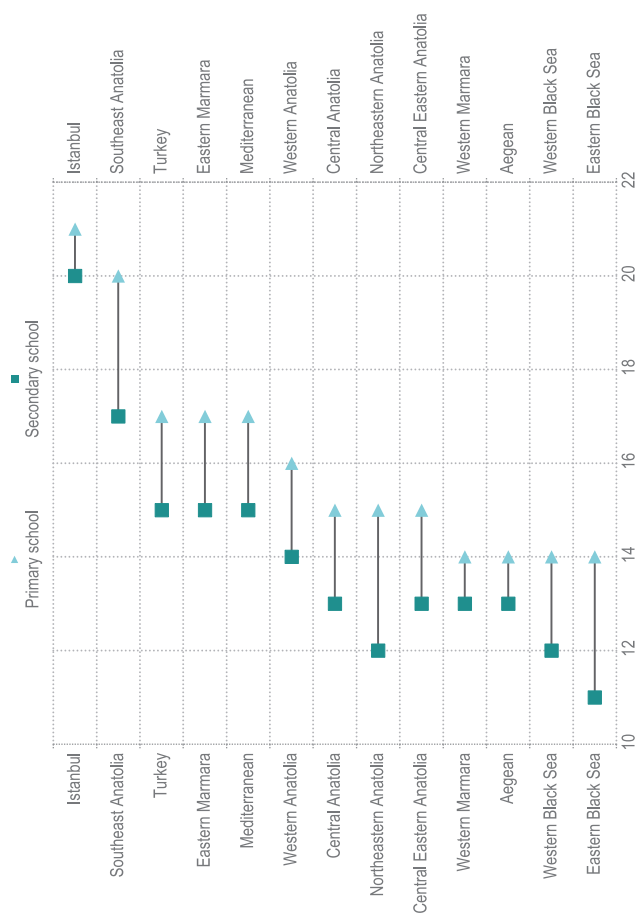
the last four years. In general secondary education, the student-teacher ratio, which was 12 in 2015, increased to 13 in 2016, and then decreased to 10 in 2019.

Figure D.3.3 Trends in the student-teacher ratio by school type in secondary education (2015-2019)



Source: The figure prepared by using MoNE statistics published in various years and included in the Outlook on Education 2020 report.

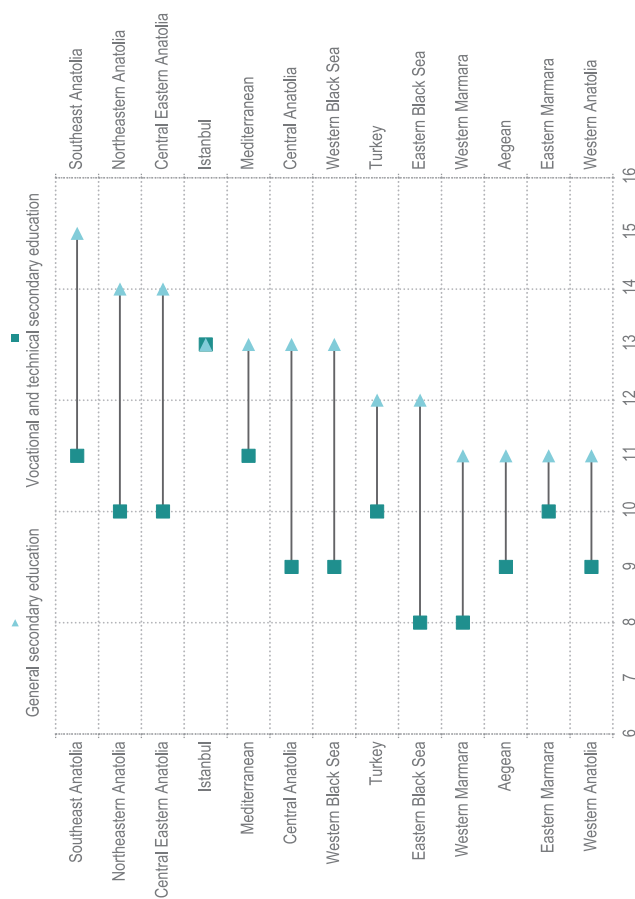
Figure D.3.4 Student-teacher ratio in primary and secondary schools by region (2019)



Source: Prepared using MoNE statistics published in 2020.

Figure D.3.4 shows the student-teacher ratio in primary and secondary schools in 2019, by region. In 2019, the student-teacher ratio in primary schools was 17, while it was 15 in secondary schools. The regions with a higher number of student-teacher ratio in primary schools than the national average are Istanbul (21) and Southeastern Anatolia (20). In terms of student-teacher ratio in secondary schools, Istanbul (20) and Southeastern Anatolia (17) are the regions which rank the highest. The East Marmara region and the Mediterranean region both have a lower student-teacher ratio in primary schools and secondary school than the national average. The Western Marmara, Aegean Sea, West Black Sea and Eastern Black Sea regions all have an average teacher per student 14, below the national average. The region

Figure D.3.5 Student-teacher ratio by school type and regions in secondary education



Source: Prepared using MoNE statistics published in 2020.

with the lowest student-teacher ratio in secondary schools is the Eastern Black Sea Region with 11 students, followed by the Western Black Sea and Northeastern with 12 students.

In Figure D.3.5, the student-teacher ratio in general secondary education and vocational and technical secondary education in 2019 is given. The average students per teach in public high schools in Turkey is 10, and in vocational high schools this number is 12. One of the most striking points in Figure D.3.5 is that the student-teacher ratio in general secondary education in all regions except Istanbul is higher compared to vocational and technical secondary education. In Istanbul, the student-teacher ratio in both general and vocational and

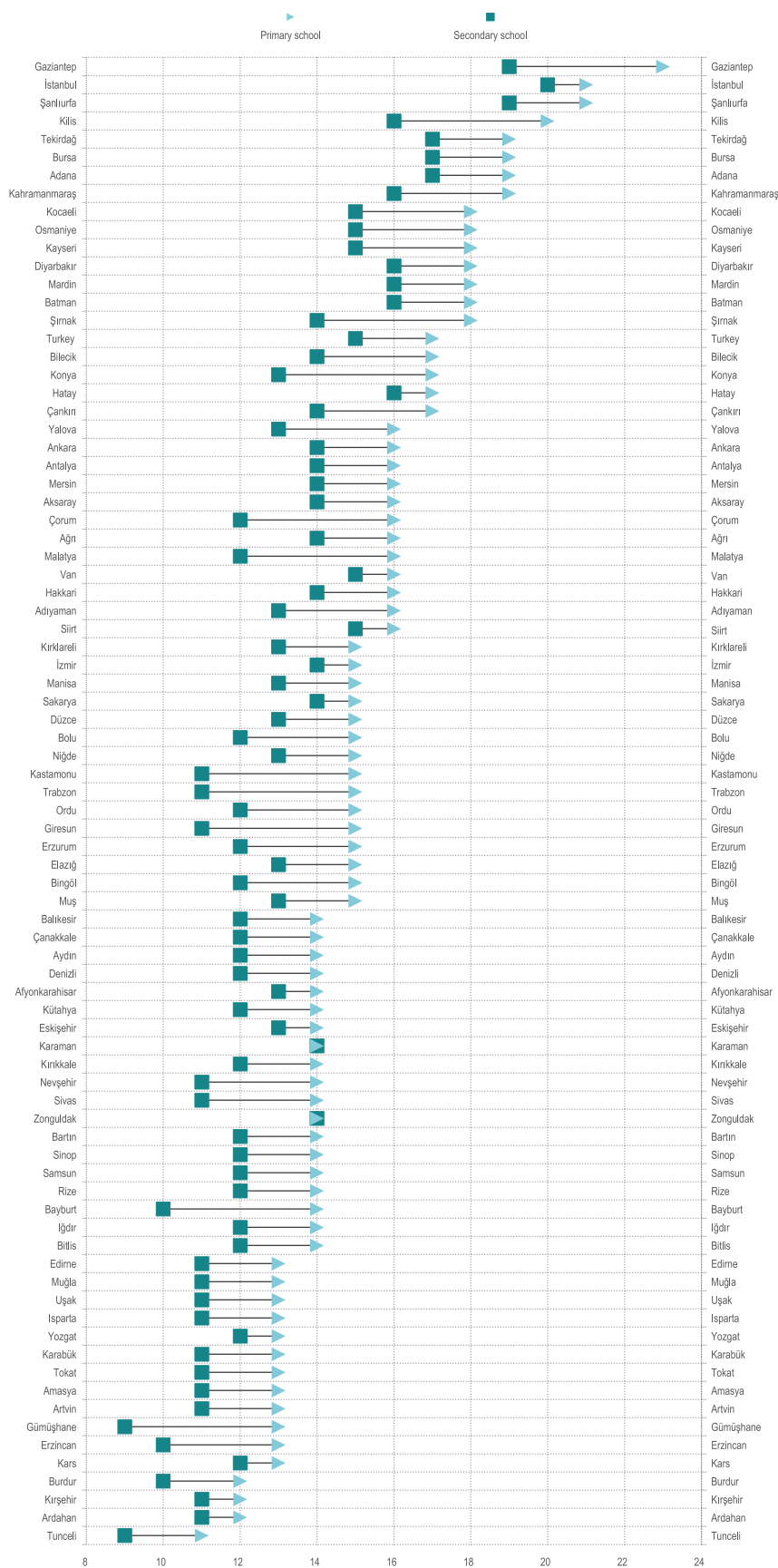
technical secondary education is 13. The Southeastern Anatolia (15), Northeast Anatolia (14), East Anatolia (14) Istanbul, the Mediterranean, Central Anatolia and western Black Sea (13) regions all have a higher student-teacher ratio than the national average. There are 11 student-teacher ratio for general secondary education in West Marmara, Aegean, East Marmara and West Anatolia. The student-teacher ratio in general secondary education these regions is below the average in Turkey. In vocational and technical education, the number of student-teacher ratio are as follows: Southeastern Anatolia (11), Mediterranean (11) and Istanbul (13). The Turkish average for vocational and technical education is 10 student-teacher ratio. There are 9 student-teacher ratio in Central Anatolia, Western Black Sea, Aegean and Western Anatolia regions, and 8 students in Eastern Black Sea and West Marmara regions. In these areas, the student-teacher ratio in vocational and technical education is below the average in Turkey.

In Figure D.3.6, the student-teacher ratio in primary and secondary schools in 2019 is given by provinces. In Turkey, the average student-teacher ratio in the primary schools of 17, while this ratio is 15 for secondary schools. There are 15 provinces that have a higher student per

teacher number than the Turkish average. In Gaziantep this number is 23, in Sanliurfa and Istanbul it is 21. Kilis has 20 student-teacher ratio, and Tekirdağ, Bursa and Adana have an average of 19 student-teacher ratio. The provinces with the lowest student-teacher ratio in primary schools are Tunceli with 11 students, followed by Ardahan, Kirsehir and Burdur with an average of 12 students.

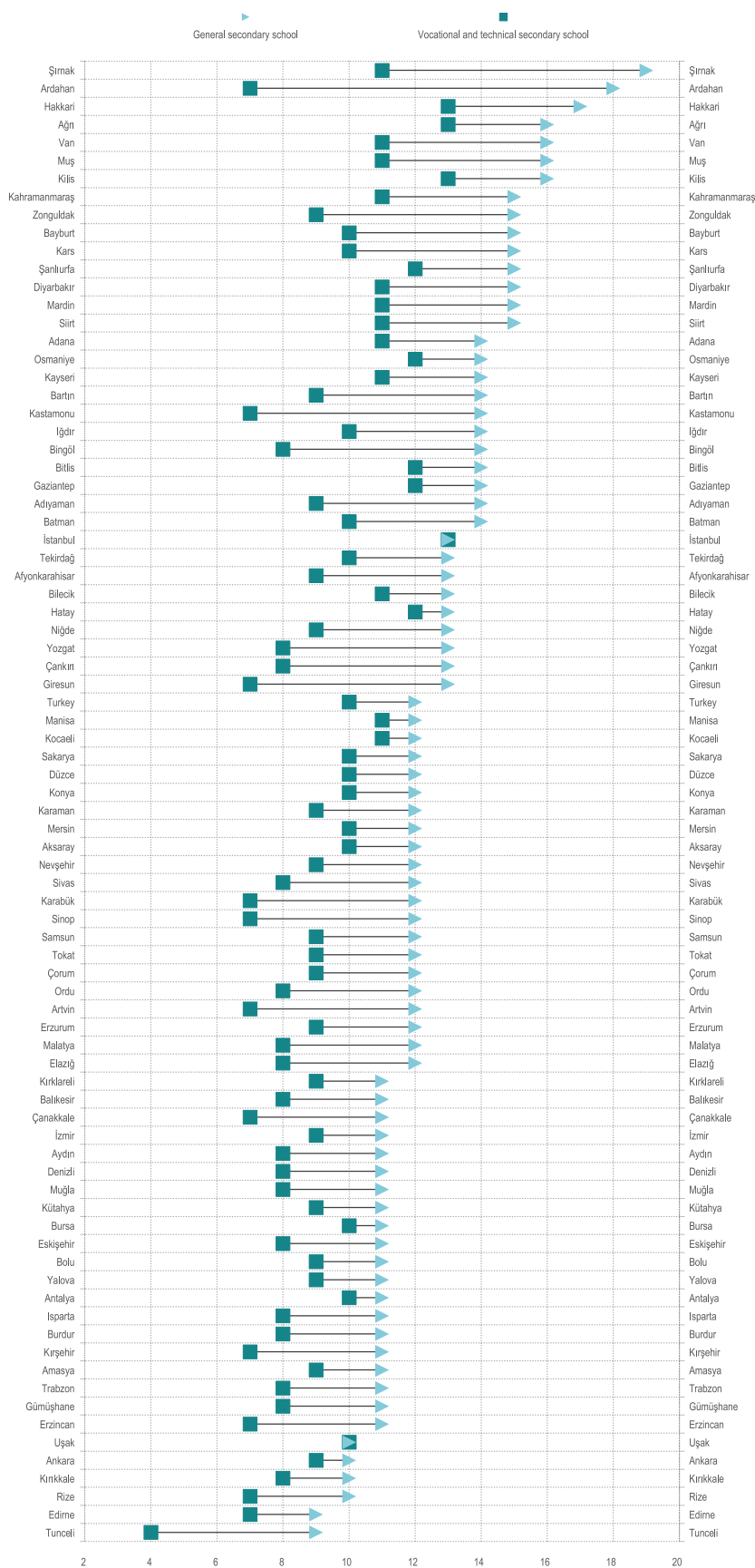
According to data on the student-teacher ratio in secondary schools in Figure D.3.6, there are 15 provinces which are above the national average. Istanbul has the highest student-teacher ratio in secondary schools with 20 students, followed by Gaziantep and Sanliurfa with 19 students. The cities with the lowest student-teacher ratio in secondary schools are Tunceli and Gumushane with 9 students, followed by Burdur, Erzincan and Bayburt with 10 students. In addition, Tunceli draws attention as the province with the lowest student-teacher ratio in both primary and secondary schools.

Figure D.3.6 Student-teacher ratio in primary and secondary schools by province (2019)



Source: Prepared using MoNE statistics published in 2020.

Figure D.3.7 Student-teacher ratio in secondary education by school type and provinces (2019)



Source: Prepared using MoNE statistics published in 2020.

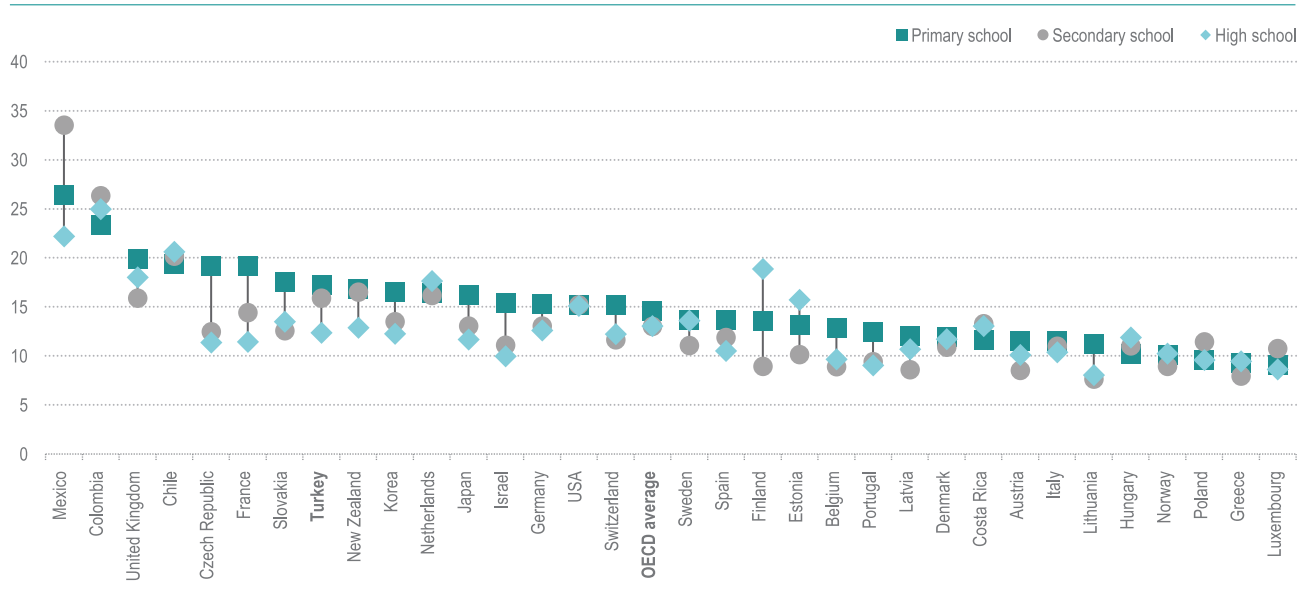
In Figure D.3.7, the student-teacher ratio in secondary education according to provinces in 2019 is given in terms of school type. The average student-teacher ratio in public schools is 12 and in vocational schools this number is 10. In Turkey, 35 provinces have an average student-teacher ratio above the national average. Sırnak ranks first with 19 students, followed by Ardahan with 18 students, Hakkari with 17 students, Ağrı, Van, Muş and Kilis with 16 students each. Ardahan draws attention as the province with the highest difference with the student-teacher ratio, which is 18 in general secondary education and 7 in vocational and technical secondary education. The provinces with the lowest student-teacher ratio in general high schools are Tunceli and Edirne with 9 students. These provinces are followed by Rize, Kırkkale, Ankara and Uşak with 10 students. Another point that draws attention in Figure D.3.7 is that the student-teacher ratio is equal to each other in both general high schools and vocational high schools in Istanbul and Uşak, and the student-teacher ratio in general high schools is higher than in vocational high schools in all other provinces.

When the student-teacher ratio in vocational high schools is examined, we can see that there are 21 provinces above the Turkish average. In 13 provinces, student-teacher ratio in the vocational schools is equal to the national average of 10. Hakkari, Ağrı, Kilis and Istanbul are the provinces with the highest student-

teacher ratio in vocational high schools with 13 students, followed by Şanlıurfa, Osmaniye, Bitlis and Gaziantep with an average of 12 students. The province with the lowest student-teacher ratio in vocational high schools is Tunceli with 4 students, while Edirne, Rize, Erzincan, Kırşehir, Çanakkale, Artvin, Sinop, Karabük, Giresun, Kastamonu and Ardahan have the highest student-teacher ratio in vocational high schools with 7 students.

Figure D.3.8 shows the student-teacher ratio in OECD countries in 2018 in terms of different levels. The student-teacher ratio in primary schools was 15, while it was 13 in secondary and high schools in 2018 in OECD countries. The average student-teacher ratio in primary schools in Turkey is 17, while it is 16 in secondary schools, both above the OECD average. At the high school level, there is an average of 12 student-teacher ratio in Turkey, a number below the OECD average. At all three levels, the countries with the highest student-teacher ratio are Mexico and Colombia, while those with the lowest are Luxembourg, Greece and Poland. In Mexico, the student-teacher ratio in secondary schools is 33, while it is 26 in primary schools and 22 in secondary schools. Luxembourg, on the other hand, is well below the OECD average, with a teacher-student ratio of 9 in primary and high schools, and 11 in secondary schools.

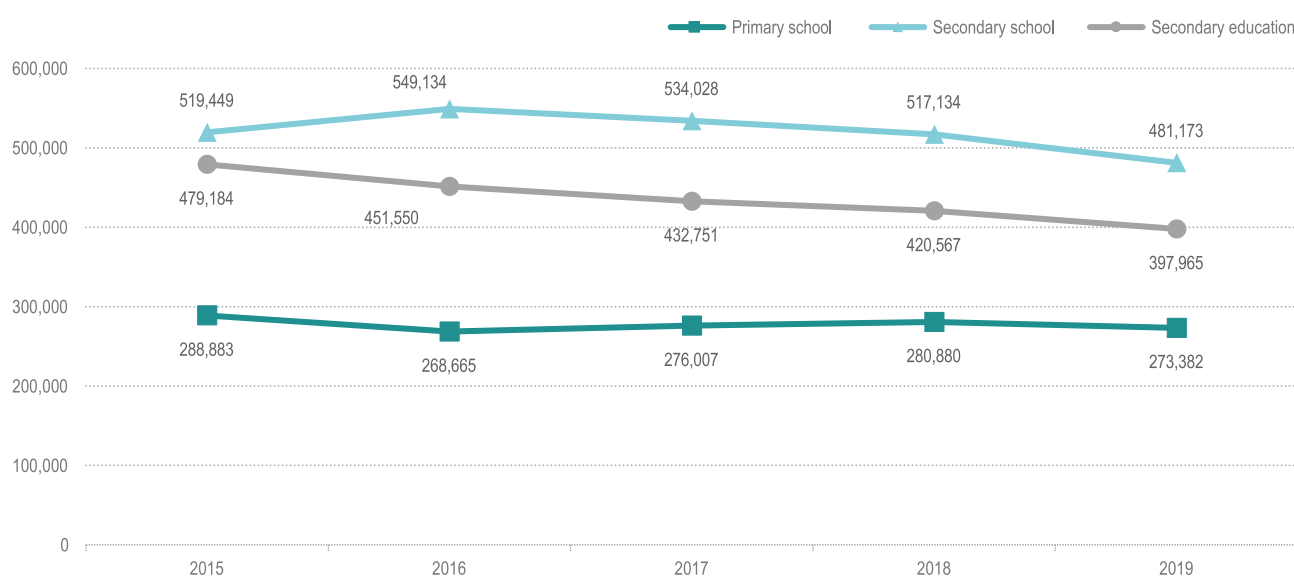
Figure D.3.8 Student-teacher ratios by grade in OECD countries (2018)



Source: Prepared using OECD / UIS / Eurostat (2020) data.

This indicator will examine the changes in the last five years under the bussed-school practices in Turkey in terms of the number of students in bussed-school by province.

Figure D.4.1 Trends in the number of students transported within the scope of bussed-school by level (2015-2019)



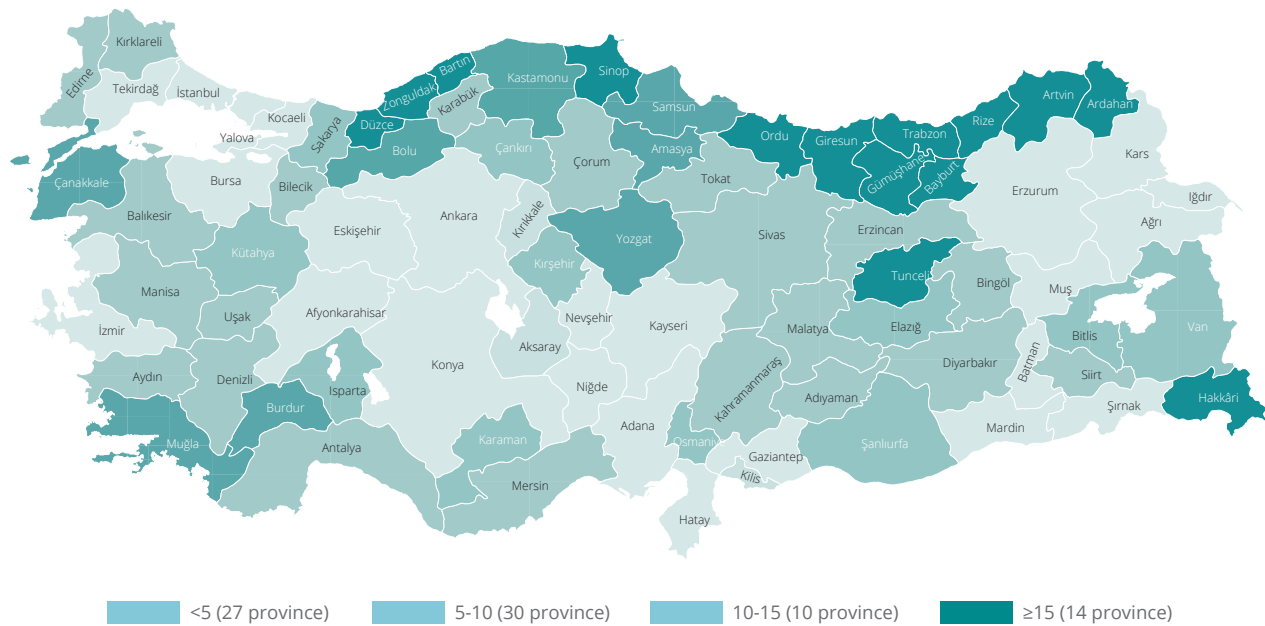
Source: The figure prepared using MoNE statistics published in various years and data from the Outlook on Education 2019 report.

Figure D.4.1 shows the trends in the number of students transported at different levels within the scope of bussed-school between 2015 and 2019. While the number of students who were within the scope of bussed-school at the primary school level was around 288 thousand in 2015, it decreased to around 268 thousand in 2016 and then increased again in 2017 and 2018 to 280 thousand. In 2019, this rate fell again and became 273 thousand. While the number of students who moved to secondary schools was around 519 thousand in 2015, it increased by 30 thousand to 549 thousand in 2016, and then decreased and reached 481 thousand by 2019. At the secondary education level, while the number of students in bussed-school in 2015 was around 479 thousand, it gradually decreased in the following years and reached 397 thousand in 2019.

Map D.4.2 shows data for primary school students who undertook bussed-school in the 2019-2020 academic year. The national average of students undertaking bussed-school in 5.2%. When the rates of students transported within the scope of bussed-school is examined at the provincial level, Bartın comes first with 33%. One out of every 3 primary school students in Bartın receives education within the scope of bussed-school. Among the provinces where bussed-school is applied the most in primary school after Bartın are Ardahan with 31%, Hakkari with 27%, Giresun and Ordu with 24%. Tunceli has a rate of 23%, Artvin 22%, Rize, Trabzon and Sinop a rate of 19%. There are a total of 15 provinces in which the rate of bussed-school is over 15% and 27 provinces in which this rate is below the national average of 5.2%. Gaziantep, Istanbul and Ankara stand out as the provinces with the least students in bussed-school with a rate of 1% each.



Map D.4.2 Distribution of the rate of students (%) transported within the scope of bussed-school in primary schools by province (2018)

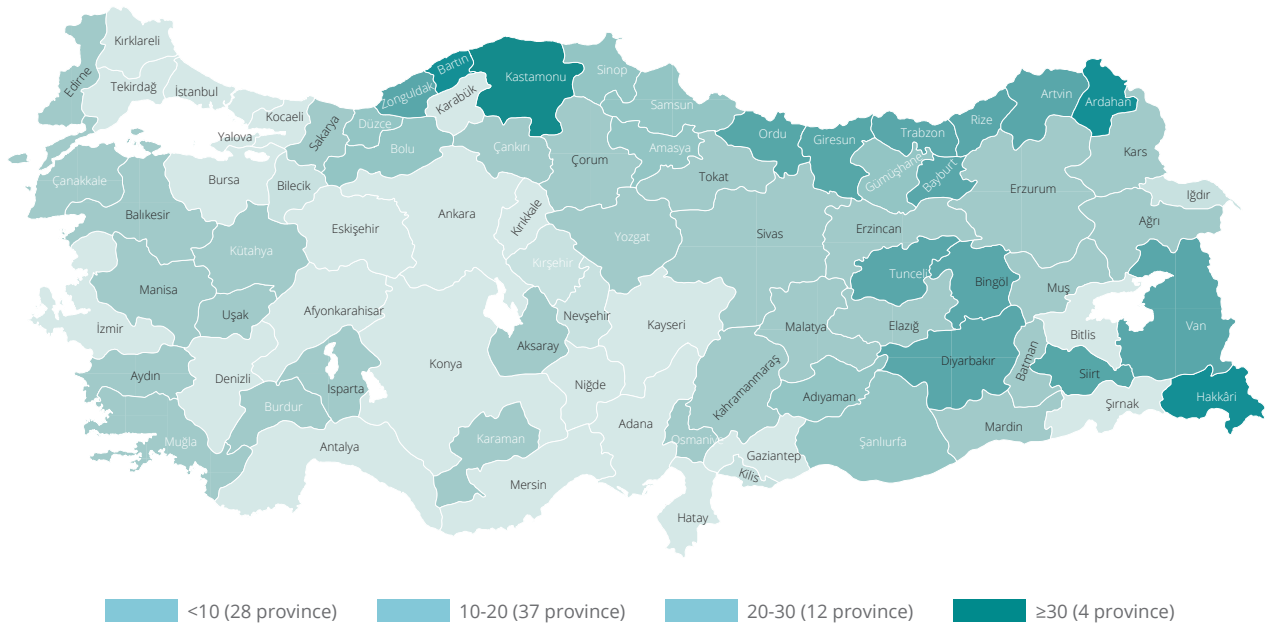


Source: MoNE (2020).

Map D.4.3. shows the rates of students transported within the scope of bussed-school at the secondary school level in the 2019-2020 academic year. The average rate of students undertaking bussed-school at

the secondary school level in Turkey is 8.8%. There are 32 provinces with bussed-school rates above 15% at the secondary school level, and 26 provinces below this rate. When the rates of students transported within the

Map D.4.3 Distribution of the rate of students (%) transported within the scope of bussed-school in secondary school by province (2018)



Source: MoNE (2020).

scope of bussed-school practice in secondary schools are examined at the provincial level, we can see that Bartın (38%) and Hakkâri (36%) have the highest rates. Kastamonu (32%), Ardahan (31%), Giresun (28%), Ordu (27%), Van (26%), Trabzon (25%) Bayburt (25%) and Artvin (27%) also have high rates. The provinces with the least bussed-school practices in secondary schools are Istanbul and Ankara with a ratio of 1%, similar to the rate in primary schools.

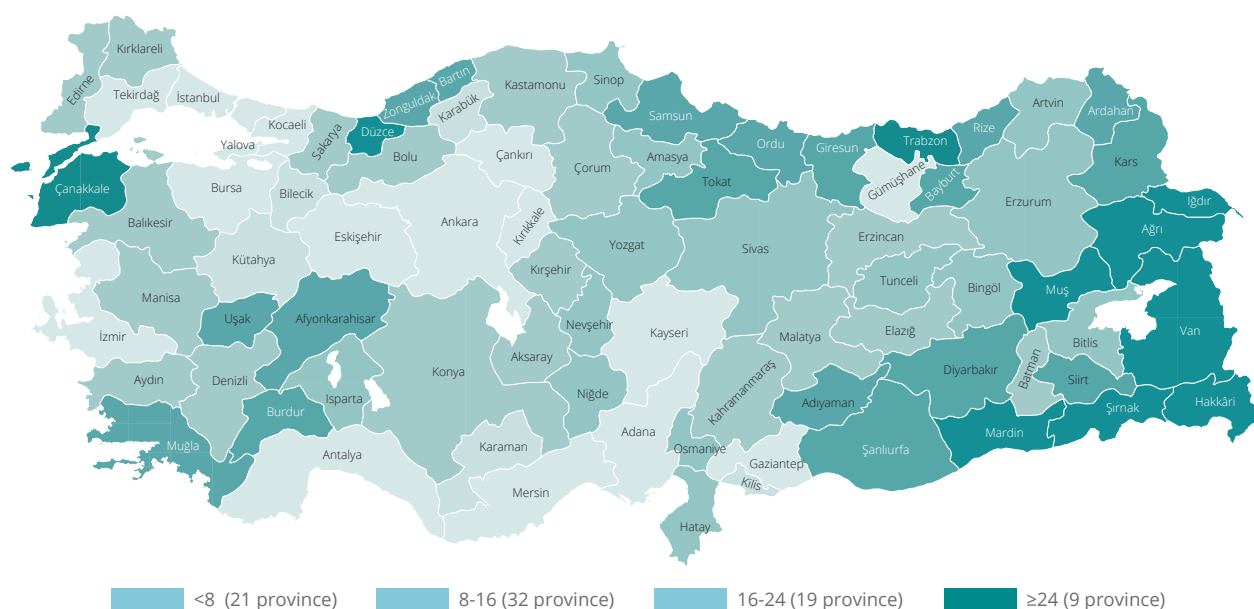
Map D.4.4 shows the rates of students transferred to schools in city centers within the scope of bussed-school in secondary education in the 2019-2020 academic year. The average are of those undertaking bussed-school in Turkey in secondary education is 9.3%. There are 55 provinces in which this rate is higher than the national

average, and 15 provinces in which this rate is over 20%.

The provinces with the highest rate of bussed school students in secondary education are Şırnak with 36.6%, Hakkari with 35.6%, Van with 30.2%, Muş with 29.6%, Ağrı with 28.7% and Mardin with 28.2%.

There are a total of 25 provinces in which the rate of bussed-school is below the national average. Gümüşhane is the only province that does not have bussed-school policies. Istanbul (0.2%), Yalova (0.2%), Ankara (1.0%), Eskişehir (1.1%) and Kilis (1.5%) are the provinces with the least bussed-school in secondary education.

Map D.4.4 Distribution of the rate of students transported within the scope of bussed-school in secondary education (%) by province (2018)



Source: MoNE (2020).

- Data on the number of schools, units and classrooms in our country shows that the highest increase is at the preschool level. As a matter of fact, there has been an increase of 69.2% in the number of preschool schools in the last five years. However, although the number of preschool institutions has increased, the fact that the schooling rate in the age group of 5 is still around 75% indicates that there is a need for more schools at this level. In addition, the fact that more than half of existing preschool institutions are private, and the number of public schools is low creates problems especially for children of socio-economically disadvantaged families. In this context, the budget allocated to the preschool level should be increased. Priority should be given to establishing preschool institutions in disadvantaged areas.
- Indicators such as class size and the ratio of student-teacher ratio in Turkey do not seem to be a significant problem in terms of country averages. However, the persistence of inequalities between regions, which have been continuing for years, is an important problem which needs to be solved. In this context, in order to reduce disparities between regions, priority should be given to disadvantaged regions in the construction of new schools and classrooms.
- Bussed-school is used extensively to provide access to education for students living in relatively dispersed settlements, especially in rural areas. Although it contributes significantly to students' access to education, it has a negative effect on students' efficiency and motivation in class due to reasons such as leaving early and not having breakfast. For this reason, it is important to use bussed-school as little as possible and to ensure that students receive education in the closest place to their homes. For this reason, instead of moving the student, studies should be made to use the capacities of closed primary schools more effectively, based on the closest place to the homes of students.

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# CHAPTER **E**

## FINANCING OF EDUCATION

INDICATOR	E1	What is the ratio of the budget allocated for education to GDP?
INDICATOR	E2	How much is spent per student?
INDICATOR	E3	How is the MoNE budget distribution according to economic classification?
CHAPTER	E	Recommendations

It is a generally accepted phenomenon that education is the most important source of individual social and economic well-being (Acemoğlu & Angrist, 1999; Dee, 2004; Hanushek & Kimko, 2000; Hanushek & Wössman, 2007; The World Bank, 2019). Therefore, countries allocate great resources to improve their education systems and to increase human capital qualifications (UNESCO and OECD, 2003). The size of the resources allocated to education is important in order to provide a quality education. Necessary resources should be allocated to education for better quality teachers and administrators and more qualified infrastructure and textbooks. In order to evaluate the efficiency of the resources allocated to education, education expenditure indicators should be examined in detail. Education expenditure indicators show what the financial resources for education are and how these resources are spent (OECD, 2020).

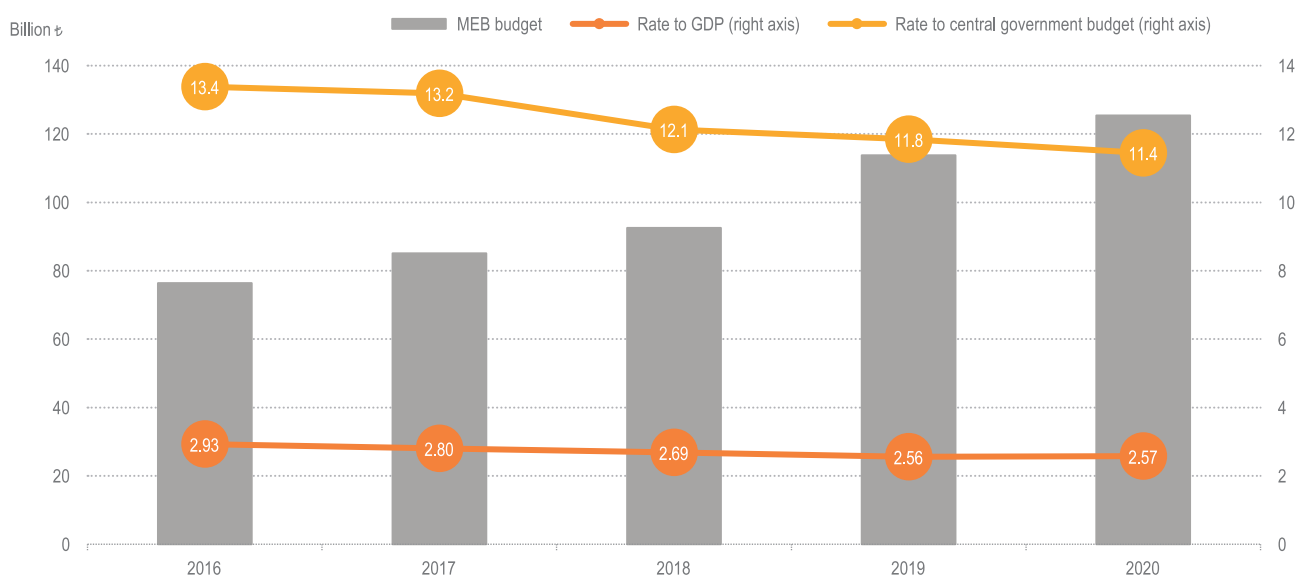
Turkey in recent years has experience a significant increase in schooling rates, particularly in the preschool and secondary school level. The size of the resources allocated to education and how they are used becomes even more important, as the increase in education time and schooling rates implies more resources. By regularly monitoring the resources allocated for education, how resources are used, where they are spent, opportunities can be offered for more effective and efficient use of resources. In this context, issues such as the ratio of the budget allocated to education to the Gross Domestic Product (GDP) and the central government budget, the expenditures made per student, the distribution of the resources allocated to education according to the economic classification will be analyzed and compared with Organization for Economic Development and Cooperation (OECD) data.

## WHAT IS THE RATIO OF THE BUDGET ALLOCATED FOR EDUCATION TO GDP?

This indicator will examine the ratio of the budget allocated to the Ministry of National Education (MoNE) to the GDP and central government budget. Then, the ratio of GDP allocated to education in OECD countries

according to their levels of education and spending by public and private expenditure will be assessed for comparative analysis.

Figure E.1.1 Trends in the ratio (%) of MoNE budget (billion ₺) to GDP and the central government budget (2016-2020)



Source: The figure was prepared using MoNE statistics published in various data from the Outlook on Education 2020 report.  
 Note: The higher education budget has been excluded.

The trends in the ratio of the MoNE budget to GDP and central government budget between the years 2016-2020 is shown in Figure E.1.1. The budget allocated to MoNE between the years 2016-2020 increased from 76.35 billion TL to 125.4 billion TL. Between these years, the budget allocated to MoNE within the GDP has continuously decreased over the years and decreased from 2.93% to 2.57%. Similarly, the budget allocated to MoNE within the central government budget between 2016-2020 has decreased over the years from 13.4% to 11.4%. This data shows that although the rate of access to preschool and secondary education has increased in recent years, there has been a significant decrease in the resources allocated to education.

Figure E.1.2 shows the ratio of total public and private expenditure (excluding preschool and higher education) to GDP in OECD countries in 2017. The countries with the highest total public and private expenditure rate in GDP in OECD countries in 2017 were Norway (4.7%), Israel (4.7%), Colombia (4.7%), New Zealand (4.6%) and Iceland (4.6%). Among the OECD countries with the lowest public and private expenditure rates on education are Lithuania (2.4%), Ireland (2.5%), Japan (2.6%), Czech Republic and Slovakia (2.7%). In Turkey this rate is 3.3% of GDP, below the OECD average (3.4%).

When we look at the total public expenditure rates in GDP in OECD countries, we can see that Norway (4.7%),

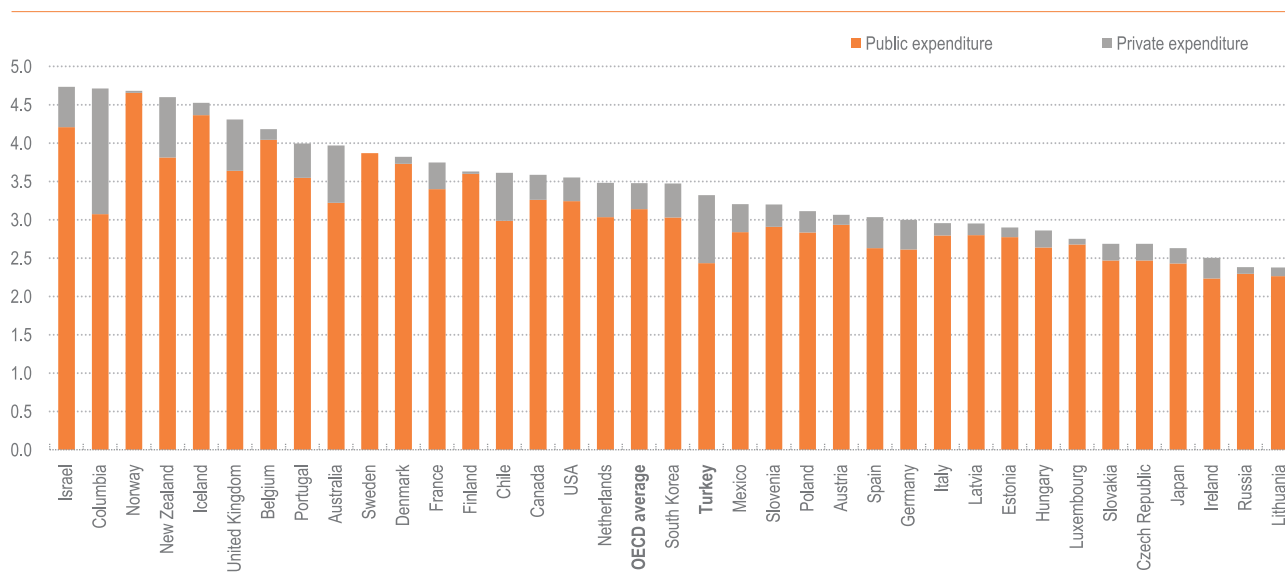


Iceland (4.4%), Israel (4.2%), Belgium (4.0%) and Sweden (3.9%) have the highest rates of public spending. The countries with the lowest rates of public expenditure are Ireland (2.2%), Lithuania (2.3%), Japan and Turkey (2.4%). Turkey has a public expenditure rate that is much lower than the OECD average (3.1%) and ranks fairly low among all OECD countries in terms of public spending. The countries with the highest rates of private expenditure in GDP are Colombia (1.6%), Turkey (0.9%), Australia (0.8%) and New Zealand (0.7%). Norway, Sweden, Belgium, Denmark, Austria, Latvia, Estonia, Luxembourg and Lithuania have rates of 0.1% or less in private expenditure.

The ratio of total expenditure on education to GDP in OECD countries according to education levels is shown in Figure E.1.3. The distribution of total resources allocated to education in GDP by education levels differs significantly in OECD countries. According to OECD averages, 1.5% of GDP was spent on primary school,

1.0% on secondary school and 1.1% on secondary education (general secondary education 0.6% and vocational secondary education 0.5%). Among the total expenditure on education, most countries allocate more resources to primary school than other levels. This is likely because the primary school is five years or longer in many countries. Austria, Colombia, Czech Republic, France, Germany and Latvia allocate more resources to secondary school, while Belgium, Hungary, Italy and Turkey devotes more resources to secondary education. Looking at the resources allocated to general secondary education and vocational secondary education at the secondary education level, countries such as Austria, Belgium, Czech Republic, Finland, Germany, Luxembourg, the Netherlands, Poland, Slovakia and Slovenia allocate more resources to vocational education than general secondary education. Countries that allocate more resources to vocational education are generally known as the world's leading countries in vocational education.

Figure E.1.2 The ratio of total public and private expenditure on education in OECD countries to GDP (%) (2017)



Source: OECD (2020).

Note: Preschool and higher education have been excluded.

Table E.1.3 The ratio of total expenditure on education to GDP in OECD countries according to education level (%) (2017)

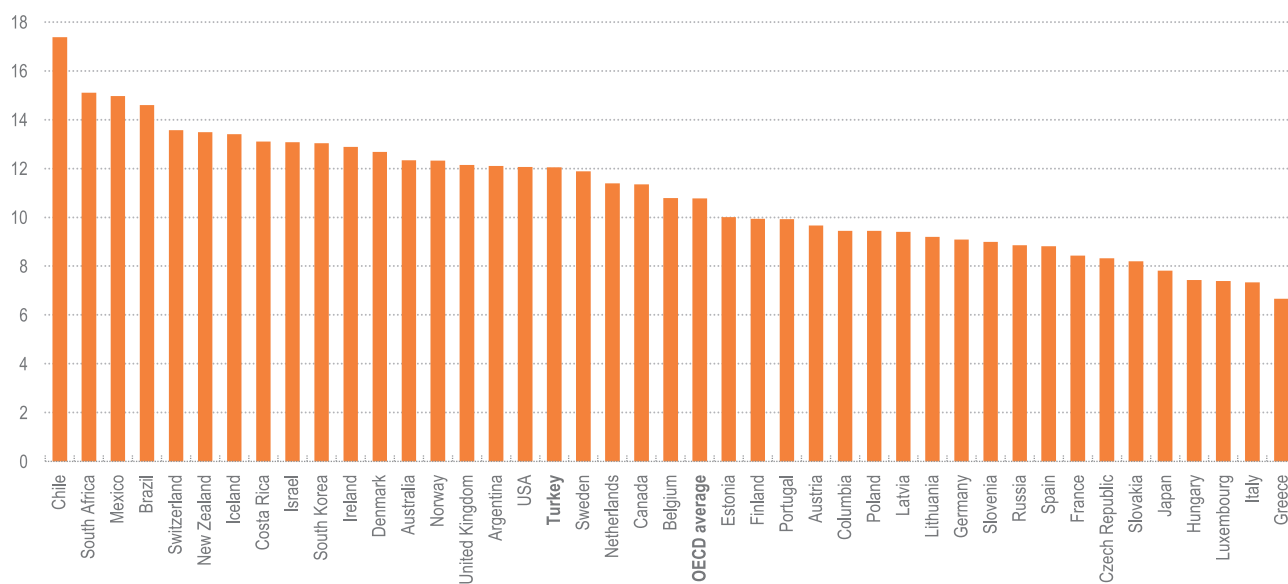
	Primary school	Secondary school	Secondary education		
			General programs	Vocational programs	All programs
Israel	2.5	-	1.4	0.9	2.2
Belgium	1.6	0.9	0.7	1.0	1.7
Norway	2.2	1.0	0.8	0.7	1.5
<b>Turkey</b>	<b>0.9</b>	<b>1.0</b>	<b>0.7</b>	<b>0.7</b>	<b>1.5</b>
United Kingdom	1.9	1.0	0.9	0.5	1.4
Canada	2.2	-	-	-	1.4
New Zealand	1.8	1.3	1.0	0.3	1.4
Switzerland	-	-	-	-	1.3
France	1.2	1.3	0.8	0.5	1.2
Italy	1.0	0.7	-	-	1.2
Finland	1.3	1.1	0.3	0.9	1.2
Portugal	1.6	1.2	-	-	1.2
Iceland	2.2	1.0	0.8	0.4	1.2
Chile	1.8	0.6	0.9	0.3	1.2
Netherlands	1.2	1.2	0.3	0.8	1.2
South Korea	1.5	0.8	-	-	1.1
Hungary	0.7	0.7	0.7	0.4	1.1
Sweden	1.9	0.9	0.6	0.5	1.1
<b>OECD average</b>	<b>1.5</b>	<b>1.0</b>	<b>0.6</b>	<b>0.5</b>	<b>1.1</b>
USA	1.7	0.9	-	-	1.0
Austria	0.9	1.2	0.3	0.6	0.9
Germany	0.7	1.2	0.4	0.5	0.9
Slovenia	1.5	0.8	0.3	0.6	0.9
Spain	1.3	0.8	0.6	0.3	0.9
Luxembourg	1.1	0.8	0.3	0.5	0.9
Czech Republic	0.8	1.0	0.2	0.7	0.9
Denmark	2.0	1.0	-	-	0.9
Poland	1.6	0.7	0.3	0.5	0.8
Latvia	1.4	0.7	0.5	0.4	0.8
Slovakia	0.9	0.9	0.3	0.6	0.8
Japan	1.1	0.7	-	-	0.8
Mexico	1.6	0.8	0.5	0.3	0.8
Australia	1.8	1.3	0.6	0.2	0.8
Greece	1.3	0.7	0.5	0.3	0.7
Estonia	1.5	0.7	0.4	0.3	0.7
Columbia	2.0	2.1	-	-	0.6
Ireland	1.2	0.6	-	-	0.5
Lithuania	0.8	1.0	0.3	0.1	0.4

Source: OECD (2020).

Figure E.1.4 shows the ratio of total public expenditures on education in OECD countries in 2017 within total government expenditures. According to this, among the total government expenditures, the countries with the highest total public expenditure on education were Chile (17.4%), Mexico (15%), Switzerland and

New Zealand (13.5%). Meanwhile the countries with the lowest spending rates were Greece (6%), Italy and Luxembourg (7.3%), Hungary (7.4%) and Japan (7.8%). The ratio of total public expenditure on education in total government spending in Turkey (12.1%) is higher than the OECD (10.8%).

Figure E.1.4 Proportion of Total government expenditure on education in OECD countries (%) (2017)

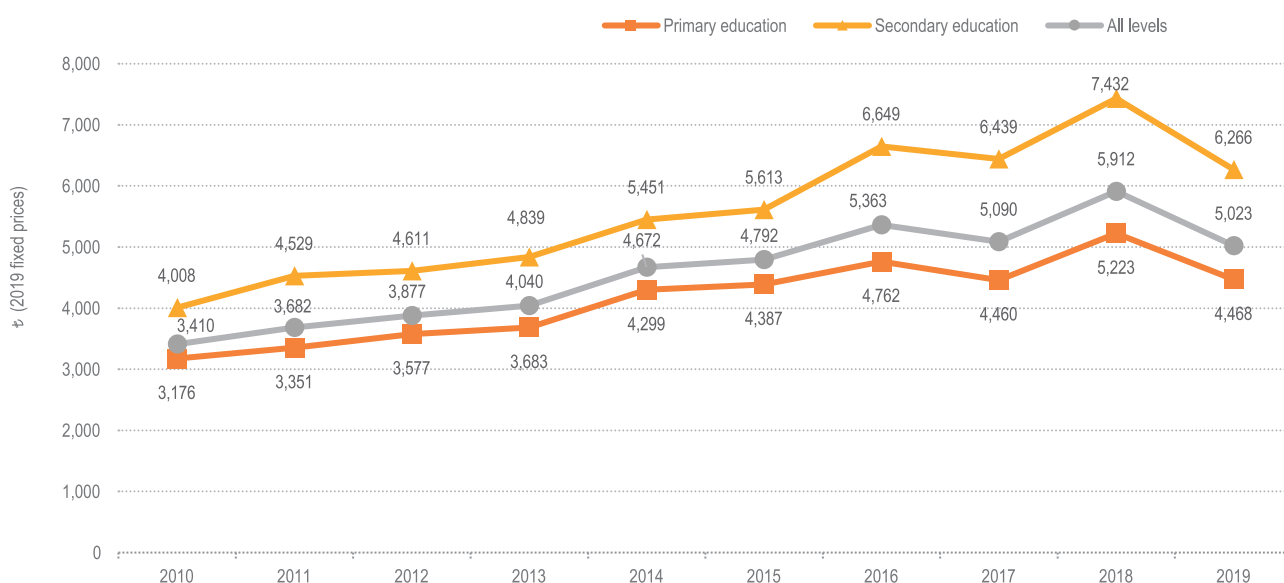


Source: OECD (2020).

Note: Preschool and higher education have been excluded.

This indicator will examine expenditures made per student and changes in expenditures made by years according to the school level and type. Then, data on expenditure per student will be analyzed in comparison with OECD countries.

Figure E.2.1 Trends in expenditure (₺) per student by grade (2010-2019)



Source: Prepared using MoNE statistics published in various years and the statistics of the Ministry of Treasury and Finance for 2019.

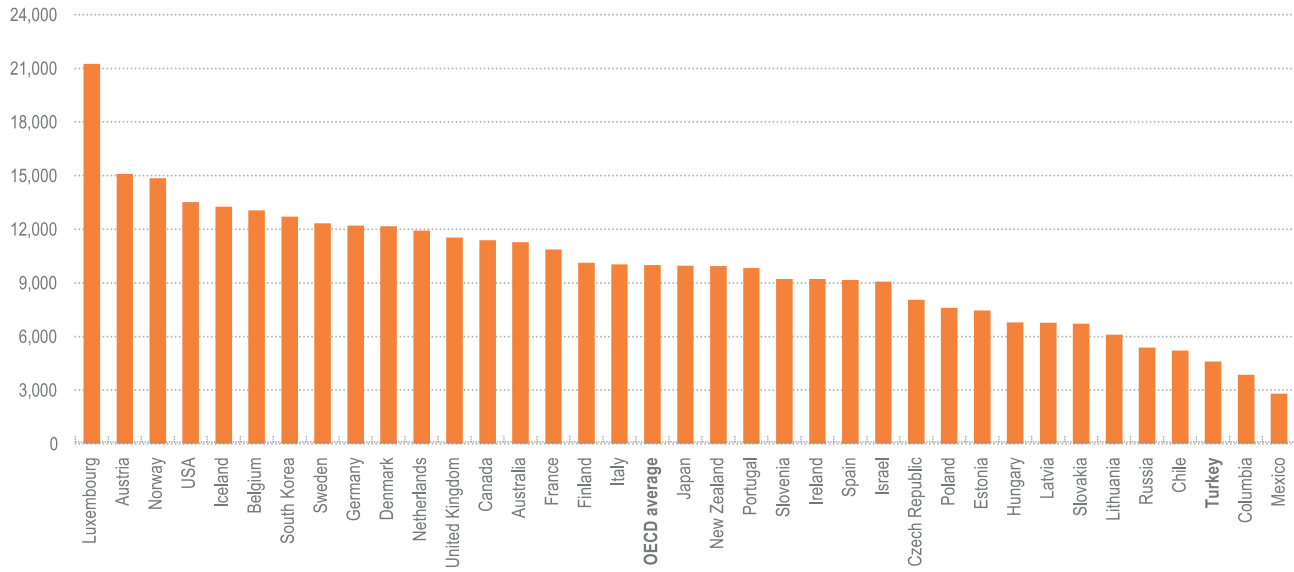
Note: Basic education; preschool, primary and secondary school data has been included in calculations and based on December 2019 fixed prices.

Figure E.2.1 shows the trends in expenditures per student between the years 2010-2019 according to levels. According to the calculation made on the basis of the December 2019 fixed price, the spending per student between 2010 and 2018 has increased almost every year, but in 2019 it experienced a sharp decline compared to the previous year. While 3,176 TL was spent per student in basic education in 2010, this figure increased to 5,223 TL in 2018 and decreased to 4,468 TL in 2019. In secondary education, while the expenditure made in 2010 was 4,008 TL, it increased to 7,432 TL in 2018 and decreased to 6,266 TL in 2019. While the expenditure per student at all levels was 3,410 TL in 2010, this amount increased to 5,912 TL in 2018, and

decreased to 5,023 TL in 2019. As can be seen clearly in the figure, expenditure per student in 2019 compared to the previous year saw a sharp decrease at all levels.

Figure E.2.2 shows the total expenditure per student (excluding preschool and higher education) in OECD countries in 2017. Luxembourg (\$21,244), Austria (\$15,097), Norway (\$14,848) and the USA (\$13,511) are the countries with the highest spending per student. Mexico (\$2,803), Colombia (\$3,855) and Turkey (\$4,594) are the countries with the lowest levels of spending per student. Turkey spends less than have of the OECD (\$9,999) per student.

Figure E.2.2 Total expenditure per student in OECD countries (\$) (2017)



Source: OECD (2020).

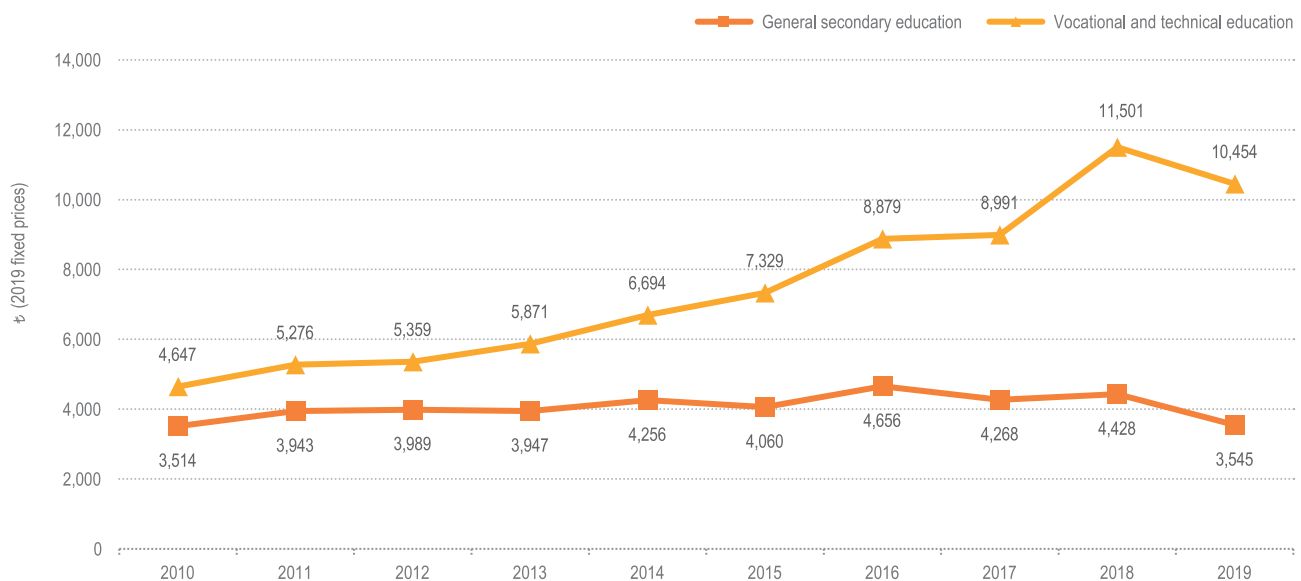
Not 1: Calculated according to purchasing power parity.

Not 2: Excluding preschool and higher education.

Figure E.2.3 shows the trends in expenditures per student in secondary education by type of high school between 2010-2019. The resources allocated to vocational education between 2010 and 2018 have increased regularly from 4,647 TL to 11,501 TL. However, in 2019,

the expenditure per student in vocational education decreased by 1,047 TL compared to the previous year and declined to 10,454 TL. In general secondary education, the expenditure per student between 2010 and 2016 increased regularly from 3,514 TL to 4,866 TL. However, in 2017,

Figure E.2.3 Trends in spending per student (₺) in secondary education by type of high school (2010-2019)



Source: Prepared using MoNE statistics published in various years and the statistics of the Ministry of Treasury and Finance for 2019.

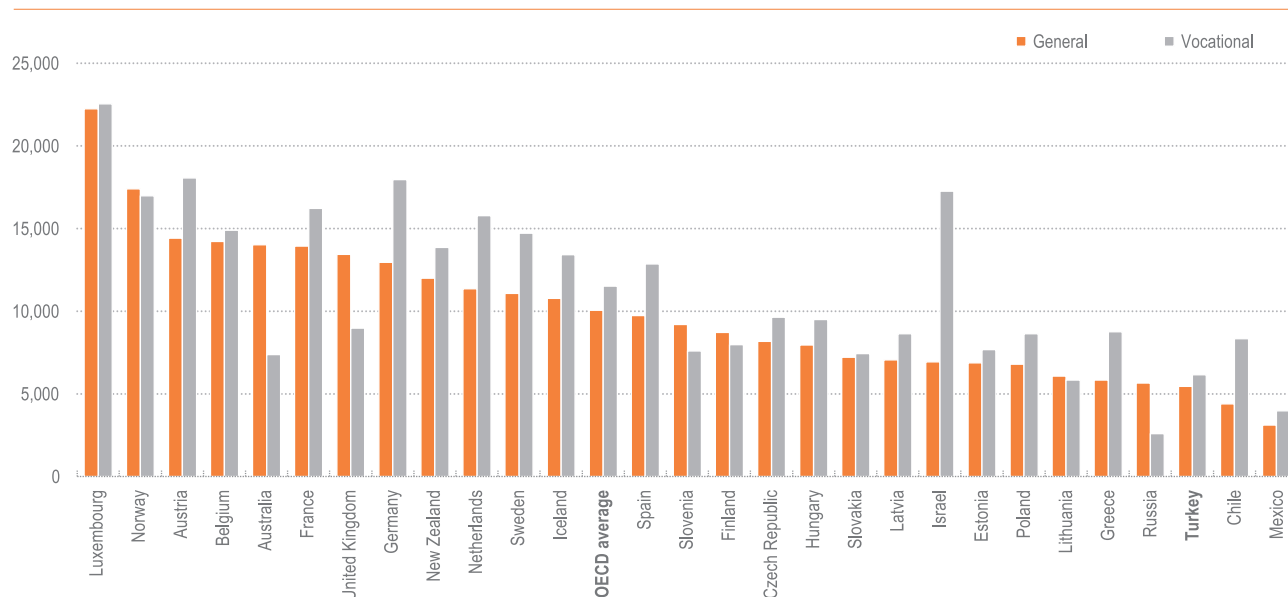
Note: The calculations are based on December 2019 fixed prices.

after 2016, this increasing trend reversed and the expenditure per student in general secondary education has constantly decreased. In 2019, 3,545 TL was spent per student in general secondary education, which is lower than the expenditure per student in 2010. The most striking point in the figure is that the difference between expenditure per student in general secondary education and expenditure per student in vocational secondary education is increasing year by year. While the expenditure per student in vocational education in 2010 was 1.3 times that of general secondary education, this rate has increased to 3 times that of general secondary education in 2019.

Figure E.2.4 shows the expenditures made per student in secondary education according to the type of high school in OECD countries. When we look at the average of OECD countries, we can see that the amount of expenditure per student in vocational education (11,521\$) is more than the amount spent per student in general secondary education (10,051\$). In Norway, the United Kingdom, Finland, Slovenia, Australia and Lithuania, the

expenditure per student in general secondary education is higher than in vocational secondary education. In other countries, expenditure per student in vocational secondary education is higher than expenditure per student in general secondary education. There are various factors affecting expenditure per student in vocational and general education. The first is the student numbers. Since the number of students is high in vocational education, where 70% of students continue to training, such as Finland and Slovenia, the expenses are less. Second, the structure of the programs affects the source of expenditure per student. Vocational programs with work-based components require additional training-related expenditures at workplaces. These are either directly subsidized by private companies or by the government. A third point is that expensive equipment and infrastructure are required in some professional training processes. The expenditure of vocational training programs in the fields of production and construction is much higher. Finally, investments in vocational education programs and curricula affect the amount of expenditure per student (OECD, 2020).

Figure E.2.4 Expenditure per student by type of high school in secondary education in OECD countries (\$) (2017)



Source: OECD (2020).

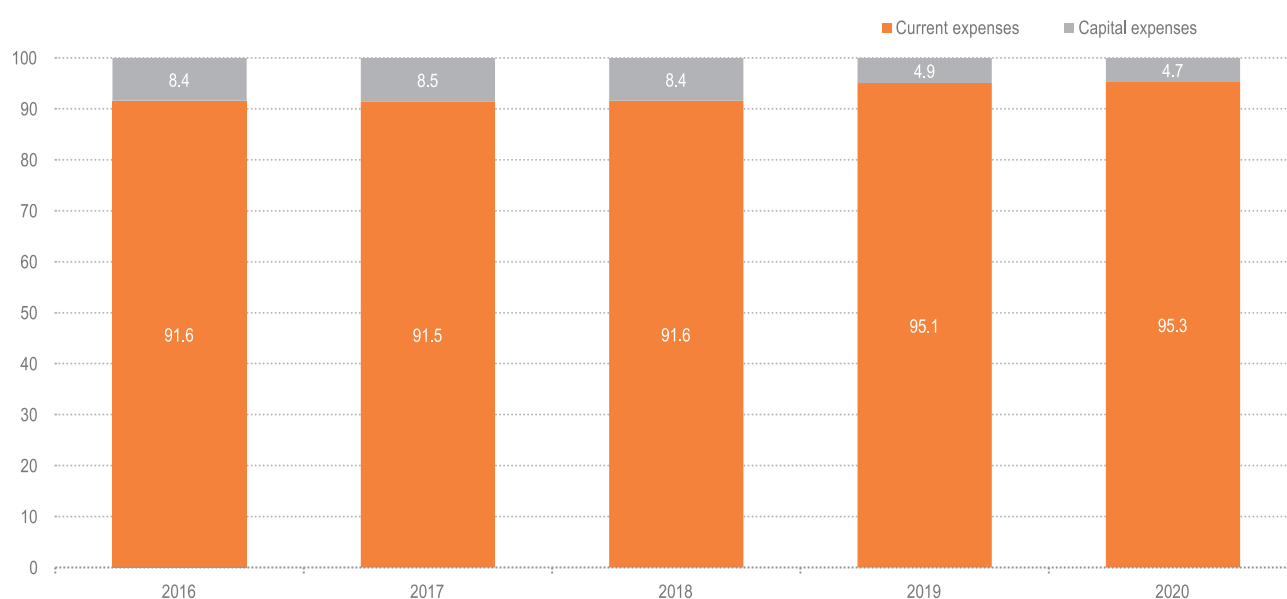
Note: Calculated according to purchasing power parity.

## HOW IS THE MoNE BUDGET DISTRIBUTION ACCORDING TO ECONOMIC CLASSIFICATION?

This indicator will examine the change in the budget distribution of the MoNE budget according to the economic classification over time. Then the ratio of the

current and capital expenditures in education spending in OECD countries will be examined in comparison with Turkey.

Figure E.3.1 Change in the distribution of current and capital (investment) expenditures in the MoNE budget (%) (2016-2020)



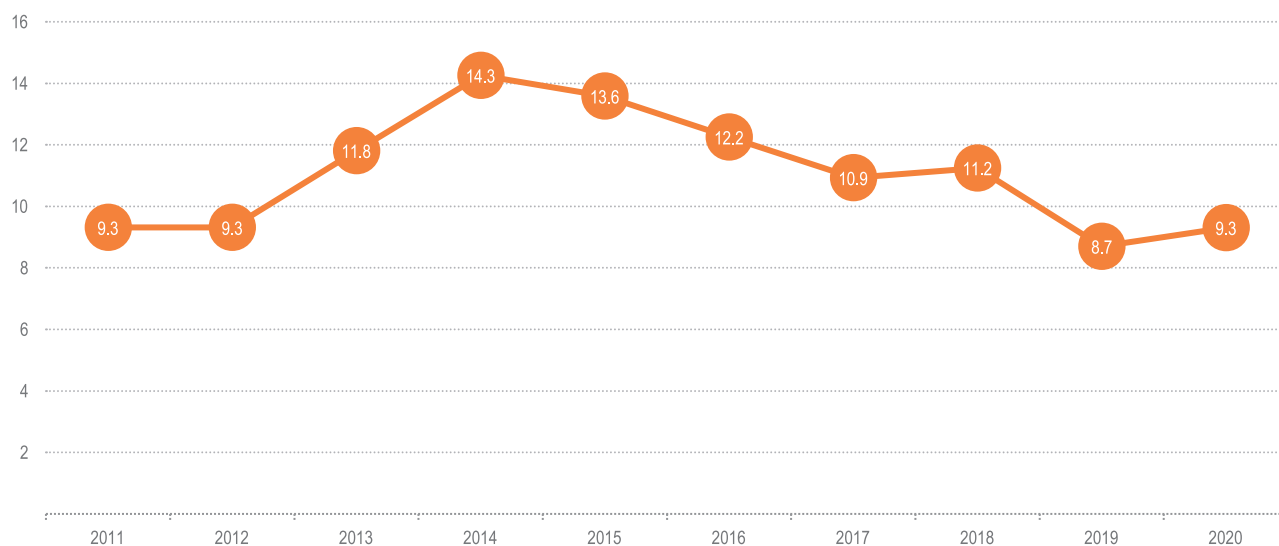
Source: Prepared using the Ministry of National Education statistics published in various years data from the Outlook on Education 2020 report.

Figure E.3.1 shows the change in the distribution of current and capital (investment) expenses in the MoNE budget between 2016-2020. Current expenditures include employee payments, social security payments, as well as purchases of goods and services and interest expenditures that do not exceed the minimum value specified by the budget laws and/or whose duration is no longer than one year (Strategy and Budget Directorate, 2020, p. 2). Meanwhile, capital expenditure includes types of durable goods, building construction and transportation vehicles, machinery and other equipment. Examining the change in current and capital expenditures in the MoNE budget between 2016-

2020, it we can see that the share allocated to capital expenditures decreased and the share allocated to current expenditures increased. While 91.6% of the total expenditures in the MoNE budget in 2016 were allocated to current expenses and 8.4% to capital expenses, in 2020, 95.3% was allocated to current expenses and 4.7% to capital expenses.

Figure E.3.2 shows the trends in the share of the central budget allocated to MoNE investments between 2011-2020. Despite the fluctuation over the years, the share allocated from the central budget to MoNE was 9.3% in 2011 and 2020.

Figure E.3.2 Trends in the share of central budget allocated to MoNE investments (%) (2011-2020)

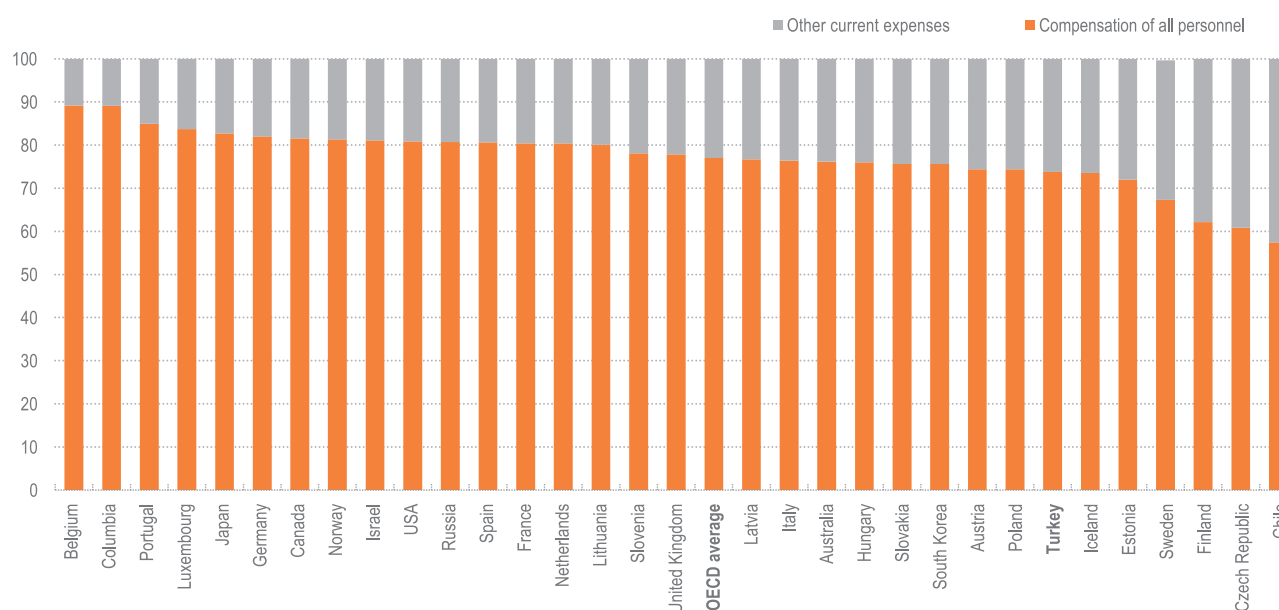


Source: Prepared using the Ministry of National Education statistics published in various years data from the Outlook on Education 2020 report.

Figure E.3.3 shows the distribution of current expenditure in public and private education institutions in OECD countries in 2017. The highest rate of current expenditure is spent on personnel in public and private education institutions. The countries with the highest personnel expenditures among the current expenditures are

Belgium (89.2%), Colombia (89.1%) and Portugal (85%). The countries with lowest personnel expenditures are Chile (57.4%), Czech Republic (60.9%), Finland (62.1%). Turkey's current expenditure in personnel expenses is 73.8% , below the OECD average of (77%).

Figure E.3.3 Distribution of current expenditure in public and private education institutions in OECD countries (%) (2017)



Source: OECD (2020).

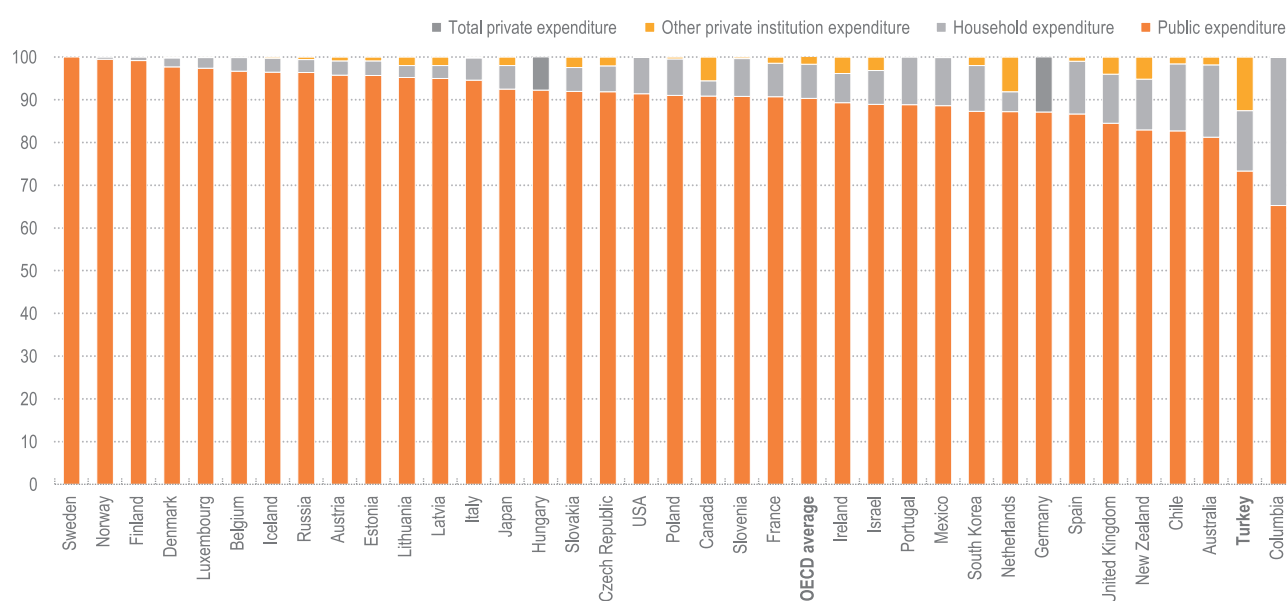
Note: Preschool and higher education have been excluded.



Figure E.3.4 shows the distribution of public and private expenditures on education in OECD countries in 2017. Scandinavian countries such as Sweden (0%), Finland and Norway (1%) and Denmark (2%), as well as Luxembourg and Belgium, are the countries with the lowest private spending rates and the highest public spending rates. Colombia (65%), Turkey (73%), Australia (81%), Chile and New Zealand (83%) are the countries with low rates of public spending. The private spending rate in Turkey (27%), higher than the OECD average (10%). Even among private spending rates in OECD countries, Turkey ranks as one of the highest countries. The most basic

reason is that private tutoring plays an important role for students to pass exams, especially secondary and higher education in Turkey. These private tutoring causes students to study outside of school and spend money on exam preparation materials. With the increase in private spending rates, children of socioeconomically advantageous families benefit from the aforementioned opportunities, while disadvantaged students are less likely to benefit from them. This increases the risk of inequality in education and deepens the disadvantaged situation of some groups (Çelik et al., 2019).

Figure E.3.4 Distribution of public and private expenditure on education in OECD countries (%) (2017)



Source: OECD (2020).

Note: Preschool and higher education have been excluded.

- The budget allocated for education in Turkey in the last five years as a share of both GDP and the central budget has decreased. The total expenditure ratio of public spending in GDP in Turkey is lower than the OECD average. Turkey is among the countries with the lowest rate of public expenditure in education spending. Considering that enrollment in preschool and secondary education has increased and dual education continues, public resources allocated to education should be increased further. While distributing public resources, priority should be given to disadvantaged regions. This will cause the resources to be used more effectively and efficiently.
- Among OECD countries, Turkey has one of the highest rates of private spending on education. High private spending risks increasing and deepening educational inequality. Therefore, Turkey's private spending and prevent educational inequality, public resources allocated to education should be increased.
- In addition, in recent years, Turkey has seen a reduction in spending per student. In particular in 2019 there has been a sharp decline compared to the previous year. In order to provide better quality education to students, the amount of expenditure per student should be increased from around 5 thousand TL to at least 10 thousand TL.
- With each passing year, the share of investments in the education budget decreases. In Turkey preschool and secondary level enrollment rates have increased, and dual education continues to exist. Keeping this in mind, it is necessary to increase the budget allocated to education, giving priority to disadvantaged regions.

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