Executive Summary

At a time when the OECD and partner countries are trying to figure out how to reduce burgeoning debt and make the most of shrinking public budgets, spending on education, which averages slightly more than 6% of GDP among OECD countries, is an obvious target for scrutiny. Education officials, teachers, policy makers, parents and students are discussing the merits of shorter or longer school days or school years, how much time should be allotted to various subjects, and the usefulness of after-school lessons and independent study. This report, which draws on data from the 2006 cycle of the Programme of International Student Assessment (PISA), describes differences across and within countries in how much time students spend studying different subjects, how much time they spend in different types of learning activities, how they allocate their learning time and how they perform academically.

Across countries, the country average of learning time in regular school lessons is positively, but weakly, related to country average performance, while learning time in out-of-school-time lessons and individual study is negatively related to performance.

Some 97% of students across OECD countries report participating in regular school lessons in mathematics and in the language of instruction, while 90% report participating in regular school lessons in science. Not only is the share of students studying mathematics and the language of instruction in school greater than that of those studying science, but students also report spending more time in regular school lessons learning mathematics and the language of instruction than they do learning science. Meanwhile, students spend more time in out-of-school-time lessons on mathematics and the language of instruction than on science, and students in partner countries and economies spend more time in out-of-school-time lessons than students in OECD countries.

Across countries, findings show that students tend to perform better if a high percentage of their total learning time, including regular school lessons, out-of-school-time lessons and individual study, is dedicated to regular school lessons.

In both learning time spent in regular school lessons and in individual study, females spend more time than males, socio-economically advantaged students spend more time than disadvantaged students, students in private schools tend to spend more time than students in public schools, students in academic schools tend to spend more time than students in vocational schools, and students in urban schools tend to spend more time than students in schools in rural areas. However, students' socio-economic backgrounds may have a greater influence on learning than the individual characteristics of the schools. Across most countries, students with an immigrant background spend more time than native students in individual study.

Students who spend up to four additional hours a week doing homework or studying by themselves tend to perform better than those who spend less time in those activities; but beyond four hours per week, they do not necessarily perform better in proportion to the time they spend.

Given that out-of-school-time lessons have different meanings and functions, both across and within countries, there are differences in students' involvement in these kinds of lessons, depending on student characteristics and the particular type of lesson. For example, out-of-school-time lessons with school teachers are favoured by males, socio-economically disadvantaged students, students in lower secondary schools,

and, especially in partner countries and economies, students in schools in rural areas. Meanwhile, one-to-one, out-of-school-time lessons with non-school teachers are favoured by females, socio-economically advantaged students, students in academic schools, students in private schools and students in urban schools.

While out-of-school-time lessons can enhance learning, these lessons could also reinforce inequalities, since they vary across socio-economic groups. Group lessons led by a school teacher tend to reduce the impact of socio-economic background on performance, since socio-economically disadvantaged students are more likely to attend this type of lesson and are, in turn, more likely to achieve higher scores than students who do not participate in any out-of-school-time lessons. In contrast, group lessons with a non-school teacher tend to reinforce the impact of socio-economic background on performance, since socio-economically advantaged students are more likely to attend this type of lesson and are then more likely to achieve higher scores than students who do not participate in any out-of-school-time lesson.

Students in countries that perform well in PISA spend less time, on average, in out-of-school-time lessons and individual study, and more time in regular school lessons than students in low-performing countries. The evidence implies that it is the quality of regular school lessons, not the quantity of learning hours, that makes the most impact on student performance across countries. This positive relationship between learning time in regular school lessons and performance is even more pronounced when the time students spend in regular school lessons is considered as a share of total learning time. Countries with low relative learning time in these lessons also share some educational system characteristics that are related to low overall performance: less human and material resources, less school autonomy, and fewer standardised external examinations of student performance.

If a country wants to improve its average performance, it should encourage students from socio-economically disadvantaged backgrounds, male students, students in rural schools, students in public schools and students in vocational schools to spend more time learning science in regular school lessons.

In general, students who spend more time learning science in regular school lessons tend to achieve higher scores, yet in many countries, students who spend a long time learning mathematics and the language of instruction in regular school lessons perform less well than students who spend a moderate amount of time learning in regular school lessons. This might be because students who spend a long time in regular school lessons in science are those who choose to do so in optional courses, because they are interested in science, while students who spend a long time in regular school lessons in mathematics and in the language of instruction are obliged to do so for remedial purposes. It is crucial, then, to make the most of learning time, since students have a limited amount of it in school, and to enhance students' understanding of why it is important to learn a particular subject.

When students believe that doing well in science is very important, spending more time learning science in regular school lessons is an efficient way of improving their performance.

