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## Supplementary Education in East Asia

This chapter looks into supplementary education, which is a notable feature of Korea and more generally of East Asia. It begins by defining and mapping out the participation in supplementary education as well as its main drivers. It also analyses the contribution of supplementary education to learning through additional inputs (e.g. time, materials) and different instruction methods and arrangements. The chapter argues that the impact of supplementary education on academic performance is still inconclusive, but that this form of education exacerbates socio-economic inequalities. It also provides evidence of its potential detrimental impact on student well-being and disrupt the normal functioning of schools. The chapter concludes by reviewing the main policy responses to supplementary education, which range from laissez-faire to implementing active policies limiting its extent or broadening access to supplementary education.



## TOWARDS A BETTER UNDERSTANDING OF SUPPLEMENTARY EDUCATION

Private supplementary tutoring, widely known as shadow education, is spreading and intensifying around the world in different forms and scales. While supplementary education is far from being a recent phenomenon,<sup>1</sup> its expansion has raised warnings in conventional education systems and motivated policy responses ranging from not recognising its existence to implementing active policies to limit or provide it. The high performance of East Asian countries<sup>2</sup> in international assessments, where participation in supplementary education is widespread and intense, calls for a greater understanding of its impact.

### Defining supplementary education

*Supplementary education* can be defined as more or less institutionalised and structured forms of instruction that generally exist outside and separated from the formal education system with the purpose of supplementing learning that occurs in schools.<sup>3</sup> Two major types of supplementary education can be distinguished: one-on-one tutoring, in which tutors support students through home instruction or elsewhere, generally in an informal and unstructured manner, and *shadow education*, which is the focus of this chapter. *Shadow education* refers both to the close mimicking of the curricula of public schools and to their existence in somewhat of a shadow of legitimacy and legality (Bray, 1999; Bray and Lykins, 2012). Over the past decade or so, these institutions have emerged from the shadows, thus the term supplementary education is preferred in this discussion to *shadow education*.

While the global context and role of supplementary education continues to evolve and varies widely from country to country, it typically has the following key characteristics (Bray, 1999): *i*) adds to or deepens education provided in conventional schools rather than replacing it; *ii*) predominantly provided privately and mostly for profit, although there are some exceptions; *iii*) content follows formal education and focuses on core subjects and teaching guidelines issued by education authorities.<sup>4</sup> Subjects most in demand for private supplementary tutoring are those that are most necessary to adequately progressing in the education system (i.e. mathematics, the national language, and a foreign language such as English) (Bray and Lykins, 2012).<sup>5</sup>

### Mapping supplementary education

A wide spectrum emerges when considering the degree of intensity (i.e. level and scale of participation, financial costs, perceptions from parents, students, and educators) and the role that supplementary education plays vis-à-vis formal educational systems (Bray, 1999). Countries with a high or growing intensity of supplementary education are by no means limited to East Asia and span from the *cursinhos* that prepare Brazilian students to similar institutions in Egypt, Greece, Turkey or the tutoring centres of India. Even in educational systems where supplementary education has played a relatively small role, for example in Western Europe or North America, an increase has also been observed.

Many countries of East Asia are found at the high end of the scale, where well-institutionalised supplementary education systems are highly visible and participation is widespread. East Asian countries share perceptions that intergenerational social mobility is mostly driven by education; a social consensus on the efficacy of effort in education and on highly stratified higher education institutions. In these education systems, supplementary education is perceived as a necessary lever for further educational progress and its prominence tends to rule out any questioning on its actual impact (Lee and Shouse, 2011).

Many European countries are found at the lower end of the scale, where participation rates are small but have grown considerably in recent years. Reviewing the evidence for European countries, Bray (2011) distinguishes different geographic patterns: participation rates are relatively high in Eastern and Southern Europe, small in Western Europe and very small in Northern Europe.<sup>6</sup> In Eastern Europe and Central Asia, supplementary education is prevalent but largely in the form of conventional schoolteachers offering additional instruction after hours. This allows teachers to compensate for their low wages, but might generate a risk of corruption and negatively impact their performance.

Many countries still lack reliable data about the number of students participating in supplementary education and research is limited to a few countries. Japan and Korea are exceptions as supplementary education has been a major point of public controversy since the 1960s and a significant body of quantitative and qualitative research has examined the phenomenon over the decades (Bray and Lykins, 2012).

Another approach to estimating the number of students attending supplementary education uses data on participation in after-school lessons drawn from the PISA survey, which also contains information about supplementary education's intensity and subject matter. However, the PISA definition is broader than supplementary education.<sup>7</sup> According to the PISA 2009 assessment of 15-year-old students, in Korea the participation of students attending after-school lessons is more than double the OECD average in every subject (OECD, 2010). Indeed, Korea ranks first in the share of students with after-school lessons in mathematics (see Figure 3.1) and science and second (after Japan) in national language learning. Moreover, Korea also has the highest percentage of students attending after-school mathematics lessons for four or more hours a week (30%).



### Box 3.1 Supplementary education is widespread in East Asia countries

In **China**, the 2004 Urban Household Education and Employment Survey of 4 772 households indicated that 73.8% of primary students were receiving supplementary lessons, including non-academic subjects. Proportions in lower and upper secondary were 65.6% and 53.5% respectively. A 2010 survey of 6 474 students in Jinan found that 28.8% of lower secondary students were receiving tutoring in mathematics, and 29.3% in English.

In **Hong Kong-China**, a 2009 telephone survey of 521 students found that 72.5% of upper primary students had received tutoring; and a survey of 898 secondary students found that proportions in lower secondary and senior secondary were 81.9% and 85.5%, respectively.

In 2007, nearly one-quarter of **Japanese** primary school students and one-half of lower secondary school students received private, out-of-school academic instruction at institutions known as *juku*. Another 19.5% of primary students and 17.1% of lower secondary school students participated in distance learning, and 0.9% and 4.7%, respectively, in tutoring at home. The competition for university starts well before age 18, in part as many of the top institutions are vertically integrated with primary and secondary schools. The largest share of out-of-school instruction takes place in *juku*: the share of children attending *juku* in 2008 rose from 16% in the first grade of primary school to 65% in the third year of lower secondary school. According to other estimates, 64% of lower secondary school students attend *juku*.

In **Korea**, 80.9% of primary school students were estimated to be receiving private supplementary education in 2012. In lower secondary school the proportion was 70.6%; and in upper secondary school it was 50.7% (MEST, 2013).

In **Singapore**, a 2009 research study lamented the dearth of carefully collected empirical data on tutoring, but noted that the phenomenon had been highly visible for some decades. A 2008 newspaper article stated that 97% of students polled at the primary, lower secondary, and senior secondary levels were receiving tutoring.

Source: Bray, M. and C. Lykins (2012), *Shadow Education: Private Supplementary Tutoring and Its Implications for Policy Makers in Asia*, Asian Development Bank, See this report for further references.

## Who receives supplementary education?

A closer inspection of the data about those who participate in supplementary education reveals further information on its nature. The breakdown per education level shows that secondary school students tend to receive supplementary education more intensively than primary students, with some exceptions such as Singapore and Korea (Bray and Lykins, 2012). In Singapore, the incidence of supplementary education in primary is higher as the school leaving examination determines the secondary school stream (Tan, 2009 in Bray and Lykins, 2012). Similarly, in Korea, participation rates are higher in primary education than in lower secondary or upper secondary education, and attendance is already considerable at a very early age. Considering the type of programme pursued, students in vocational education and training (VET), who are less likely to compete for a university entrance exam, tend to participate significantly less than those in academic pathways.

Students with higher academic performance tend to participate more frequently, and invest more money, in supplementary education than those with lower academic performance. In Korea, participation in private tutoring by students in the top 30% of their class is over 80%, compared to less than 50% in the bottom 20% and outlays per student for the upper group are more than double those for the lower group (see Figure 3.2) (MEST, 2011).

There is no clear relationship across countries between participation in supplementary education and enrolment in either public or private schools (Bray and Lykins, 2012). Participation rates tend to be higher in urban areas than in rural ones, and greater in larger cities than in smaller ones. For example, in Korea, urban-rural differences in participation are relatively modest in primary education (89% in cities to 79% in towns) but marked in academic upper secondary education (61% in cities to 32% in towns) (Kim, 2010 in Bray and Lykins, 2012).

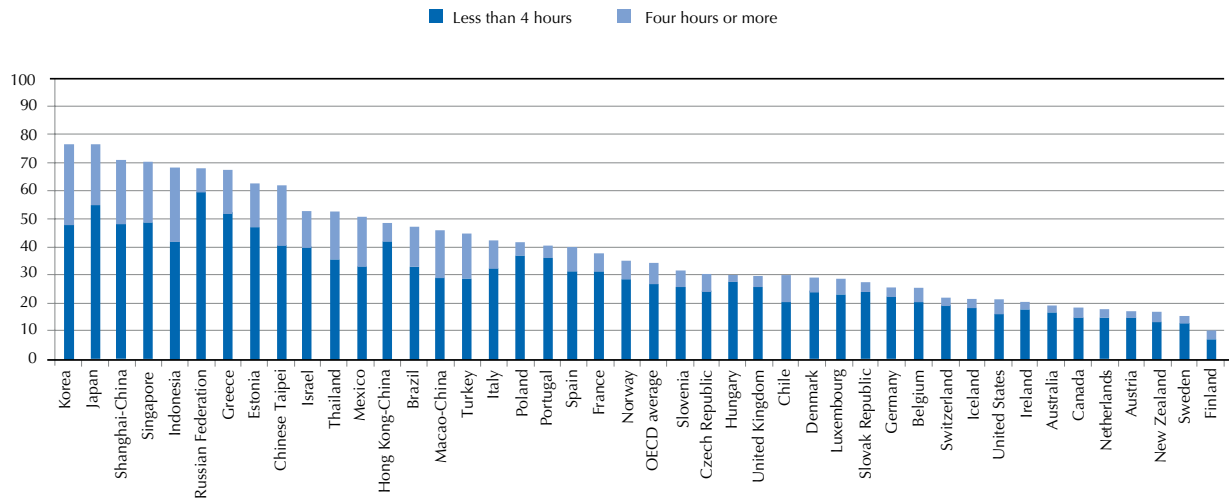
Participation in supplementary education is highly correlated with socio-economic background and other personal characteristics. Figure 3.3 shows the strength of the relationship in Korea for primary education students, which ranges from half of the poorest



Figure 3.1

### Supplementary education is widespread in East Asian countries

Percentage of students attending after-school lessons in mathematics, by hours per week



Source: OECD (2010), PISA 2009 Results: What Makes a School Successful?: Resources, Policies and Practices (Volume IV), PISA, OECD Publishing, StatLink <http://dx.doi.org/10.1787/9789264091559-en>.

students participating in supplementary education to virtually all the most affluent ones. Across Asian countries, Bray and Lykins (2012) report that participation by gender seems to be balanced, although some studies indicate that parents might prefer investing in boys to secure better employment prospects. Researchers have noted differences in the participation by racial or ethnic background in some countries, such as in Singapore and Vietnam (Bray and Lykins, 2012).

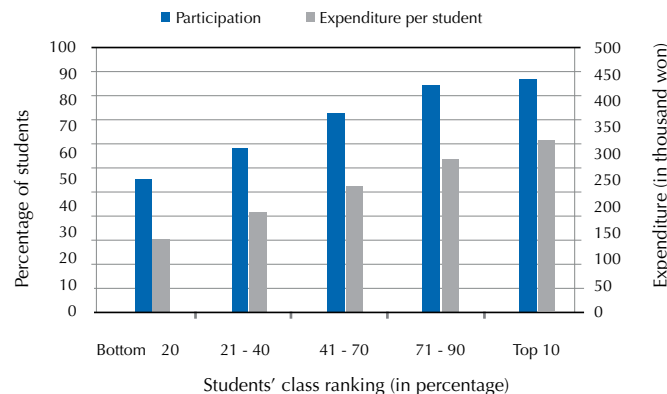
### THE MAIN DRIVERS OF SUPPLEMENTARY EDUCATION

The growth of supplementary education in East Asia has had a relatively common trajectory: the broader cultural context of Confucianism, a historical focus on examinations, and a pedagogical tradition that views education as a relatively mechanistic acquisition of canonized knowledge. While Confucianism and broader pedagogical and social attitudes provide a backdrop, the development of the current supplementary education institutions is a phenomenon of the past forty years. Examinations, perceptions of shortcomings in regular school systems, and the combination of growing wealth and smaller family sizes have played a key role in the rapid expansion of the demand (Bray and Lykins, 2012).

Figure 3.2

### Students with higher academic performance tend to participate and spend more in Korea

Participation and expenditure per student by class ranking, 2010



Source: Ministry of Education, Science and Technology (MEST) (2011), *Analysis of the Results of the 2010 Survey on Private Education Costs*, Seoul.

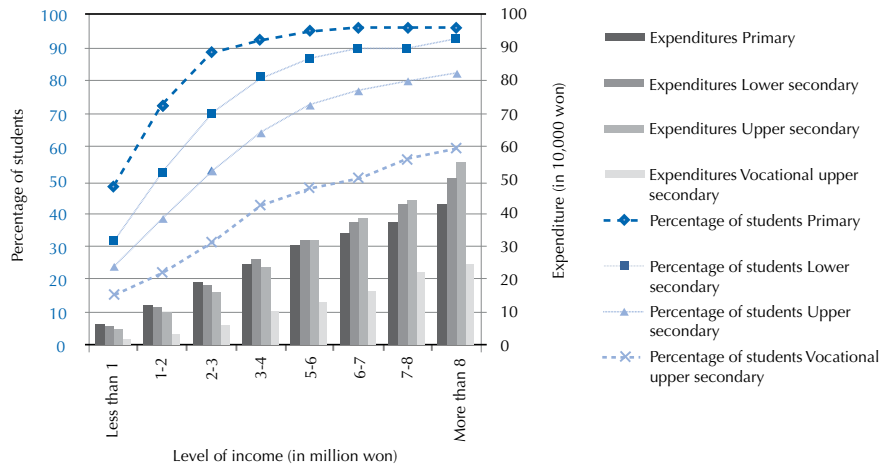


In Korea, a 2010 government survey of parents cited the top three most frequent reasons for the increase in private tutoring as related to the stratification of the higher education system. These included the importance of supplementary education to succeed in the entrance examination and the signalling effect of the university attended in the labour market (MEST, 2011). It is worth noting that the competitive effects were also highly ranked: it was perceived that not attending the *hagwon* would place children at a competitive disadvantage. In addition, issues related to the quality of schooling were frequently identified, including the capacity of teachers to develop the potential of students, to provide students with tailored teaching and support, and to offer them guidance.

■ Figure 3.3 ■

### Low income students are less likely to participate in supplementary education in Korea

Participation and expenditure per income group and level of education (2008)



Source: Kim, K. (2010), "Educational Equality," in Lee, C. J., S. Kim and D. Adams (Eds.), *Sixty Years of Korean Education*, Seoul National University Press, Seoul.

### A head start to enter prestigious universities

The origins of supplementary education in many East Asian countries lie in meritocracy and the recognition of education as an avenue to upward social mobility. Still, today parents are aware of the rewards of investing in education: strong performance in key examinations can facilitate entrance into high quality secondary schools and prestigious universities, which are likely to translate into better employment opportunities and higher standards of living (Sohn et al., 2010).

Higher education systems are viewed as highly stratified and entrance examinations regulate access into the most prestigious universities (Lee and Shouse, 2011), which provide the greatest chances of success and social mobility. Students attend supplementary education institutions to gain a head start and, since participation is widespread, to keep up with their peers in their chances to enter the most prestigious universities. Competition in the entrance examination is fierce: the estimated applicant-entrant ratio at Japanese national universities was four-to-one in 2006: a ratio much higher than the five to three proportion at the public universities (OECD, 2011a). Although the overall capacity of tertiary education in Japan has risen to the point that it is roughly in line with the number of applicants (OECD, 2011a), a recent survey confirmed that 60% of parents attribute the growing role of *juku* to admission to a prestigious university (MEXT, 2008).

The stakes are very high. Japanese universities have traditionally served as a sorting mechanism for entry into elite professions (OECD, 2011a) and the rate of return of a degree varies from 2.5% to 15.6% for men depending on the reputation of the university (Ono, 2004). Similarly, in Korea, *academic credentialism* – the emphasis on where a person studied rather than on their abilities, achievements and potential – is strong: 89% of senior officials, 83% of members of parliament and 82% of senior executives graduated from one of Korea's top 20 universities (from a total of 190) (Chae, Hong, and Lee, 2005).

### More pressure and chances to succeed

The significant decline in fertility rates observed in many East Asian countries could have alleviated competitive pressure, but parents seem to have compensated for a smaller number of children by increasing the expectations and pressure for their success. In addition, the amount of financial resources available directly to households has increased significantly in recent decades,



paralleling overall growth patterns. For example, in Korea, fertility rates declined from above 6 births per woman in 1960 to the current rate of 1.2 and GDP per capita multiplied many times over. Similar developments are observed in Japan, where surveys have revealed that the number of children has an impact on the participation in supplementary education (Bray and Lykins, 2012).

### Mitigating the shortcomings of schools

Despite the very high levels of performance of East Asian students in international assessments, parents in these societies seem to lack trust in schools. Supplementary education often portrays itself and is seen as a substitute for the perceived shortcomings of schools. These shortcomings are perceived to exist particularly in areas that are subject to standardised examination.<sup>8</sup> Also, the criticisms might not be supported by evidence. For example, research indicates that class size has a minimal impact on performance, and in East Asia big class sizes are portrayed as being key to success (OECD, 2012a). Yet some parents believe that smaller classes enable teachers to provide more attention and support to their children (Bray and Lykins, 2012).

Supplementary education can also play an important role in providing additional and more tailored learning support to students who are falling behind in a way that schools may not be able to offer. According to students' self-reported data in PISA, in Korea, 48% of them take supplementary after-school lessons on the native language, mathematics or science and 69% remedial ones (compared to an OECD average of 28% and 26% respectively) (OECD, 2010). In addition, supplementary education institutions can also mitigate shortcomings in the provision of guidance to parents and students and support them in navigating increasingly complex and variegated educational opportunities. In Japan, for example, supplementary education is offering advice on school choice (Dierkes, 2008).

## THE IMPACT OF SUPPLEMENTARY EDUCATION

What is the overall impact of supplementary education? Parents and students believe that it can help raise education outcomes. The argument is based either on the sheer volume of inputs (*more resources lead to higher performance*) or on the quality of its offerings (*better quality leads to higher performance*). However, research on the impact of supplementary education on academic performance is inconclusive and supplementary education can disrupt the functioning of schools. In addition, on an individual level, the prevalent aspects of high levels and intensity of supplementary education stand out as especially pernicious: supplementary education exacerbates socio-economic inequalities and deteriorates students' well-being. In a wider perspective, the significance of supplementary education translates into a major services industry in many countries and externalities might also span to other sectors.<sup>9</sup>

### The impact on the learning process

#### More opportunities for learning

Supplementary education implies increasing the resources invested in education, including additional instruction time, personnel, and learning materials.

- *Instruction time*: supplementary education occurs after school hours on school days, and on weekends and during vacation periods. Even if a given student only participates in supplementary education for a few hours per week, at the end of the school year it adds up to a significant amount of time. For the most active participants in supplementary education, additional instruction may be 25 hours per week during periods that schools are in session. Supplementary education can also take place over vacation periods.
- *Additional Materials*: the supplementary education industry produces a large variety and quantity of educational support materials, from flash cards to self-study to textbooks, mock testing materials, and advice for parents to support students' efforts. These are widely available and might also be purchased by those who cannot afford to enrol in supplementary education institutions. Additional materials and new delivery methods (e.g. media and ICTs) also allow for expanding the number of additional instructional hours by removing constraints related to the physical presence in an institution.
- *More instructors*: supplementary education provides students with more opportunities to interact with instructors. However, the knowledge and pedagogic skills of instructors might be of concern as qualification or certification requirements are usually absent (Dierkes, 2010). This is even the case of "star tutors", whose reputation does not focus on their preparedness but rather on their individual qualities (Sharma, 2012).

Some supplementary education institutions aim at differentiating themselves from conventional schools by offering different learning arrangements and methods:

- *Grouping students by ability*: supplementary education institutions have thrived on the increasing perception that conventional schools are unable to target instruction and support to the abilities of each student and group same-grade students by ability. If supplementary education remains circumscribed by official curricula, the benefits of grouping students by ability are limited: the additional time available in the accelerated path might be devoted to review the subject matter already covered rather than to explore other subjects or the same subject in a greater depth.



- *Tailored instruction*: students seeking additional instruction on a specific subject matter (to overcome deficits or to advance further) can subscribe to these offerings, while the structured calendars and timetables of schools pose more difficulties to accommodate particular needs.
- *Rote learning*: since entrance examinations test knowledge rather than analysis or understanding, pedagogy and curricula are biased towards testable content and instruction focuses on providing the right responses. Therefore, supplementary education does not contribute to help students develop their skills to construct knowledge and solve novel problems. In Korea, nearly half of students attend *hagwons* focused mainly on rote learning and preparation for examinations (Byun, 2011).
- *Greater curricular depth*: instruction usually follows the curricula defined by education authorities, but supplementary education institutions can also expand the curriculum with additional material. In Japan, respondents to a 2008 Ministry of Education survey showed that more than 50% of grades 3–9 stated that they liked *juku* because they learned material that was not taught in their schools (Dawson, 2010).
- *A different teacher-student relationship*: Many supplementary education classrooms or tutorial sessions have different arrangements than a conventional school classroom with 40 or more students. A smaller number of students per teacher facilitates an individualised learning context and a different relationship between students and teachers (Dierkes, 2010). Moreover, the fact that students pay for these voluntary services changes the nature of the relationship and leads to clearer expectations of each other: students are free to quit at any moment and supplementary institutions are also able to dismiss students for any reasons.
- *Using new technologies for learning*: A small but rapidly growing part of the supplementary education market consists of tutoring at a distance, either conducted live or in the form of self-service lessons. New technologies can enable more students to benefit from high-quality teachers and provide access to more accelerated instruction in remote areas. In Korea, 19% of students take correspondence courses and 4% study on-line (Byun, 2011 in Bray and Lykins, 2012).

### Changing learning in schools

Supplementary education might disrupt learning in schools and place teachers into challenging situations by, for example:

- *Disrupting the application of the curricula*: Supplementary lessons might prepare students in advance for school lessons. This can disrupt the general functioning of classrooms by widening the differences between students, lowering the attention of those who already know the curricula and creating difficulties for teachers to apply the regular curriculum. For example, in Korea, some *hagwons* teach students over the summer holidays and during the school year to learn in advance the school curriculum (Lee et al., 2004 and Dawson, 2010 in Bray and Lykins, 2012).
- *Disrupting classroom and school climate*: students who work long hours may be short of energy for daytime schooling. For example, in Korea it has been reported that students who attend intensive supplementary education may be tired and fall asleep during lectures (Kim, 2007 in Bray and Lykins, 2012).
- *Changing the student-teacher relationship*: students who attend supplementary education may prefer to ask those instructors for help instead of schoolteachers. This might alleviate the workload of teachers in schools but distorts their professional role, particularly in following up and supporting students.
- *Reduce the quality of the teaching workforce*: supplementary education institutions might compete with schools for attracting and retaining the best teachers, which may generate difficulties in recruitment and a lower quality of the workforce. For example, Bray and Lykins (2012) note that in Hong Kong-China some tutors are former school teachers who have chosen to leave the schools in search of greater incomes and possibly greater autonomy.

Finally, supplementary education can undermine the formal education system. Some authors have gone as far as to describe private tutoring as the “enemy of the public school system” (Chung, 2002). Some argue that the fact that families have to pay for supplementary education while schooling is publicly subsidised might lead to a higher valuation of the latter at the expense of the former. Also, supplementary education generates inefficiencies in spending as, for example, teachers operate and students invest their time in less optimal ways since the overall investment in education is not taken into consideration. Inefficiencies can be of particular concern as expenditures on supplementary education are considerable: in Korea, expenditure on supplementary education was equivalent to about 80% of government expenditure on public education for primary and secondary students in 2006 (Kim and Lee, 2010 in Bray and Lykins, 2012).

### A mixed impact on student engagement

Supplementary education might also have an impact on the motivation, attitudes, and learning styles of students. Some argue that supplementary education may increase their engagement by developing student self-esteem and sense of achievement with opportunities to catch up, keep the pace or fulfil their desire to learn further. Also, it can contribute to develop studying habits, self-discipline and prepare students to face competition.

However, supplementary education usually provides students with skills to do well in exams rather than engaging them in a genuine pursuit of knowledge (Bray and Lykins, 2012). Participation in supplementary education might increase the likelihood of



being less attentive or frequently distracted in the classroom and participating in other activities in their free time. Also, the fact that students rely on additional support might undermine their capacity as self-learners. In addition, supplementary education places some students in an unequal footing. Those who cannot afford to participate or that are confined to lower quality institutions might lower their expectations, readiness to invest effort, feel less motivated and, in extreme cases may drop out.

## THE IMPACT ON ACADEMIC PERFORMANCE AND SPILL OVER EFFECTS

### The impact on academic performance is not clear-cut

Some East Asian countries and economies (i.e. Shanghai, Korea, Hong Kong-China, Japan) exhibited high levels of performance in PISA 2009, the OECD international student assessment of 15 year-olds, and supplementary education. However, this might only indicate correlation rather than causation. After all, in other high performing countries, participation in supplementary education is very small, which suggests that it is not a necessary ingredient for high performance. Indeed, an in-depth study on after-school lessons based on PISA 2006 data indicates a negative correlation between after-school attendance and performance across countries (OECD, 2011b).

Across countries, findings from PISA show that students tend to perform better if a high percentage of their total learning time – which includes regular school lessons, after-school lessons and individual study – is spent during normal school hours in a classroom – and, most importantly, if the instruction offered in those classrooms is of high quality (OECD, 2011b). For example, attending after-school classes led by a schoolteacher tends to reduce the impact of the socio-economic background of students on their academic performance (OECD, 2011b).

Limited research is available on supplementary education, particularly in regard to its impact on performance and educational achievement (Maylor et al., 2007). Surveys and case study methodologies point to the positive impact of supplementary education on educational achievement in some contexts.<sup>11</sup> However, no methodologically sound experiment has been conducted on a large scale yet to establish a clear link (Buchmann et al., 2010). It would require an experimental research design with treatment and control groups that are large enough or homogeneous enough to take account of other causal variables (e.g. socio-economic factors, study habits, aptitudes).

The impact of supplementary education on performance depends on the quality of the provision and the opportunity costs. Supplementary education might result in null or negligible learning gains when the additional time invested is detrimental or of low quality. Also, even in the case of the most enthusiastic participation, these additional hours spent in supplementary instruction may be substituting for hours of self-study or unsupervised study, tempering the volume of additional instruction somewhat and possibly equalising the additional volume of instruction between participants in supplementary instruction and students who do not participate or only participate sporadically.

### Exacerbates socio-economic inequalities

Supplementary education puts disadvantaged students in an even more unequal footing in university entrance examinations, thereby exacerbating social inequalities and perpetuating them across generations. While supplementary education has come to be seen as indispensable to success in high-stakes examinations, participation is costly and greatly varies by income, which also determines the type and intensity of provision.<sup>12</sup>

In Korea, participation and investing in private tutoring are highly correlated with family income (MEST, 2011). As Figure 3.3 shows, only 36% of students from families with a monthly income of less than 1 million won participated in private tutoring, compared to 80% for those from families earning 3 to 4 million won (OECD, 2012b). Similarly, the outlay per student in private tutoring is four times higher for the middle-income group than those in the lowest-income group. For households with income over 6 million won per month, enrolment rates rise to nearly 90%, while outlays per month reach around 450 thousand won. Moreover, differences between high and low income families seem to have widened over the last decade (Byun, 2011).

As a result, low-income students are overrepresented in universities at the bottom of the rankings, despite the expansion of tertiary education to a larger share of the population (OECD, 2012b). In Korea, one study found that 17% of students from the upper-middle income class attended upper-level universities compared to only 6% of lower-class students, while for lower-level universities the situation was reversed, with a much larger share of students from lower-income class households (KEDI, 2006).

### A high cost for student well-being

Time is limited: supplementary education occurs to the exclusion of another activity. Very intensive participation in supplementary education may dominate students' lives and restrict their leisure activities in ways that are detrimental to well-rounded development. At the end of secondary education, when students generally intensify their participation in supplementary education, they tend to abandon sports, music and arts, and limit their interpersonal relationships (Bray and Lykins, 2012).





While some pressure can prepare students for the future in an increasingly competitive world, supplementary education might lead to excessive stress and deep-seated anxiety. As mentioned earlier, competition among students can be fierce (Roesgaard, 2006). Beyond more immediate physiological risks due to exhaustion or safety risks associated with the late hours spent outside the home, the potential psychological costs to students and to society at large are referred by some as an “examination hell” that students must pass through on their way to higher education. Excessive pressure can cause social and health issues and, at the extreme, can contribute to suicide. Lee and Larson (2000) found that higher rates of clinical depression among Korean adolescents (as compared to their American peers) were related to supplementary education. In Japan, suicide rates are a major concern with this being the second leading cause of death in Japan among 15-24 year-olds and achievement-oriented pressure is often cited as a plausible cause (Desapriya and Iwase, 2003 in OECD, 2012a).

In addition, supplementary education institutions only host individual students for portions of their instructional time and thus are unlikely to detect when effort is beginning to be detrimental to student well-being. The focus on effort as the basis for achievement makes this situation especially dangerous: supplementary education institutions are likely to motivate students to invest as much effort as possible, even when detrimental to well-being, to achieve success.

## A sizeable market

Supplementary education represents a sizeable industry in some East Asian countries. In 2010, expenditures on supplementary education were estimated at USD 12 billion in Japan and USD 17.3 billion in Korea, where expenditures represented 1.8% of GDP and more than doubled since 1997. Expenditures amounted to USD 255 million in 2011 only for secondary education in Hong Kong-China and USD 680 million in Singapore in 2008 including home-based tutoring (Bray and Lykins, 2012). The size of the industry is also reflected in the number of institutions. Korea currently has nearly 100 000 *hagwons* (OECD, 2012b). *Juku* represents a major service industry in Japan, with an estimated 50 000 institutions providing instruction to up to two million students at both the primary and lower secondary school levels and 21 *juku* are large enough to be publicly listed on the stock exchange (OECD, 2011a). Supplementary education has also become a significant form of employment. In Korea, the number of private tutors experienced an average yearly growth of 7.1% from 2001 to 2006, and this sector became the largest employer of graduates from the humanities and social sciences by 2009 (Kim and Park, 2012 in Bray and Lykins, 2012).

## POLICY RESPONSES TO SUPPLEMENTARY EDUCATION

Korea has been the most prominent exception to a worldwide pattern of a *laissez-faire* approach to supplementary education. However, an awareness of supplementary education is slowly building and policy-makers increasingly take supplementary education into consideration when contemplating changes to their education systems. Yet, the size and impact of supplementary education require bringing it to the forefront of the education policy debate. Policy responses to supplementary education have been purported to strengthen the formal education system, reduce participation and intensity of supplementary education or make the access more equitable.

The Korean government has gone through a succession of different reforms since the 1960s that have focused on undermining family motivation in seeking supplementary education (Lee et al., 2010). From the abolition of lower secondary school entrance examinations to the introduction of public alternatives to supplementary education, policy-makers have persistently attempted to counter the prominence of supplementary education and its negative impact on equity (see Annex A3.1).

## Policies to downsize and limit supplementary education

### Revisit the selectivity of the education system

Expanding postsecondary intakes may not be an effective measure when the education system is stratified. Instead of decreasing the pressures on supplementary education, a higher intake might simply shift the focus of competition. For example, in Hong Kong-China, higher postsecondary education uptake moved the focus from the opportunity to access this education level to the type of institution. Similarly, in Japan, the falling birth rate made tertiary education accessible to nearly all secondary graduates who wish to attend, yet the proportion of lower secondary school students attending *juku* rose from 44% in 1985 to 53% in 2007 (OECD, 2011a).

Reducing stressful transitions and the stratification of the system can reduce the importance of supplementary education. In Singapore, selectivity starts at a very early age and so does the demand for supplementary education. In recent years, streaming in primary schools has been replaced by subject-based grouping (OECD, 2011c), which consists in allowing students to follow, for example, not only science and their mother tongue at the standard level, but also attend mathematics at the foundational level. In this way, students have the opportunity to improve in all subjects. More opportunities for students to move horizontally between streams at the secondary level and beyond have been introduced to enhance flexibility in the system. Supplementary education might also be useful to provide a competitive edge in the admission to a prestigious secondary school. In Korea, however, the impact of the equalisation policies, which abolished entrance examinations and introduced random school assignment, was positive in the short-run but moved competition up to a higher level (see Annex A3.1).



A better balance between tests and academic records overtime could be explored to lessen the prominence of supplementary education. In most East Asian countries, examinations are the primary mechanism for determining academic achievement and admission into schools or universities. In Korea, for example, the multiple-choice university entrance exam (College Scholastic Ability Test, CSAT) used to determine 70% of a student's position in the ranking (OECD, 2009). Decreasing the importance of examinations can also be supported by the fact that its legitimacy as indicators of ability may be called into question as certain groups are systematically disadvantaged in the admissions process as they cannot afford private tutoring.

Finally, the curricula to be tested can be revised to decrease the emphasis on rote learning. In Japan, the *yutori* reforms aimed at reducing the amount of testable content in entrance examinations, thus reducing the rationale for attending supplementary education and promoting a less exam-oriented type of learning. The reform was based on an emerging consensus that the school system was too rigid and that a new approach was needed to encourage creativity. The key change was a 30% cut in the school curriculum, the most radical overhaul since its inception in the 1950s, and the introduction of a five-day school week in 2002. In addition, the government relaxed grading practices and introduced "integrated learning classes" without textbooks in an effort to help students think independently and reduce the importance of rote learning. Reducing the pressure from school was also intended to encourage children to spend more time with their family and in the community, helping them to acquire social skills. The *yutori* reforms were generally perceived as a failure even though evidence for a decline in academic achievement is scarce.

### **Regulate the provision of supplementary education**

Regulations can be used as an instrument to exert control and shape the activity of supplementary education institutions. However, Bray and Lykins (2012) report that regulation of supplementary education mainly concerns business aspects, such as transparency in financial transactions, contractual relationships, and management of premises to ensure that fire escapes existed and were accessible. In contrast, teacher qualifications, pedagogy, class size, content of curriculum tend to be loosely or not regulated.

Although most countries require supplementary education institutions to register, the barriers to entry to the supplementary education market are very low and providers make use of distinctions that can be misleading. For example, Bray and Lykins (2012) report that in Hong Kong-China tutorial centres tend to show prominently that they are "registered with the Education Bureau" in order to imply approval for educational purposes rather than that they are simply subject to health and safety inspections.

Regulations can also set minimum teacher qualifications and other aspects of the learning environment. For example, in Hong Kong-China there is a maximum class size. To limit the time spent on supplementary education, operational hours can also be regulated. In Seoul (Korea), supplementary education institutions are forbidden to operate after 10pm due to concerns for students' well-being. Also, some countries have regulations against teachers providing paid instruction to their students in schools and have also devised codes of conduct either at the school and national level.

The industry can self-regulate through its representative bodies, such as the Japanese Juku Association or the Korean Association of Hagwons, to set high standards in the interest of their members. However, industry associations can also introduce important obstacles to education reform as occurred in Korea in 2011 (Lee, 2012).

### **Provide more reliable and accurate information**

A stricter regulation on the advertisements of supplementary education institutions as well as more information about them could enable students and their parents to make better-informed choices. In many countries, supplementary education institutions make aggressive advertising campaigns to attract students. The general public might face difficulties in fully understanding or verifying their claims in advertisements. Bray and Lykins (2012) alert that supplementary education institutions might use advertisements with misleading statistics such as "98% improvement guaranteed in 6 weeks", claim ownership of students' results; pretend that they have experience with the government, examination boards, or other authorities by, for example, using official-sounding names; and indicate unclear qualifications and skills.

Korea, for example, has recently heightened transparency requirements for private academic institutions, particularly regarding their operations and fees. For example, tuition fees must be disclosed on the websites of local offices of education and no extra or hidden cost can be charged. A reward system for reporting of illegally run institutes has also been introduced (Lee, 2012). In addition, the number of inspections has intensified from 50 100 in 2009 to 78 678 in 2012 (MEST, 2013).

## **Broaden access to supplementary education**

### **Provide supplementary education, particularly for low-income students**

Some countries have designed policies to provide public alternatives to private supplementary education, particularly for disadvantaged students. In Japan, some local boards of education, especially in Tokyo, have in recent years signed contracts with supplementary education institutions to offer after-hours or weekend instruction in public schools at a subsidised rate. These experiments aim to attract more students and redress the decline in the reputation of public schools. Individual schools and local



Boards of Education have also organised activities to bring instructors from supplementary education institutions into schools to offer their lessons to public school teachers. All of these experiments appear to be tacitly accepted by national policy-makers, though they are not explicitly recognised.

In Korea, low-cost supplementary education after school hours is offered at virtually all primary and secondary schools in order to enable students to enrich and supplement knowledge of subjects and to develop their talent as well as career aptitude. The number of students participating in such programmes (both free and paid) rose from 43% when they were introduced in 2006 to 65% in 2011,<sup>14</sup> with higher rates for low-income families and those in rural areas, who have less access to hagwons (OECD, 2012b). 57% of the instruction is provided by schoolteachers, and 43% of the instruction by external lecturers. The satisfaction scores of students participating in after-school programmes provided by schools increased from 69.1 point out of 100 in 2008 to 79 point in 2013. For- and non-profit organizations are more engaged in the operation of programmes and eight of the 17 metropolitan and provincial offices of education allow the programmes to be contracted out to for-profit organisations.

In Singapore, the government has collaborated with the Malay and Indian community bodies since the 1980s to address racial imbalances in educational achievement by providing financial support to provide tutoring and to train tutors, who work voluntarily or for low fees (Tan, 2009 in Bray and Lykins, 2012). Community bodies can also help monitor the work of tutors and call attention to abuses. Due to social pressures from parents who are unable to afford extensive tuition or supplementary education for their children, many schools have taken upon themselves to offer supplementary education after school, especially for students facing national exams at the primary and secondary level. These initiatives are not explicitly sanctioned nor encouraged by the Ministry of Education.

### **Embrace new technologies to boost learning opportunities**

New technologies can reduce the costs of providing supplementary education and enhance access. In Korea, the Educational Broadcasting System (EBS) was established in 1990 with high-quality radio and television programs, including lessons to prepare for CSAT examination since 2004, to provide an alternative to supplementary education. Lessons are provided by teachers and other professionals, including famous tutors. This system had 3.9 million users in 2011, with about 694 thousand visits per day, cutting private tutoring spending by another 816 billion won (OECD, 2012b). While sales of the accompanying books were modest at the elementary level (7.2% of students), it is estimated that 54.8% of upper secondary students purchased them (KNSO, 2011 in Bray and Lykins, 2012). Evaluations of the EBS have shown that it has been particularly effective in serving rural areas.

On-line education systems are a rapidly growing component of the private tutoring service industry in many countries and tend to be significantly less expensive (OECD, 2012b). The Cyber Learning System (CLS), which was launched by the Korean government in 2004, has 4.5 million users, with 100 000 visits per day. An evaluation reported by Kim (2009, in Bray and Lykins, 2012) and based on a survey of 55 272 students, 3 842 teachers, and 12 783 parents, presented positive findings. One third of the students indicated that their interest in the subject content had grown considerably, and 25% indicated that they had developed self-directed learning habits. Many of these were academically weak students who had relatively little home financial support for their studies. At the same time, the evaluators concluded that many students had been saved the expense of investing in private tutoring and therefore that overall tutoring expenditures had been reduced by the initiative. Indeed, the government estimates that it reduced private tutoring spending by 1.1 trillion won (5% of actual spending in 2011) (OECD, 2012b).

### **Foster research and public engagement for more effective policy responses**

Further research on supplementary education, including its causes and scale, and greater parental involvement in the design of policy responses could shed some light on more effective policy responses. The scope of the research should not be limited to learning outcomes but also encompass other relevant aspects, such as student well-being and potential synergies between school-based and supplementary education. It could further distinguish between different types and quality of supplementary education and pinpoint the mechanisms that can contribute to educational performance.

The findings should be widely disseminated to facilitate better informed decisions on participation in supplementary education. Bray and Lykins (2012) report that families may continue to invest in supplementary education even when learning gains are elusive. The authors suggest that when students do not make progress, tutors commonly blame the students rather than themselves, and families may accept this diagnosis and continue to invest, while students may continue to seek tutoring chiefly because most of their classmates seem to be doing so.

Public consultations about education and, in particular, on supplementary education can be an avenue to explore ways forward, push for reforms and pave the way towards effective implementation. In Korea, the government asked parents which policies would reduce spending on private tutoring. The main response was improving the quality of schools, particularly in the areas of creativity and character-building, English, support for those falling behind and teacher evaluation (MEST, 2011). In 2011, parental engagement also proved determinant in Korea to overcome lobbying pressures from supplementary education institutions and pass the revised legislation on private institutions (Lee, 2012).



## Notes

1. Private tutors have existed in the presence and absence of formal education systems. In pre-modern society, such tutoring was only limited to particular classes and castes. Since the early 19th century, the emergence and development of formal public education systems has grafted such public education onto the remains of private tutoring and other private institutions in many countries. The consolidation of a formalised education system, either provided and funded by public or private sources, dwarfed entirely private tutoring in most OECD countries.
2. It mainly refers to Hong Kong-China, Korea, Japan, and Singapore in this report, although other countries might be referred in specific sections.
3. The discussion of this chapter also includes alternatives that have emerged to supplementary education as, for example, after-school programmes offered in public schools in Korea.
4. While there is a vast and significantly formalized sector of private instruction in subject matter such as traditional arts and crafts, sports, foreign languages for conversation purposes, etc. this sector does not fall within the scope of this chapter.
5. In Korea, 82% of the average monthly private education expenditures per student are devoted to subjects that are part of the general curriculum: 34% on English, 32% on mathematics, 7% on Korean and only 5% on science and social studies (MEST, 2013). In contrast, only 18% of the total expenditures are spent on arts and physical education.
6. However, the figures are not comparable as the research findings reviewed are based in different methodologies and significantly different scopes. In some countries, such as Greece and Portugal, very high rates are observed in the years preceding university entrance examinations.
7. It encompasses both enrichment and remedial courses with individual tutors or in group lessons provided by school teachers, or other independent courses. These lessons can be financed publicly, and offered as a free resource for students in need, or can be privately paid for.
8. In some countries, the shortcomings associated with conventional schooling might simply be short instruction hours, particularly in countries where double-shift schools are still prevalent (e.g. Cambodia, India, Vietnam) and thus covering the full curricula might be difficult in half a school day (Bray and Lykins, 2012).
9. For example, supplementary education might contribute to higher housing prices in the surrounding of the most prestigious institutions. The concentration of around 6 000 hagwons in the Kangnam district of Seoul is thought to be an important factor in the high housing prices in that area, which has become a major social issue (OECD, 2012b).
10. Although they might not be high-quality teachers, “star tutors” are a major phenomenon in Hong Kong-China. One «star tutor» reported earnings of about US\$3.9 million per year on average as a mathematics tutor offering web-based classes to 50 000 students (Bray and Lykins, 2012).
11. For example, in the UK, where supplementary education is targeted at immigrant communities and the purpose is mixed with heritage language preservation, there are suggestions of a positive impact (Strand 2007, Maylor et al, 2010). Likewise a survey conducted in Bangladesh shows a positive impact (Nath, 2008). For the United States, Buchmann et al. (2010) conclude that participation in test preparation led to “small gains in SAT scores”, though even this mild conclusion is questioned by Grodsky (2010) for many of the same methodological reasons that other evidence is suggestive at best. Kim (2004, in Bray and Lykins, 2012) reports that the CSAT is made up of multiple-choice questions that offer five answer options. Consequently, students intent on learning test-taking skills that will ensure their ability to solve these multiple-choice questions in a limited amount of time. One of the best tactics to do so is to memorise the CSAT question types and solution methods. To learn these tactics and test-taking skills, many students take up supplementary education courses.
12. In Korea, for example, attending a supplementary education institution is the least affordable option on average. The monthly expenditure per person on private academic education in 2012 was much higher in private academic institutions (124 thousand won) than in private tutoring (33 thousand won), home-study materials (11 thousand won) and paid internet study (2 thousand won) (MEST, 2013).
13. A comparison of the results from the PISA 2000 and 2009 assessments suggests that much of the reforms have been implemented with success (OECD, 2012a).
14. Latest data at the moment of publication is 72% in 2013 (MoE (2013). The management status of After-school Programmes provided by schools in 2013).



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## **Annex 3.A1.**

### **Box 3A.1 The policy response in Korea**

The government has long tried to limit the role of hagwons and other forms of private tutoring. Among the most dramatic educational reforms in Korean history was the replacement of grade 6 examinations by a random lottery as part of a lower secondary-school equalization policy introduced in Seoul in 1969, in other major cities in 1970, and in the rest of the country in 1971. The reform aimed to permit the normal development of children by reducing stress, to prevent primary schools from focusing excessively on preparation for the lower secondary school examination, to discourage private tutoring, to narrow the gaps between different lower secondary schools, and to reduce the financial and psychological burden on households. The reform had some success, but schools found that they had greater variations in learning levels among their intakes; and abolition of the lower secondary school examination and expansion of enrolments meant that the watershed was simply transferred to the next level. Ambitious families who were dissatisfied with the mixed-ability classes of lower secondary schools invested in private tutoring to prepare for the upper secondary school entrance examination.

The next step, therefore, was the Upper Secondary School Equalisation Policy, launched in Seoul and Pusan in 1974 and gradually expanded to several major cities. By 2003, 72% of students in the country were subject to the policy. Like the lower secondary-school policy, this initiative abolished entrance examinations and introduced random school assignment. It had some effect, at least in the short run, but again the policy moved the competition up to a higher level; and the university entrance examinations still had a backwash on the lower secondary schools and primary schools.

The year 1980 brought a military government, which was determined to tackle supplementary education. In that year, an estimated 12.9% of primary school pupils, 15.3% of lower secondary school pupils, and 26.2% of upper secondary school pupils were receiving private tutoring. The government transferred control of the university entrance examinations from individual institutions to a new state-controlled body operating the University Entrance Achievement Test (CEAT). In the most radical measure to date, the authorities prohibited both additional upper secondary school classes and private tutoring in academic subjects. Again, however, the prohibition proved very difficult to enforce and as a result it was gradually relaxed. Parents continued to seek tutoring, and the prohibition was challenged in the courts. In 2000, the prohibition was declared unconstitutional by the Constitutional Court of Korea on the grounds that it “infringes on the basic rights of the people to educate their children”.

Another measure during the 1980s was the introduction of special purpose upper secondary schools. These institutions were a response to criticisms of mediocrity in the mainstream upper secondary schools to which students were allocated by lottery. The special purpose upper secondary schools served gifted students and focused on science, foreign languages, athletics, or other domains. By 2007, the special purpose upper secondary schools served 4.2% of all secondary pupils; and the fierce competition for entry fuelled private tutoring.

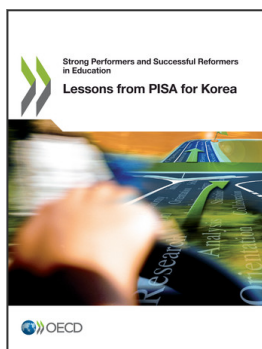
A further reform of the university entry system was introduced in 1994. The CEAT had been an achievement test based on specific subject matter rather than an academic aptitude test based on more general knowledge. The new College Scholastic Ability Test (CSAT) was designed to measure whether applicants had the general academic aptitudes required for higher education, and aimed to encourage high-level thinking rather than fragmented short-term memorisation. A study found that the CSAT did improve some of the teaching and learning methods in upper secondary schools, and that teachers and students realised that cramming fragmented information into instruction was no longer a viable method of study. However, the CSAT encourages a different kind of memorisation.

Despite the Constitutional Court of Korea ruling, there have been subsequent attempts to limit private tutoring in the 2000s. In 2008, for example, there were measures to limit the cost of hagwons and Seoul imposed a 10 pm curfew on hagwons. The measures to reduce private education expenditures through strengthening public education announced in 2009 consisted of: i) Strengthening public education, including reinforcing the accountability of schools and teachers; ii) Improvement of the upper secondary school entrance system and the university entrance system including the admission office system; iii) Strengthening the public alternatives to private supplementary education, including the EBS (Education Broadcasting System) and after-school programs; iv) Improving the reporting and recognition system for private institutions. The year 2010 was a tipping point: for the first time, total private education expenditures declined.

In 2012, the Korean government announced further measures to fundamentally change classroom lessons, improve school-based English and mathematics education, and increase the quality of after-school programs. Currently, the government is preparing more initiatives to strengthen the public school system, improve EBS services and tackle private expenditures with a mid and long-term vision (MEST, 2013).

*Source: Adapted from Bray, M. and C. Lykins (2012), Shadow Education: Private Supplementary Tutoring and Its Implications for Policy Makers in Asia. Mandaluyong City, Asian Development Bank. See Bray and Lykins (2012) for further references. MEST (2013), Progress on Plans for the Reduction of Private Education Expenditures, Ministry of Education of Korea, Seoul.*





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