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Briefing note Italy

Introduction

1. How well equipped are today's school-leavers to meet the challenges of the knowledge society? Can they penetrate complex texts and understand what they are reading? Can they use the mathematics and science they have learned in school to succeed in world increasingly relying on technological and scientific advances?

2. First results from the OECD Programme for International Student Assessment (PISA) provide some answers. PISA, a major new activity of the 30 Member countries of the OECD, aims at assessing how far students approaching the end of compulsory education have acquired some of the knowledge and skills that are essential for full participation in society. Approximately 265,000 students in 32 countries took part in the first round PISA assessment in 2000. The survey will be repeated at three-yearly intervals, making it the most comprehensive international survey to date of student knowledge and skills.

3. The survey covers literacy in reading, mathematics and science as well as student attitudes and approaches to learning. It also provides insights into the factors that influence the development of literacy skills at home and at school, examines how these factors interact and considers the implications for policy development. By providing internationally comparable information on student outcomes, it provides a unique benchmarking tool on which to evaluate policy choices.

The performance of countries

4. On average, 10% of 15-year-olds in the world's most developed countries have top-level literacy skills according to a new OECD study, being able to understand complex texts, evaluate information and build hypotheses, and draw on specialised knowledge. In Australia, Canada, Finland, New Zealand and the United Kingdom it is between 15% and 19% (see Table 2.1). In **Italy** 5% of students were among the top performers at Level 5.

5. At the other end of the scale, an average of 6%, but in some countries more than twice that proportion, fall below Level 1, the lowest level of proficiency. A further 12%, on average, only make it to Level 1 which requires students to just complete very basic reading tasks, such as locating a simple piece of information or identifying the main theme of a text. As a result, an average of 18% of 15-year-olds show serious gaps in the foundation of literacy skills needed for further learning. They may not be able to benefit effectively from available educational opportunities and fail to acquire the necessary knowledge and skills to do so effectively in their further school career and beyond. In **Italy**, 19% of students perform at or below Level 1 (see Table 2.1).

6. It is possible to summarise student performance in the three subject areas in each country by a mean score and, based on this, to calculate the range of rank order positions each country would occupy in the international league. Because only a sample of the population was assessed, there is room for some error, so the mean scores of some countries are indistinguishable but it is possible to report a range of ranks within which each country will fall. In reading literacy, **Italy** ranks between the 19th and 24th position among the 32 participating countries (see Figure 2.4). In mathematical literacy, **Italy** ranks between the 23rd and 25th position and in scientific literacy between the 23rd and 25th position (see Figures 3.2 and 3.5). All in all, Italian students performed significantly below the OECD average in all domains assessed by PISA, and very substantially below it in mathematical literacy.

Variation in performance within countries

7. Each country shows a wide range of student performance. One measure of inequality within countries is to put all students in order of their literacy scores and to look at how much difference there is between the person 25% from the bottom and the person 25% from the top. This shows the range of performance within the middle half of the population. How does the range in student performance in the **Italy** compare to that of other countries? The range among the middle half of the population, in reading, is 124 points, compared to the OECD average of 136 (see Table 2.3a). In fact, **Italy** has greater equality in student results than any other European country apart from Spain. **Italy** has a relatively small numbers of students with very high literacy, but it did not have a disproportionate number doing very poorly. So its below average performance overall is more to do with not having many high achievers, rather than having an exceptional under-achievement problem.

8. It is noteworthy that some countries – most notably Finland, Japan and Korea – both reach a high mean reading literacy performance while maintaining a comparatively narrow gap between the highest and poorest performers. This shows that greater equality of student outcomes is not incompatible with high overall performance. By contrast Germany, one of the countries with the largest gap between the highest and lowest performing students, has a mean performance below the OECD average, with much of this variation accounted for by differences between schools. More generally, PISA suggests that both overall variation in student performance, and the relative proportion of that variation that is found between schools, tend to be greater in those countries with explicit differentiation at an early age between types of programme and school.

Gender differences

9. In every country, females were, on average, better readers and in many countries this difference is large in both statistical and substantive terms. In about half of the countries males perform better in mathematical literacy while in the case of scientific literacy differences are smaller and tend to even out among countries. There is, however, significant variation between countries in the size of gender differences. Some countries do manage to provide a learning environment or broader context that benefits both genders equally. In **Italy** shows one of the largest differences, with girls 38 score points ahead of boys (OECD average 32 points). By contrast, gender differences in mathematics and science are not statistically significant in **Italy** (see Table 5.1a).

10. An important policy concern emerges from the large gender differences in reading literacy among the lowest performing students. In all participating countries, males are more likely than females to be at Level 1 or below in reading. In **Italy**, 25% of boys are not proficient above reading Level 1 compared with only 13% of girls. Similarly, while males do, on average, better than females in mathematical literacy, much of this is attributable to there being more males among the better performers. Males are equally represented with females among the lowest performers. In summary: boys in **Italy** are well behind girls in reading literacy, and not ahead in mathematical literacy. A quarter of Italian boys have very limited reading skills at the age of 15 (see Table 5.2a).

Attitudes to learning and school

11. Positive attitudes among students vary widely between countries in reading and even more so in mathematics. About half of 15-year-olds consider mathematics to be important, but only a small minority see mathematics as important for their futures.

12. In 20 out of 28 countries, more than one in four students consider school a place where they do not want to go, and in Belgium, Canada, France, Hungary, **Italy** and the United States, this proportion ranges from 35 to 42%. By contrast, this figure is less than 20% in Denmark, Mexico, Portugal and Sweden. Does it matter that many students do not like being at school? Perhaps young people need not like all the things that are good for them. The evidence is, however, that those who do like school perform

better than those who do not. In almost all countries, students who report that school is a place to which they want to go perform better, on average, on the combined reading literacy scale than students who say that school is a place where they do not want to go.

13. In all countries except Korea, females state more frequently that they receive good marks in language-related subjects and that they learn things quickly. The differences are especially pronounced in Finland, Germany, **Italy** and the United States (see Table 5.4a). In mathematics (see Figure 5.7b), males tend to express a higher self-concept than females, particularly in Germany, Norway and Switzerland (see Table 5.4b). These gender differences have a close relationship with gender differences in student performance in reading and mathematics. Self-concept is positively related to student performance, more so in mathematics than in reading.

Investment in education and country performance

14. Higher average spending per student tends to be associated with higher average performance in the three areas of literacy, but does not guarantee it. **Italy's** performance remains below what one would expect from national income (GDP/capita) and expenditure per student (see Figure 3.7). For example, cumulative expenditure per student in **Italy** from the beginning of primary education to age 15 is US\$ 60,824 (well above the average of 43,520) while student performance in all three domains remains significantly below the average (see Figure 3.7).

Home background and student performance

15. Home background influences educational success, and socio-economic status may reinforce its effects. Although PISA shows that poor performance in school does not automatically follow from a disadvantaged socio-economic background, it appears to be one of the most powerful factors influencing performance on the PISA reading, mathematical and scientific literacy scales. However, while all countries show a clear positive relationship between home background and educational outcomes, some countries demonstrate that high average quality and equality of educational outcomes can go together: Canada, Finland, Iceland, Japan, Korea and Sweden all display above-average levels of student performance on the combined reading literacy scale and, at the same time, a below-average impact of economic, social and cultural status on student performance. Also **Italy** belongs to the countries with more equitable performance but, different from the countries mentioned above, does not perform well overall (see Table 6.1).

Variation between schools

16. In most countries a considerable portion of the variation in student performance lies between schools (see Figure 2.6). On average, across the 26 OECD countries included in this comparison, differences between schools account for 36% of the OECD average between-student variation. In Austria, Belgium, the Czech Republic, Germany, Greece, Hungary, **Italy** and Poland, more than 50% of the OECD average between-student variation is between schools. Discounting level of education and programme type reduces the between-school variation in **Italy** (Licei versus vocational and technical schools) from 51 to 23% (see Table 2.4).

17. Broadly, PISA suggests that, in school systems with differentiated school types, the clustering of students with particular socio-economic characteristics in certain schools is greater than in systems where the curriculum does not vary significantly between schools. In Austria, Belgium, the Czech Republic, Germany, **Italy** and the Netherlands, for example, the between-school variation associated with the fact that students attend different types of school is considerably compounded by differences in social and family background. This may be a consequence of selection or self-selection: when the school market provides some differentiation, students from lower social backgrounds may tend to be directed to, or

choose for themselves, less demanding study programmes, or may opt not to participate in the selection procedures of the education system.

The learning environment and student performance

18. Students in Australia, Brazil, Canada, New Zealand, Portugal, the United Kingdom and the United States have the most positive perceptions of their teachers' supportiveness. By contrast, students in Austria, Belgium, the Czech Republic, France, Germany, **Italy**, Japan, Korea, Latvia, Luxembourg and Poland report below-average support from their teachers of the language of assessment (see Table 7.1). The Czech Republic, Germany, **Italy** and Luxembourg are countries with below-average teacher support in which students who report more teacher support tend to achieve lower results. In these countries, at least 51% of students say that their teachers of the language of assessment never show interest in every student's learning or do so only in some lessons (as opposed to most lessons or every lesson), at least 27% of students say that their teachers never or only in some lessons provide an opportunity for students to express their opinions, and 58% or more of students say that their teachers never or only in some lessons help them with their learning.

19. On average across OECD countries, a third of students report that the teacher must wait a long time for students to quieten down in most lessons or every lesson and that there is noise and disorder in their lessons of the language of assessment. But while less than one in five students in Denmark, Iceland, Japan, Mexico, Poland, Switzerland and the United Kingdom report that students tend not to listen to what the teacher says, while about a third of students in Korea and **Italy** do so.

20. In many countries, school principals' perceptions of student-related factors affecting school climate are closely related to student performance. In particular, in Belgium, Germany, Hungary, **Italy**, Japan, Poland, the Netherlands and the United Kingdom, the school principals' perception of student-related factors affecting school climate explains between 12 and 21% of the variation in reading performance (see Table 7.2).

21. Austria has the highest positive value indicating, in the opinion of its principals, high morale and commitment among its teachers. By contrast, principals in Korea, **Italy**, Poland, and Portugal believe that their teachers have comparatively low levels of morale and commitment (see Table 7.5).

22. PISA results suggest that school policy and schools themselves can play a crucial role. Performance tends to be better where teachers have high expectations and morale, and where classroom relations and discipline are good. The extent to which students make use of school resources, and the extent to which specialist teachers are available, tend both to have an impact on student performance. PISA results suggest that there is no single factor that explains why some schools or some countries have better results than others. Successful performance is attributable to a constellation of factors, including school resources, school policy and practice, and classroom practice. In **Italy**, the factors with the strongest relationship with student performance are disciplinary climate at school, the quality of the physical infrastructure, teacher-related factors of school climate, and student-teacher relations (see Table 8.5a).

Learning outside school

23. Italian students spend 5.2 hours on homework in language, mathematics and science courses compared with an OECD average of 4.6 hours. Homework tends to be positively related to student performance, most notably in Australia, Belgium, France, Greece, Hungary, **Italy**, Poland, Spain, the Russian Federation, the United Kingdom and the United States. One consideration is that homework may reinforce disparities in student performance that result from home background factors. And in fact, this is the case in some countries such as Belgium, Greece, Hungary, Korea and the United Kingdom. However, **Italy** is one of the countries in which homework appears to be given in ways that engage socio-economically disadvantaged students almost equally (see Table 7.6 and Annex A2).

School management

24. Unlike private sector enterprises, schools in most countries have little say in the establishment of teachers' starting salaries. In all countries other than the Czech Republic, Greece, the Netherlands, the United Kingdom and the United States, two-thirds or more of 15-year-olds are enrolled in schools whose principals report that schools have no responsibility for the establishment of teachers' starting salaries (**Italy** 1%) (see Table 7.11).

25. The scope to reward teachers financially, once they have been hired, is also limited. Only in the Czech Republic, Greece, Sweden, the United Kingdom and the United States are more than two-thirds of the students enrolled in schools which have some responsibility for determining teachers' salary increases (**Italy** 1%) (see Table 7.11).

26. There appears to be greater flexibility for schools with regard to the appointment and dismissal of teachers. Germany and **Italy** are the only countries in which about 90% or more of 15-year-olds are enrolled in schools whose principals report that the school has no responsibility in these matters. Conversely, in Belgium, the Czech Republic, Denmark, Iceland, Sweden, Switzerland, the United Kingdom and the United States, between 93 and 99% of students attend schools that have some responsibility for the appointment of teachers (OECD average 61%) (see Table 7.11).

27. In the majority of countries, principals tend to report a more prominent role for the school in appointing teachers than in dismissing them, the largest differences being found in Canada and Denmark (21 and 40 percentage points, respectively). In Belgium, the Czech Republic, Hungary, Iceland, Latvia, the Netherlands, New Zealand, the Russian Federation and the United States, more than 95% of the students are enrolled in schools whose principals report having some say in the dismissal of teachers (OECD average 54%). There is variation also with regard to the roles that schools play in the formulation of budgets, Austria and Germany reporting the least involvement of schools with this task. Schools in Australia, Belgium, **Italy**, Luxembourg, the Netherlands, New Zealand, the United Kingdom and the United States have a comparatively high degree of school autonomy with regard to budget formulation (see Table 7.11).

28. In all OECD countries, the majority of 15-year-olds are enrolled in schools which have some responsibility for their own admissions (OECD average 84%). With the exception of Germany, **Italy** and Switzerland, the majority of 15-year-olds are also enrolled in schools that play a role in deciding on the courses offered (OECD average 71%). Finally, most principals (OECD average around 90%) report that disciplinary policies, assessment policies and choice of textbooks are school responsibilities (see Table 7.11).

29. Does the distribution of decision-making responsibilities affect student performance? In this field, the association between the different aspects of school autonomy and student performance within a given country is often weak. This is understandable because national legislation frequently specifies the distribution of decision-making responsibilities. Consequently, there is little variation within countries. However, the data suggest that in those countries in which principals report, on average, a higher degree of school autonomy with regard to choice of courses, the average performance on the combined reading literacy scale tends to be higher (the correlation between country averages in student performance and the respective proportion of schools involved in decisions concerning choice of courses is 0.51). The picture is similar, though less pronounced, for other aspects of school autonomy, including the relationship between mean performance and the degree of school autonomy in budget allocation within the school (country-level correlation 0.37) (see Table 7.11).

Public and private stakeholders

30. School education is mainly a public enterprise. On average, 6% of 15-year-old students are enrolled in schools that are privately managed and predominantly privately financed (referred to as independent private schools) (see Table 7.13). These are schools which principals report to be managed

by non-governmental organisations such as churches, trade unions or business enterprises and/or to have governing boards consisting mostly of members not selected by a public agency. At least 50% of their funds come from private sources, such as fees paid by parents, donations, sponsorships or parental fund-raising and other non-public sources.

31. Private education is not only a way of mobilising resources from a wider range of funding sources but is sometimes also regarded as a way of making education more cost-effective. By making the funding for educational institutions dependent on parents' choosing to enrol their children, governments sometimes seek to introduce incentives for institutions to organise programmes and teaching in ways that better meet diverse student requirements and interests, thus reducing the costs of failure and mismatches. Schools that are privately managed but predominantly financed through the public purse, defined here as government-dependent private schools, are a much more common model of private schooling in OECD countries than are privately financed schools. On average across the 24 OECD countries with comparable data, 10% of 15-year-olds are enrolled in government-dependent private schools and in Ireland and the Netherlands, between 58 and 75% are in such schools. By contrast, in **Italy** such government-dependent private schools are practically not existing.

32. How do these institutional arrangements relate to student performance? On average across the 17 countries included in this comparison, students in independent private schools statistically significantly outperform students in reading literacy in public schools in ten countries. The difference in student performance between government-dependent private schools and public schools is about half this size in favour of private schools (see Figure 7.9). In **Italy**, the differences are too small to be statistically significant.