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Education Reform in Japan

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ABSTRACT/ RÉSUMÉ

Education reform in Japan

While Japan has achieved outstanding scores on the PISA exams, further improving educational outcomes is important to sustain growth in the face of rapid population ageing. The government should step up investment in early childhood education and care and integrate childcare and kindergarten to improve its quality, while allowing some diversity in the type of institutions. Upgrading tertiary education, in part through stronger competition and internationalisation, is also important to increase human capital and boost the role of universities in innovation. Given the serious fiscal situation, reforms to further raise the efficiency of educational spending per student, which is above the OECD average for public and private outlays combined, are needed. The large share of private education spending, which accounts for one-third of the total, places heavy burdens on families, thereby discouraging fertility, and creates inequality in educational opportunities and outcomes. Reducing dependence on private after-school educational institutions known as *juku* would help reduce the burden and enhance fairness.

This Working Paper relates to the 2011 *OECD Economic Survey of Japan* (www.oecd.org/eco/surveys/Japan).

JEL classification: I21, I23, I24, I28

Keywords: Japan, Japanese economy, labour market, dualism, employment protection, non-regular workers, part-time workers, dispatched workers, fixed-term contracts, labour force participation rates, vocational training, female employment, older workers, fertility rates, work-life balance.

* * * * *

La réforme de l'enseignement au Japon

Le Japon obtient d'excellents résultats aux tests du PISA, mais il est néanmoins important d'améliorer encore les performances de l'enseignement afin de soutenir la croissance face au vieillissement rapide de la population. Les pouvoirs publics devraient accroître les investissements dans les services d'éducation et d'accueil des jeunes enfants, et regrouper les centres d'accueil et les maternelles pour en améliorer la qualité, tout en préservant une certaine diversité entre les types d'établissements. Il importe également de rendre l'enseignement supérieur plus efficace, notamment en renforçant la concurrence et l'internationalisation, afin de développer le capital humain et d'augmenter la contribution des universités à l'innovation. Compte tenu des graves difficultés budgétaires du pays, il est nécessaire de lancer des réformes visant à améliorer l'efficacité des dépenses unitaires d'éducation, lesquelles dépassent (dépenses privées et publiques confondues) la moyenne de l'OCDE. Le niveau élevé des dépenses privées d'éducation, qui représentent un tiers de l'ensemble, fait peser une lourde charge sur les familles – ce qui freine la natalité – et crée des inégalités en termes de perspectives et de retombées de l'enseignement. Réduire le recours aux instituts privés de soutien scolaire après la classe, appelés *juku*, contribuerait à diminuer les coûts pour les ménages et à renforcer l'égalité des chances.

Ce Document de travail se rapporte à *l'Étude économique de l'OCDE du Japon, 2011* (www.oecd.org/eco/etudes/japon).

Classification JEL : I21, I23, I24, I28

Mots clés: Japon, marché du travail, dualisme, protection de l'emploi, travailleurs non réguliers, travailleurs à temps partiel, travailleurs intérimaires, contrats à durée déterminée, taux d'activité, formation professionnelle, activité des femmes, travailleurs âgés, taux de fécondité, équilibre entre travail et vie.

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EDUCATION REFORM IN JAPAN

By Randall S. Jones¹

1. The education system played a central role in Japan's economic take-off in the post-war era. The share of the adult population that has completed tertiary education was the second highest in the OECD area at 43% in 2008. The high level of educational achievement, as reflected in international studies going back to the 1960s, continues with Japan ranked near the top of the OECD in the Programme for International Student Assessment (PISA). Further improving educational outcomes should be a priority given its important link to economic growth (OECD, 2010f). Countries with more human capital innovate faster, thereby achieving greater productivity gains. Relatively small increases in human capital can have a dramatic impact on future well-being, making it important to invest wisely and well in education. A priority on education is in line with the government's goal of shifting investment "from concrete to people".

2. The New Growth Strategy (see the 2011 *OECD Economic Survey of Japan*), announced in June 2010, includes education policies. In particular, it aims to integrate childcare centres and kindergarten to upgrade the quality of education and to create "cutting-edge" universities to promote innovation and foster human resources. These policies, and others discussed in this paper, are needed to help Japan address a number of challenges:

- Improving the quality of education to sustain growth in the context of rapid population ageing and a difficult fiscal situation.
- Increasing value for money spent on education to help reduce pressure on government spending.
- Reducing the financial burden of education on families, which bear a high share of the cost.
- Improving equity in educational opportunities and performance.
- Enhancing links between the education system and the labour market to reduce the high rate of unemployment among youth (see the 2011 *OECD Economic Survey of Japan*).
- Expanding the tertiary sector's contribution to innovation to raise Japan's growth potential.

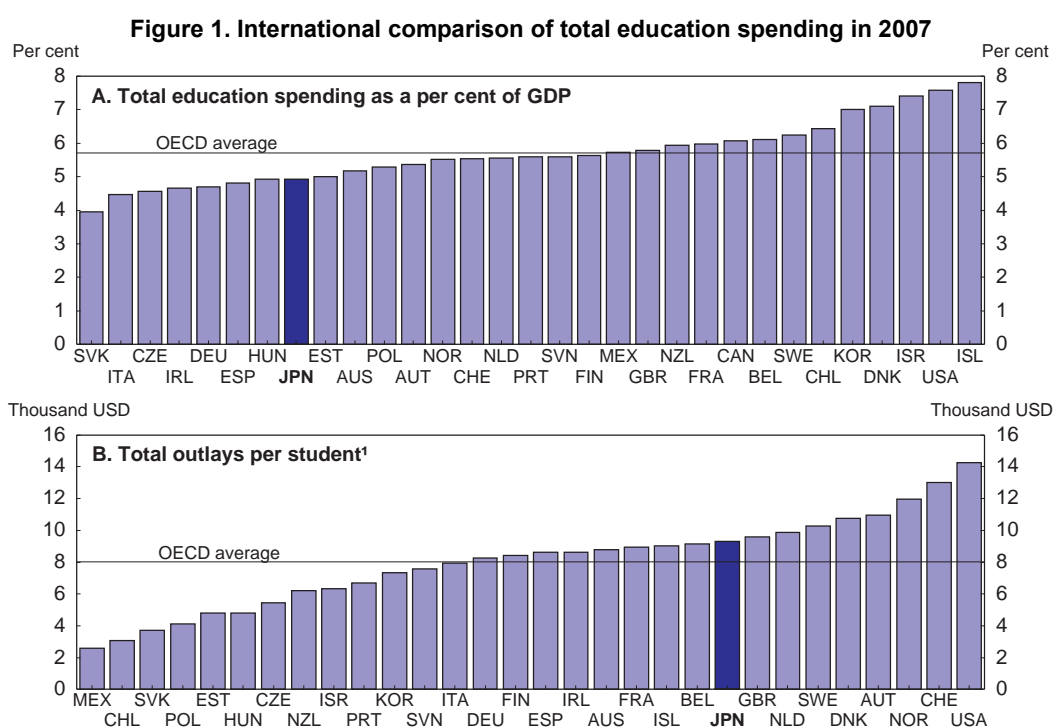
After a brief overview of the education sector, this paper discusses policies to address these challenges. The paper concludes with a summary of recommendations, shown in Table 12.

1. Randall S. Jones is head of the Japan/Korea Desk in the Economics Department of the OECD. This paper is based on material from the *OECD Economic Survey of Japan* published in April 2011 under the authority of the Economic and Development Review Committee (EDRC). The author would like to thank Andrew Dean, Robert Ford, Vincent Koen, Deborah Roseveare, Miho Taguma, Satoshi Urasawa and Byungseo Yoo for valuable comments on earlier drafts. Special thanks go to Lutécia Daniel for technical assistance and to Nadine Dufour and Pascal Halim for technical preparation.

Overview of the Japanese education system

Spending on education

3. Japan's education system has produced outstanding results, with total spending on education - public and private (excluding outlays for after-school instruction) – below the OECD average as a share of GDP (Figure 1).² As Japan has a relatively small number of school-age children, spending per student in Japan in dollar terms was 13% above the OECD average in 2007 (Panel B). Private-sector spending on education in Japan is relatively high, accounting for one-third of the total in 2007, reflecting its large share at the pre-primary and tertiary levels (Figure 2). Indeed, the private sector accounted for two-thirds of tertiary education spending, matching the United States as the highest in the OECD area. While public spending on education was the lowest among 28 OECD countries in 2007 as a share of GDP (Panel B), it was only 3% below the OECD average in terms of public outlays per student.



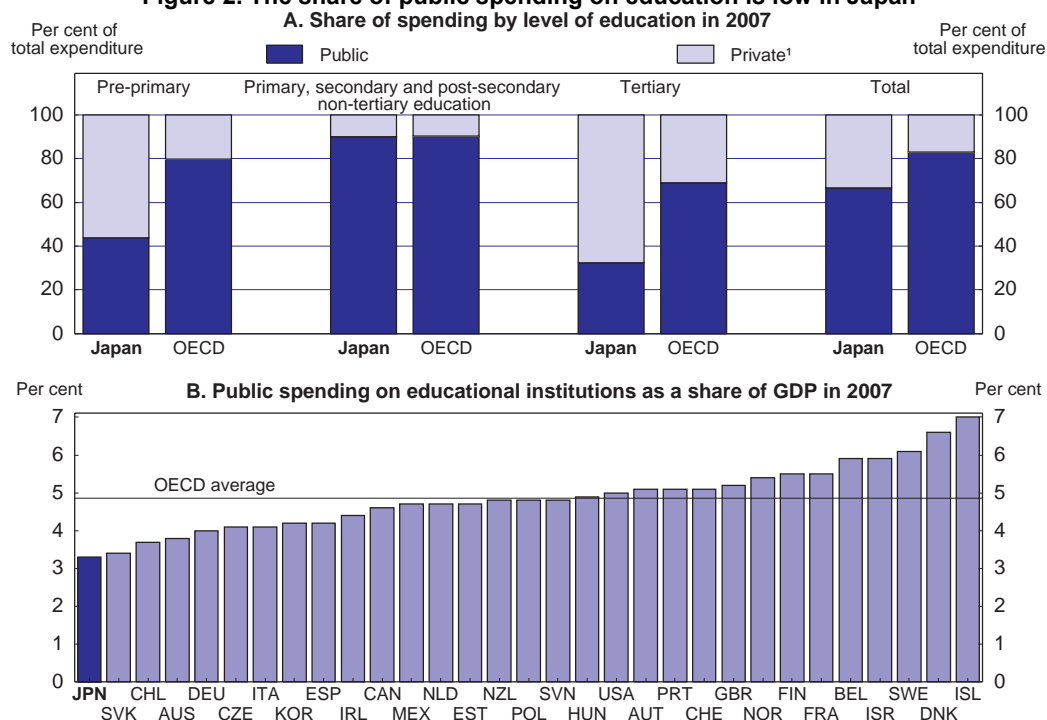
1. For primary, secondary and tertiary education, based on full-time equivalents, in US dollars, converted using PPPs. The figures for Japan do not include spending on private institutions, known as *juku*, which are discussed below.

Source: OECD (2010a), *OECD Education at a Glance 2010*.

4. Total education outlays in Japan rose 7% (adjusted for inflation) between 1995 and 2007, compared to an OECD average of 31% (Figure 3). However, spending differences largely reflect demographic trends: the number of students in Japan fell by 17% over that period, in contrast to an average increase of 6% in the OECD area. Consequently, the increase in total spending per student in Japan was close to the OECD average of 17% (Panel B). This conclusion holds when limited to public spending.

2. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Figure 2. The share of public spending on education is low in Japan

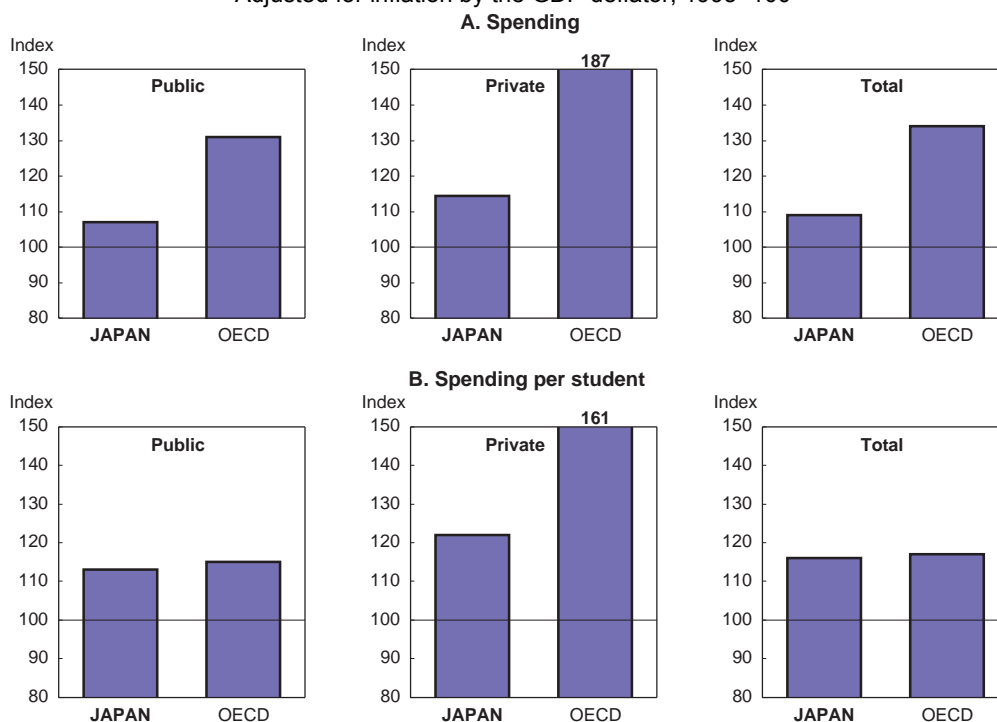


1. Private spending excludes outlays for private, after-school instruction, such as *juku*.

Source: OECD (2010a), *OECD Education at a Glance 2010*.

Figure 3. Trends in education spending between 1995 and 2007

Adjusted for inflation by the GDP deflator; 1995=100



Source: *OECD Education Database* and OECD Secretariat calculations.

The structure of Japan's education system

5. The current education system, established in 1947, includes nine years of publicly-financed compulsory education; six years of primary and three years of middle (lower secondary) school.³ Only 1% of primary and 7% of middle school students attend private institutions. Students are allocated to high schools (upper secondary schools) based on their scores on entrance exams. The high school dropout rate is only 1.7%; consequently 96% of Japanese youth receive high school diplomas. Nearly one-third of high school students attend independent private schools in Japan, well above the OECD average of 5.5% in 2007. In April 2010, tuition payments by households for public high schools were eliminated and replaced by transfers from the central government to prefectures. In addition, the central government launched a fund to reduce the burden of tuition at private high schools by paying subsidies to families.⁴ About three-quarters of high school graduates continue on to tertiary education.

Early childhood education and care (ECEC)

6. ECEC is provided by childcare centres (*hoikuen*), which accept children below primary school age, and in kindergartens (*yochien*) for children between the ages of three and six. The two systems have developed independently and remain segmented, with separate facilities and different objectives. While childcare has a social welfare orientation, kindergarten is more focused on education. One-third of children aged two were enrolled in childcare in FY 2007 (Table 1). At age three, 38.8% entered kindergarten, with the same percentage in licensed childcare. The percentage attending kindergarten increased to above one-half for four and five-year-olds. By age five, 98% of children are enrolled in childcare or kindergarten.

Table 1. Enrolment in early childhood education and care
Percentage of children enrolled by age group in FY 2007

Age	Kindergarten	Childcare centre	Other ¹	Number of children ²
0	0.0	14.6	85.6	1 085.5
1	0.0	24.8	75.2	1 064.5
2	0.0	33.0	67.0	1 072.5
3	38.8	38.8	22.3	1 105.5
4	54.1	40.7	5.2	1 134.5
5	57.3	40.3	2.4	1 157.5
Total	25.8	32.2	42.0	6 721.0

1. Includes children cared for by their families or enrolled in unlicensed childcare centres and informal care.

2. In thousands.

Source: Ministry of Education, Culture, Sports, Science and Technology (2009b), *ECEC System in Japan*.

7. The childcare system (Box 1) includes licensed centres, almost evenly divided between public and private institutions, and unlicensed centres, some of which are recognised by local governments:

- *Public centres* enrolled 945 thousand children in 12 thousand centres in 2007 (Table 2).
- *Private licensed centres* enrolled 1.1 million children in 2007 in 11 thousand centres. These centres, which are run primarily by private social welfare organisations, are subject to regulations

3. This paper will use the terms middle school and high school, which correspond best to the Japanese terms 中学校 and 高等学校.

4. The tuition deduction ranges from 118.8 thousand yen to 237.6 thousand yen (about \$1 500 to \$3 000) depending on household income. The payment for public school tuition and the fund for private-school students do not cover other charges, such as textbooks and school trips.

governing their physical features and the number and training of teachers in order to ensure their quality.⁵ Indeed, the quality of licensed private centres is higher than public ones for several reasons (Noguchi and Shimuzutani, 2003). *First*, they have more qualified workers and the number of children relative to the staff is lower. *Second*, they provide better service in terms of education, flexibility of hours and care for ill children than public centres, according to surveys of parents.

Box 1. Early childhood education and care in Japan

Childcare centres provide eight hours of care per day under the responsibility of the Ministry of Health, Labour and Welfare (MHLW), while kindergartens provide a standard four hours per day under the responsibility of the Ministry of Education, Culture, Sports, Science and Technology (MEXT). Enrolment in childcare is limited to children whose parents work (Table 2). All children from age three can enrol in kindergarten, which is part of the education system, although it is not compulsory and requires tuition payments by parents. Government spending on childcare and kindergarten in 2005 amounted to 0.2% and 0.1% of GDP, respectively (Table 2). The amount of spending per child in childcare was three times higher than for kindergarten, reflecting that it includes many younger children and has longer operating hours. The curricula of childcare centres and kindergartens were revised in 2008 and made more consistent. Moreover, three-quarters of childcare staff are qualified to teach the kindergarten curriculum and *vice versa*, further blurring the once strict separation of childcare and kindergarten. Among nursery teachers graduating in 2009, 85% were qualified to teach kindergarten. The staff-child ratio is 1:3 for children under age one and 1:6 for those aged one and two years, but jumps to 1:20 at age three and 1:30 at age four, as childcare staff shift to the role of educators.

Table 2. A comparison of childcare centres and kindergarten in 2007

	Childcare centres	Kindergarten
Age	0 to 6	3 to 6
Eligibility	Children whose parents work ¹	Open to all children
Hours per day	Eight	Four
Governing body	Ministry of Health, Labour, and Welfare	Ministry of Education, Culture, Sports, Science and Technology
Number of facilities ²		
Public	12 000 (52.2%)	5 500 (39.3%)
Private	11 000 (47.8%)	8 500 (60.7%)
Number of children ²		
Public facility	945 000 (46.9%)	338 000 (19.8%)
Private facility	1 071 000 (53.1%)	1 368 000 (80.2%)
Government spending		
Share of GDP	0.2%	0.1%
Per child (thousand yen)	800.2	258.8

1. Or their parents cannot take care of them due to pregnancy, injury or the need to care for other family members.
2. This is limited to licensed facilities. In addition, there were 11 153 unlicensed facilities caring for 233 thousand children in 2009.

Source: Ministry of Education, Culture, Sports, Science and Technology, (2009b), *ECEC System in Japan*.

Childcare

Historically, the government has taken primary responsibility for providing childcare services. The number of children in childcare centres and the number of centres fell during the decade to 1995. During the following decade, though, the number of children in childcare rose by a quarter (JETRO, 2005). The decline in the number of centres was reversed in 2000, reflecting several initiatives such as the Angel Plan (1995-99), the New Angel Plan (2000-2004) and the Zero Waiting List initiative (2001). In particular, the number of private licensed centres increased thanks to their greater efficiency and lower labour costs (OECD, 2003).^{*} While public centres are primarily staffed by civil servants working as regular employees, private centres have more part-time, non-regular employees. The vast majority of private licensed centres are run by "social welfare corporations". For-profit entities, which were permitted in 2000, operated only 215 centres in 2010, accounting for less than 2% of private licensed firms.

5. Such regulations cover *inter alia* total area per child, play areas, kitchens, safety features. The minimum standards set by national governments are upgraded in some municipalities.

Kindergarten

In contrast to childcare centres, the number of kindergarten students fell by around 70 thousand (6%) over the decade to 2005. Meanwhile, the number of kindergartens has been declining by about 100 a year over the same period (a 4% drop overall), with public kindergartens accounting for most of the closures. Around 80% of the children in kindergarten attend private institutions, which are more than three times more expensive for parents on average than public institutions (Table 3). Indeed, parents paid 250 thousand yen per student (about \$3 000) in 2009, well above the 156 thousand yen per year provided by the new child allowance. Government subsidies from the central, prefectural and municipal governments cover 44% of the cost. For public kindergartens, municipalities pay 81% of the costs. The number of kindergartens has fallen with the decline in the number of pre-school age children and increased competition from childcare centres. At the same time, shortages of kindergarten places have emerged in some urban areas (Palley and Usui, 2008). In case of excess demand, entry to the less expensive public kindergartens is decided by lottery or other methods.

Table 3. Financing of kindergarten in 2009

	Unit ¹	Public kindergartens	Private kindergartens	Ratio ²
Number of students	Thousand	310	1 320	4.3
Payments by parents	Billion yen	25	330	13.3
Payment per student	Yen	80 000	250 000	3.1
Payment per student	Dollar	983	3 072	3.1
Total government payment	Billion yen	105	260	2.5
Municipalities ³	Billion yen	105	40	0.4
Prefectures	Billion yen	0	170	n.a.
National ⁴	Billion yen	0	50	n.a.
Total government payment				
Per student	Yen	340 000	200 000	0.6
Per student	Dollar	4 177	2 457	0.6
Total payments	Billion yen	130	590	4.5
Payment per student	Yen	420 000	440 000	1.1
Payment per student	Dollar	5 160	5 406	1.1

1. Values in yen are rounded.

2. Ratio of private to public kindergarten.

3. Payments to private kindergartens to provide a fee reduction for three-year-old children.

4. In the case of private kindergartens, this includes a 30 billion yen subsidy and a 20 billion yen payment to provide a fee reduction for children between the ages of three and four.

Source: Ministry of Education, Culture, Sports, Science and Technology (2009a), *Concerning Making Pre-Primary Education Free*.

* In addition, regulatory reform removed some obstacles: *i*) the restriction that all staff work full-time was relaxed to allow part-time employees; *ii*) subsidiary centres that do not meet all national and local standards (such as having a kitchen) were allowed to open if they were within 30 minutes of another centre operated by the same provider; and *iii*) small-scale centres with less than 30 children were allowed to open.

- *Private unlicensed “recognised” centres* are an alternative for children who are not given places in licensed centres. To ensure quality, local governments in some urban areas have certified childcare facilities that meet local government standards and provide subsidies if fees are kept within ceilings.⁶

6. For example, local governments in the Tokyo area established a system of “certified” centres in 2001 to reduce waiting lists for licensed childcare. Two types were created: *i*) centres for children up to primary school age established by private companies; and *ii*) centres for children up to age two run by individuals. The regulations are less strict than for licensed centres. The costs are split between the Tokyo metropolitan government and parents, with fee ceilings that vary with the age of the child.

- Another option is *private unlicensed centres*, which are subject only to registration and on-sight inspections by the prefectures.

8. Parents apply at the municipality for licensed care, which is subsidised by the government. The municipality decides which children to admit and assigns them to a public or private centre, which charge the same fee set by the municipality. Overall, parents pay 40% of the cost (to the municipality), although the actual amount depends on their ability to pay, based on income and number of children. The remainder is paid by the government.⁷ Excess demand for licensed childcare is a major issue. The waiting list totalled 26 thousand children in 2010, about 1% of the 2.1 million children enrolled nationwide. However, in the Tokyo metropolitan area, the rate was 5%. The number of children on waiting lists has remained stable while the number in childcare has expanded, suggesting a large amount of hidden unmet demand (OECD, 2003). In other words, many more parents would apply for licensed childcare services if the waiting lists were not so long (Zhou and Oishi, 2005). Private entities that wish to run a licensed care centre must apply at the prefectural government. However, the municipal government may be reluctant to assume the cost of running the centre or may have difficulty procuring a site.

9. To meet the unmet demand, 233 thousand children were cared for in 11 153 private unlicensed centres (recognised and unrecognised) in 2009, exceeding the number of private licensed centres. This category includes almost 4 000 facilities located within firms. Unlicensed centres are concentrated in urban areas, where the demand for licensed centres exceeds supply, and tend to be small, with only 21 children per centre on average, compared to 88 in licensed centres. The number of unlicensed centres (excluding those in firms) fell by 1% in 2009, despite the waiting lists for licensed care, perhaps reflecting pressure from existing centres not to allow new entry. The fee paid by parents tends to be higher, as they receive smaller government subsidies or none at all. The quality of unlicensed centres varies substantially, as they do not have to meet national standards, but on average appears to be lower (Shiraishi and Suzuki, 2003 and Noguchi and Shimizutani, 2003). However, unlicensed centres perform better in terms of flexibility in operating hours and their care of ill children.

10. “Centres for ECEC” were created in 2006 to provide co-operation between childcare and kindergartens for children, regardless of whether their parents worked.⁸ These centres have proven popular with parents – 80% evaluate them positively – because they allow greater time flexibility, are available to non-working parents and provide a richer educational environment. In addition, they have a number of advantages. *First*, outside of urban areas, the number of children in many of the separate childcare centres and kindergartens is smaller than optimal for children’s development so the centres for ECEC can improve education. *Second*, the centres for ECEC reduce excess capacity in non-urban areas, thus limiting costs. *Third*, the centres help shorten waiting lists for licensed childcare in urban areas by using existing capacity in kindergartens.

11. However, despite their advantages, only 532 centres for ECEC have been established thus far, reflecting a number of problems. Most importantly, the application procedure and financial regulations are too complicated, given that they are subject to control by both MHLW and MEXT. In addition, financial support is insufficient. As a result, the ECEC remains fragmented and the quality of services varies significantly. The government plans to increase the number of ECEC centres to 2 000 by March 2013 by

7. For a private licensed centre, the government’s share since 2004 is paid by the central (50%), prefectural (25%) and municipal governments (25%). For a public centre, the government’s share is paid by the municipality, making them more expensive from the perspective of the municipality.

8. Nevertheless, Centres for ECEC are still categorised as “kindergarten-type”, “childcare type” and “integrated” centres.

expanding financial support and unifying and simplifying administrative procedures. In addition, the New Growth Strategy plans to integrate childcare centres and kindergartens (see below).

Primary and secondary education

12. Local government spending on education is largely financed through earmarked grants that are conditional on compliance with strict and detailed operational standards set by the central government. Norms and regulations covering *inter alia* school curriculum, textbooks and teacher qualifications are used to secure minimum education standards throughout the country. Full equality of opportunity has long been a priority in education, at the cost of limiting local governments' ability to respond to local needs by introducing innovative approaches. For example, local governments' flexibility in setting teachers' wages is limited by a law that requires them to be higher than other local government employees. The central government has long paid half of teachers' salaries for primary and middle schools, although its share was cut to one-third in FY 2006. Moreover, the construction costs of school buildings are paid by the central government if the local government complies with strict conditions such as floor size. In terms of school autonomy, Japan ranks the second lowest in the OECD and is last in the categories of personnel and resources, according to the OECD's index of decentralisation (Sutherland and Price, 2007).

13. Spending on primary and middle schools has remained stable at around 2% of GDP since 1995, despite declines of 17% in the number of students and 7% in the number of schools. Falling student populations have helped to reduce the average number of students per class in primary schools from 28.4 in 1995 to 26.1 in 2005 and in middle schools from 33.3 to 30.7. Nevertheless, class sizes remained large by OECD standards, with Japan ranking third highest for primary schools in 2008 and second highest for middle schools.⁹ However, some studies have not found that class size does not have a statistically significant impact on educational outcomes in Japan (Oshio *et al.*, 2010b). On the other hand, some studies do find a significant relationship (NIER, 2010). It is difficult to isolate the impact of class size as many factors influence educational outcomes. Schools have been criticised as being excessively uniform, rigid, restrictive of children's freedom, focused on the goal of entrance examinations and concerned with inculcating knowledge at the expense of self-motivated inquiry and creative thought (Cave, 2007).¹⁰ These criticisms led to the *yutori* reform in 2002 (Box 2). In any case, the performance of Japanese 15-year-olds on the PISA test has been generally outstanding since it began in 2000. In 2009, Japan ranked second among OECD countries in science, fourth in math and fifth in reading (Figure 4.).

14. The 47 prefectural governments are primarily responsible for high schools, which provide three types of curricula:

- *General* curriculum (72% of students) for those intending to advance to higher education. Indeed, in FY 2009, 85% of these students entered tertiary education while 9% found jobs. The proportion of students in general courses has risen from 59% in 1970.
- *Specialised* curriculum (24% of students) to provide vocational education to students in specific areas, such as industry (35%), commerce (31%) agriculture (11%) and home economics (6%). In FY 2009, 51% found jobs while 43% entered tertiary education.
- *Integrated* curriculum (4% of students), which combines general and specialised courses.

9. Class size statistics in the OECD's *Education at a Glance* exclude special education schools. By this measure, Japan averaged 28.1 children per primary school class in 2008, compared to the OECD average of 21.6. For middle school, Japan had 31.2 compared to the OECD average of 23.9.

10. As one expert wrote, "One has to think of education in Japan as an enormously elaborated, very expensive testing system, with some educational spin-offs, rather than as the other way around" (Dore, 1982).

As for primary and middle schools, the number of high schools fell 5% between 1995 and 2008, while the number of students dropped by 29%. Nevertheless, spending has remained about 1% of GDP since 1995.

Box 2. Recent reforms in Japan's education system

Japan is in the midst of a third educational reform. The first reform occurred early in the Meiji period as Japan tried to catch up with the western world. The second, following the Second World War, was aimed at democratising and modernising schools. Since the 1980s, there has been dissatisfaction with certain aspects of education. The "Ad Hoc Council on Education", established by the prime minister in the mid-1980s, pushed for reform based on the principles of individuality, internationalisation, lifelong learning and information technology. These principles were the basis of a third wave of reform toward *yutori kyoiku* (relaxed education) and the incorporation of national universities.

The *yutori* reform

The *yutori* reform was based on an emerging consensus that the school system was too rigid and that a new approach was needed to encourage creativity, as Japan had reached the world technology frontier. The key change, announced in 1998 and implemented in 2002, 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 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 (Goodman, 2003). 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. Another negative aspect of Japanese education, "examination hell", which subjects students to severe pressure, has eased as the number of applicants has fallen due to demographic trends (Hood, 2003). Some universities now accept students on the basis of teacher recommendations.

The incorporation of national universities

Private and public universities have been subject to government controls on *inter alia* the educational curriculum, student-teacher ratios, enrollment quotas, admission procedures, library holdings and the area of school buildings. Government regulations were accompanied by subsidies to private institutions, amounting to 11% of their funding in 2005. Although regulations were relaxed in 1991 to give universities more freedom, a recent OECD report concluded that private universities in Japan are not comparable to those in some other OECD countries (OECD, 2009b).

The incorporation of national universities in 2004 was intended to change their culture and behaviour by providing them incentives to become more agile, more responsive to societal needs, more innovative, creative and enterprising. In short, they were expected to become more competitive, in terms of teaching and research quality, with the best in the world. With the transformation of national universities into independent entities, their staff was no longer civil servants guaranteed jobs for life and paid according to fixed schedules. National universities now have the power to hire and fire, and to set budgets and salaries. In the past, faculty councils chose the university president and exercised veto power over the president's decision. Since the 2004 reform, presidents are chosen by a broader-based selection committee and are answerable to a board of directors with a majority of external members. The objective is to shift from consensus-based management to leadership by the president. Greater autonomy is accompanied by greater transparency and public accountability, including certification from certified third parties. Moreover, MEXT no longer covers their budget deficits and has cut operational subsidies by 7% since FY 2004.

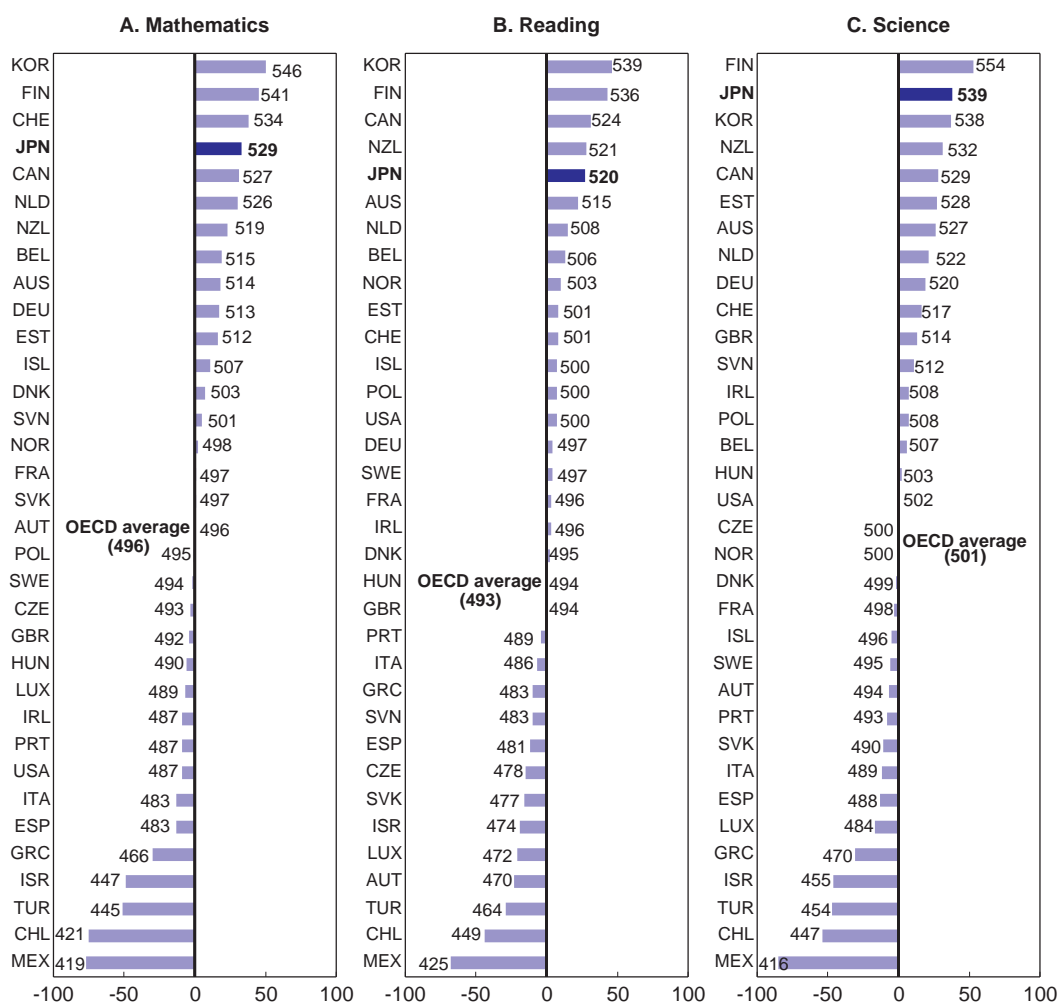
The 2005 report by the Central Council for Education stated that the government would shift from "plotting tertiary education plans and implementing various regulations" to the "presentation of future visions and provision of policy guidance". National universities were required to submit a range of mid-term performance measures to MEXT for FY 2004-09 and to provide annual operating plans to MEXT to evaluate their progress. In 2011, MEXT will announce their evaluation of each national university's progress in meeting their mid-term objectives to promote improve the efficiency of management. MEXT established a second round of mid-term goals for FY 2010-16 for universities in 2010 following negotiations with each institution. Despite these reforms, the extent of national universities' autonomy remains limited as MEXT still sets tuition fees, to promote equal educational opportunity, and the student enrolment cap. In addition, the majority of changes at the department or programme level still require approval from MEXT.* Such controls are defended by MEXT on the grounds that universities receive public funds and play important public roles.

In sum, the 2004 reforms have been characterised as a gradual shift from control to supervision. According to a recent OECD study, "Japanese national universities continue to exercise less strategic initiative with respect to hiring and setting wages, reallocating resources, and exploiting opportunities than do comparable universities in the United States, United Kingdom and the Netherlands" (OECD, 2009b). In addition, some universities have been reluctant to use their newfound authority, reflecting in part their risk-averseness and a lack of skilled administrators.

* Of the 838 academic re-organisations in 2005, 482 required MEXT approval, with the remainder requiring notification.

Figure 4. International comparison of student performance on the PISA test

Student performance at age 15 in 2009

Source: OECD (2010d), *PISA 2009 Results: What Students Know and Can Do*, Volume I.*The shadow education system: the role of private tutoring institutions*

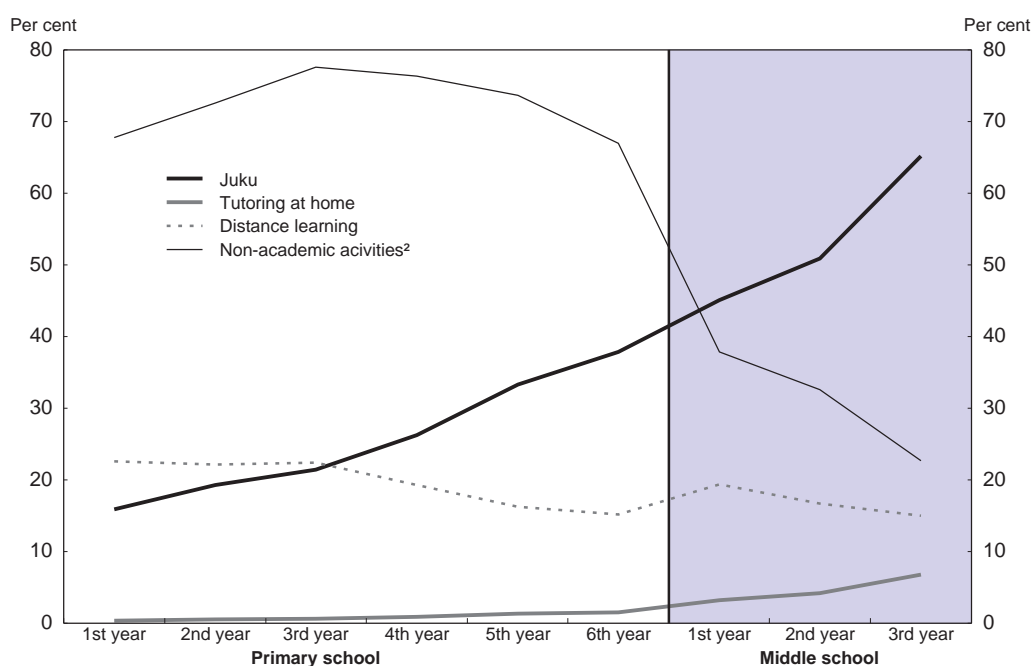
15. In 2007, nearly one-quarter of primary school students and one-half of middle school students received private, out-of-school academic instruction at institutions known as *juku* (Figure 5).¹¹ Another 19.5% of primary students and 17.1% of middle students participate in distance learning, and 0.9% and 4.7%, respectively, in tutoring at home.¹² The high level of participation in such activities is driven in part by the severe competition to enter the top universities and the benefits from attending such institutions. Academic credentialism – the emphasis on where a person studied rather than on what they studied – is

11. The government does not conduct surveys on high school students' participation in out-of-school education.

12. The term *juku* covers institutions teaching a wide range of topics, including technical training or the arts. This paper focuses on academic (*gakushu*) *juku*. Within that category, there are also a number of distinctions, such as between *shingaku juku*, which are aimed at high-performing students who want to improve, and *hoshu juku*, which help students to catch up in school work (Roesgaard, 2006).

strong in Japan. Universities' traditional role has been to provide a sorting mechanism for entry into elite professions. The rate of return to a university education varied from 2.5% to 15.6% for men, depending on the prestige of the university (Ono, 2004). Consequently, the applicant-entrant ratio at the national universities remained high at 4.1 to one in 2006 and 5.3 at the public universities. *Juku* are considered to be useful by many parents in helping students succeed in the battery of tests that determine admission, in addition to providing other services that schools do not provide (Box 3).

Figure 5. Participation in after-school education in 2008¹



1. Some students participate in more than one type of after-school education.
2. The major activities included piano (29%), swimming (27%), calligraphy (23%), foreign-language conversation (11%), soccer (11%) and martial arts (11%).

Source: Ministry of Education, Culture, Sports, Science and Technology (2008), *Report on Children's Out-Of-School Learning Activities*.

Box 3. The role of *juku* in education: the views of parents and students

A primary objective of attending *juku*, according to the parents of school students, is to help them to prepare or review school lessons (39%) and study for school entrance exams (23%), according to a 2008 survey by MEXT. Only 11% attended *juku* to catch up on their studies. In middle school, *juku* attendance was even more focused on school lessons (50%) and preparing for school entrance exams (43%). In contrast, home-based tutoring is the major tool to help students catch up in their studies.

For primary school students, the main subjects studied in *juku* were arithmetic (76% of students), Japanese (62%) and English (35%), although that language was not taught at the primary level prior to FY 2010. For middle school students, English was the major subject (88%), followed by math (86%), Japanese (49%), science (43%) and social science (40%). The emphasis on scholastic competition is reflected by the fact that 21% of middle school students attending *juku* expressed concern that they are too focused on grades and academic ranking.

Dissatisfaction with schools appears to be an underlying motivation for parents to send their children to *juku*. For parents of middle school students, 26% said that "school classes alone could not adequately prepare children for school entrance exams and 14% said that "school classes alone were not sufficient". Another 33% said *juku* were necessary for children to fulfil their aspirations. The poor study habits of children was another issue; parents reported that they send their middle school children to *juku* because they have trouble studying alone (33%) and at home (32%).

Students' views of extra-school studies were fairly positive, as nearly half reported that they really like or somewhat like their *juku*, although the share dropped with age. While social factors play a role, the most important reasons cited were that the teachers are easy to understand and present material not covered in school, suggesting that the *juku* are succeeding in ways that the schools are not. Of the middle school students who reported that "they did not like *juku* very much" or "disliked *juku*" (13.5% of all students), 70% stated that attending *juku* "was too tiring". In addition, they complained that attending *juku* had reduced time for playing outside (29%) and watching television and spending time with their family (20%). While three-quarters of primary students participate in sports, music, calligraphy and other non-academic subjects, the share falls to one-third for students in middle schools (Figure 5).

Parents had a number of concerns about the negative side effects of *juku* (Table 4), including their impact on students' daily life (43.0%) and their health (37.2%), the financial burden (40.7%), reduced time for recreational activities (38.6%), excessive competition (34.0%) and neglect of school lessons (30.7%).

Table 4. Problems associated with attendance at *juku*¹

	Total	Parents of primary school students	Parents of middle school students
Long commutes and night-time travel to <i>juku</i> has a negative influence on student's daily life	43.0	45.2	38.7
<i>Juku</i> impose a significant economic burden on parents	40.7	39.1	43.8
Time for normal life experiences, such as play, local and family activities, is insufficient because of <i>juku</i>	38.6	45.0	26.7
Long commutes and night-time travel to <i>juku</i> has a negative impact on students' health and energy	37.2	39.2	33.5
Excessive competition in school entrance exams has a negative impact on children's character	34.0	37.2	28.1
The focus of parents and children on their <i>juku</i> studies leads them to neglect their school lessons	30.7	33.4	25.5
The impact of the parents' income on the academic ability of their children has become too large	29.9	30.2	29.2
The emphasis on outstanding results ignores students' desires and distorts their career choices	24.5	24.5	24.5
Students' thinking ability and desire for individual study are not cultivated	20.9	20.1	22.3
Participation in school training activities is diminished	12.0	12.4	11.2
Increased eating at restaurants due to <i>juku</i> attendance has an adverse impact on children's health	9.3	10.2	7.5
Differing instructions given by the school and the <i>juku</i> creates confusion and insecurity in children and parents	7.8	8.6	6.4
The commute to <i>juku</i> creates opportunities for misconduct by children	6.2	6.6	5.5
Severe competition between <i>juku</i> has led to unfair advertising and troubles with contracts	5.5	5.2	6.0

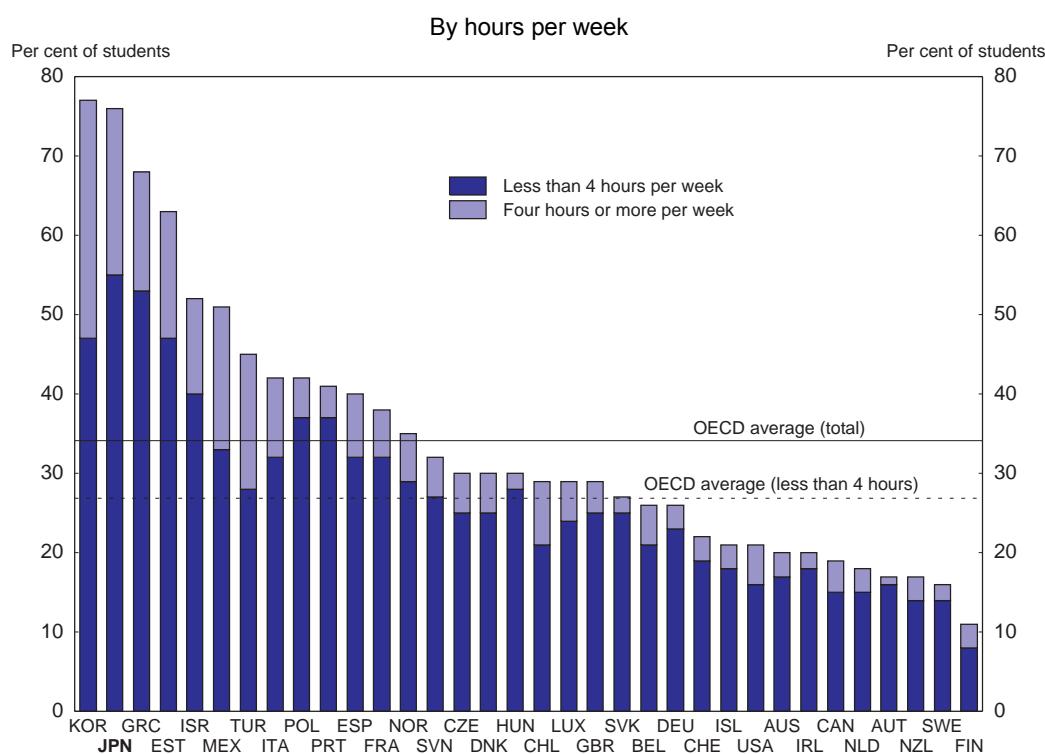
1. Percentage of parents citing the following issues in response to the question "What are the problems resulting from increasing attendance at *juku*?"

Source: Ministry of Education, Culture, Sports, Science and Technology (2008), *Report on children's out-of-school learning activities*.

16. 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 middle school (Figure 5). According to other estimates, 64% of middle school students attend *juku* (MEXT, 2006). *Juku* are thus a major service industry in Japan, as an estimated 50 thousand firms provide instruction to up to 2 million students at both the primary and middle school levels, with 21 *juku* large enough to be publicly-listed on the stock exchange.¹³

17. The share of students attending after-school lessons in Japan is one of the highest in the OECD area (Figure 6). Indeed, the share studying math ranks second. With very high rates of participation in after-school lessons in national language, science and other subjects,¹⁴ the number of hours spent each week in *juku* may be considerable. Interestingly, after-school lessons play a small role in Finland, the top OECD performer in the PISA test.

Figure 6. The percentage of students attending after-school lessons in math



Source: OECD (2010d).

18. The share of students enrolled in *juku* has risen compared to 1985, despite the sharp reduction in the number of high school graduates that makes tertiary education available to virtually all students who wish to attend (see below). The proportion increased from 16% in 1985 to 26% in 2007 at the primary level and from 44% to 53% at the middle school level. In a 2008 survey by MEXT, parents attributed the growing role of *juku* to: *i*) concern that learning at school alone is not sufficient (67%); *ii*) growing

13. Business Week (2005). For example, Kumon, which was established in 1954, has 4 million students in 46 countries (Mori and Baker, 2010).

14. Japan ranks second in the share of students taking after-school lessons in the national language (64%), first in science (61%) and first in other subjects (76%).

importance of academic backgrounds in Japan (60%); *iii*) rising investment per child in the context of a falling birth rate (39%); *iv*) the diversification of the private education industry (15%); and *v*) the increasing educational background of parents (13%).

19. In sum, the growing investment in *juku* suggests that they positively influence students' school performance and their success rate on school entrance exams, while developing students' study habits and interest in learning. In addition, they may also contribute to Japan's results on the PISA assessments. Nevertheless, *juku* can have a number of negative effects:

- *Juku* create and perpetuate inequality, given that the high cost limits use by low-income families.
- *Juku* unduly dominate children's lives and restrict their leisure activities in ways that are detrimental to their well-rounded development.
- To the extent they duplicate school curricula, *juku* may use resources that could be used more efficiently elsewhere. In some cases, *juku* substitute for schools, crowding out school lessons.
- *Juku* impose heavy financial burdens on families.
- *Juku* can disrupt classroom learning by upsetting the sequence of learning and exacerbating disparities between students, causing some to lose interest in classroom activities (Bray, 2009).

The tertiary sector

20. Around three-quarters of high school graduates enter tertiary education, a proportion slightly above the OECD average. In 2008, 48% enrolled in "tertiary-type A" programmes (primarily at universities), while another 29% entered "tertiary-type B" programmes, which are typically shorter and focus on practical, technical or occupational skills for direct entry into the labour market. Japan's tertiary sector is characterised by wide diversity in the types of institutions (Table 5), although there is considerable overlap between them. The government has encouraged each type of institution "to clarify its own individuality and distinctiveness" (Central Council for Education, 2005). A second distinctive feature is the large role played by the private sector in tertiary education. In 2008, 89.6% of tertiary institutions were private. The public sector's share of spending on tertiary education was the fourth lowest in the OECD area at 32.5% in 2007 (Figure 2), down from 38.5% in 2000, resulting in heavy reliance on tuition fees to finance tertiary education. Tuition fees at private universities, which accounted for 53.3% of their total revenue, averaged more than \$9 000 in 2009.¹⁵ Tuition was around \$5 700 at public universities (MEXT, 2009c), close to the US average. Consequently, households accounted for slightly over half of the cost of tertiary education in Japan.

21. Tertiary institutions enrolled almost 3.7 million students in 2008 (Table 6).¹⁶ The system is segmented, with little scope for transferring between different types of institutions (Ishida, 2003).¹⁷

15. Public universities rely more on government funding (excluding hospital revenues) – 55% of their revenue compared to only 11% for private universities in 2005 – and less on tuition fees (16%) (OECD, 2009b).

16. This does not include 256 thousand students taking correspondence courses at the university level and 28 thousand at the junior college level in 2005.

17. In 1999, the education law was relaxed to allow graduates from specialised training colleges to transfer to a junior college or university. By 2005, though, only about 2 000 students had transferred. However, there are "double schoolers" – students enrolled simultaneously in a specialised training college and a university, prompting some universities to establish specialised training colleges (Goodman *et al.*, 2009).

Table 5 Japan's tertiary education institutions in 2008

Category	Universities	Junior colleges	Specialised training colleges ¹	Technical colleges ²	Total
National ³	86	2	11	55	154
Public ⁴	90	29	206	6	331
Private	589	386	3 184	3	4 162
Total	765	417	3 401	64	4 647
Percentage private	77.0	92.6	93.6	4.7	89.6

1. The specialised curriculum in these institutions is included in tertiary education.
2. These five-year colleges enrol students from age 15. Only students in the final two years are included in the tertiary sector.
3. Funded directly by the national government.
4. Funded at the local and regional government level.

Source: Ministry of Education, Culture, Sports, Science and Technology.

- *Graduate schools* accounted for 7% of tertiary students, with almost two-thirds enrolled in national or public institutions. Less than one-third of graduate students were women.
- *Universities* accounted for 69% of tertiary students, with 77.4% of them enrolled in private institutions.
- *Junior colleges* accounted for 5% of tertiary students, with 93.8% of them in private institutions. Junior colleges, which offer two-year degrees, are more oriented toward vocational skills, such as teacher training, than four-year universities. Almost 90% of junior college students are women.
- *Specialised training colleges (senmongakko)*,¹⁸ which are also predominately private, offer practical vocational education to provide skills and qualifications that are accepted directly by employers.¹⁹ These institutions are very responsive to changing demand from employers and some even guarantee jobs to students who complete their courses. These institutions accounted for 18% of tertiary students, with more than 40% of them studying health-related subjects.
- *Technical colleges*, which are primarily public institutions, accounted for 2% of tertiary students. These colleges offer five-year courses on vocational subjects, specialising in engineering, for students from age 15.

Enrolment by gender differs significantly between institutions. While females accounted for 88.9% of junior college students, they are under-represented in universities and graduate schools. In addition, students' field of specialisation differs substantially by gender.

22. The number of 18-year-olds graduating from high school has fallen from its peak of 1.8 million in the 1990s to 1.1 million in 2010. Although this was largely offset by a rising participation rate, the number of tertiary students has declined by about 5% since 1995, while the number of institutions fell by only 1% (Figure 7). Consequently, the overall capacity of tertiary education is roughly in line with the number of applicants.

18. Specialised training colleges offer a specialised curriculum, which is part of tertiary education, as well as a general and high school curriculum, which is not. The term "specialised training college" in this paper refers only to their tertiary role.

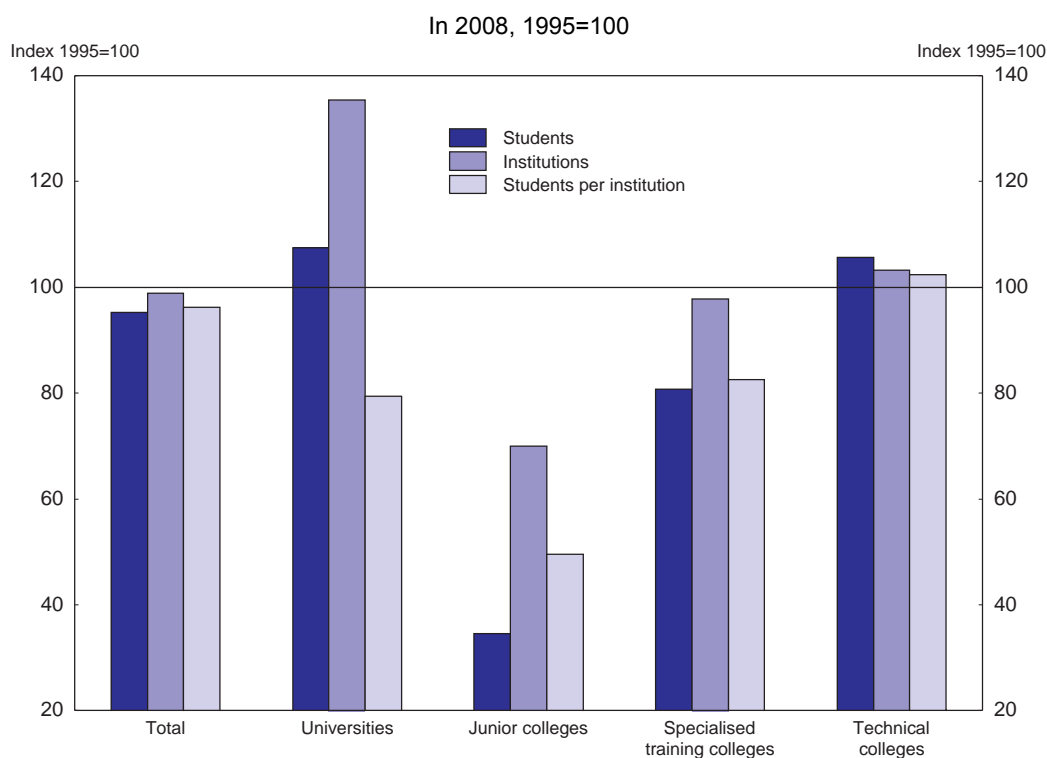
19. The teaching of English illustrates the difference between specialised training colleges and universities. While universities focus on literature, the specialised training colleges emphasise developing oral skills. Consequently, students who need a qualification in spoken English (the so-called Eiken qualification), such as students planning to become airplane pilots, tend to prefer specialised training colleges to universities.

Table 6. Number of students by type of tertiary institutions

Thousands of students in 2007 ¹						
Category	Graduate schools	Universities	Junior colleges	Specialised training colleges	Technical colleges	Total
National (Per cent)	153.9 (58.5)	454.7 (18.0)	0.1 (0.1)	0.7 (0.1)	53.2 (89.4)	662.4 (18.0)
Public (Per cent)	14.7 (5.6)	114.1 (4.5)	10.6 (6.1)	27.6 (4.2)	4.2 (7.1)	171.1 (4.7)
Private (Per cent)	94.2 (35.9)	1 951.8 (77.4)	162.1 (93.8)	629.2 (95.7)	2.1 (3.5)	2 839.4 (77.3)
Total (Per cent)	262.7 (100.0)	2 520.6 (100.0)	172.7 (100.0)	657.5 (100.0)	59.5 (100.0)	3 673.0 (100.0)
<i>Memorandum item:</i>						
Share of women (%)	30.7	41.2	88.9	54.4	15.6	44.9

1. Percentage of students attending national, public, and private institutions is shown in parentheses.

Source: Ministry of Education, Culture, Sports, Science and Technology, *Basic Survey on Schools, 2007*.

Figure 7 Trends in Japan's tertiary education sector

Source: Ministry of Education, Culture, Sports, Science and Technology.

23. In addition, the composition of the tertiary sector has changed significantly in recent years. While the number of tertiary students has fallen nearly 5% since 1995 as noted above, university enrolment rose by 7.5% (Figure 7). Meanwhile, the number of universities has risen by 200 since 1995, in part due to the conversion of junior colleges into universities. Consequently, there has been a sharp contraction in tertiary institutions more focused on vocational education and training, notably junior colleges and specialised training colleges, which recorded a combined 37% fall. In addition to competition from universities, the fall in enrolments in junior colleges and specialised training colleges reflects the rising educational aspirations of young people, especially women. One side effect is a 50% fall in the number of students per junior college, pushing some into financial trouble, given that they are funded primarily by tuition fees.

24. While university enrollments are rising, the increased capacity has also reduced the number of students per institution, forcing even prestigious universities to lower their admission standards to maintain enrollments. Universities face a number of challenges. *First*, fiscal constraints limit the scope for additional public expenditure on education. *Second*, demographic changes pose a serious challenge to the continued viability of many private institutions, and to the efficiency of public institutions. Enrolment in about one-third of private universities is below the student quotas set by MEXT, reflecting the low birth rate, which is in part blamed on high education costs. *Third*, universities must adapt to a new labour market context in which firms want to hire workers who have already acquired the necessary skills. Universities confront these challenges in a new regulatory context that allows them more autonomy than in the past.

25. Japanese universities do not rank high in international comparisons. For example, five Japanese universities ranked in the top 200 in the World University Rankings 2010-11, compared to ten in 2005.²⁰ There was a common understanding that in accepting students, a university has an obligation to graduate them, suggesting a lack of rigour (Goodman *et al.*, 2009). Indeed, 93% of entrants graduate, the highest in the OECD area and well above the OECD average of 70%.²¹ Many of the dropouts reportedly enrol in specialised training colleges to obtain vocational education recognised by firms.

26. Another important development is the 71% expansion in the number of graduate students between 1995 and 2008. Traditionally, graduate school was viewed primarily as a preparation for an academic career. The share of the population holding master's degrees in the United Kingdom was five times higher than Japan and twice as high for doctoral degrees. However, the share of university graduates continuing on to graduate school has risen from 9% to 12%, facilitated by expanding capacity. Indeed, the number of universities with graduate schools rose from 385 to 569 between 1995 and 2005. In addition, there was a sharp rise in the number of professional graduate schools following the introduction of the legal framework for this type of institution in 2003. By 2006, there were 140, of which two-thirds were in the private sector. More than one-half are law schools, which were introduced in 2004. Despite the increased number of graduate students, there were ten undergraduate students for every graduate student in Japan, well above the ratios of seven to one in the United States and five to one in the United Kingdom.

Policies to improve educational outcomes

27. There has been widespread concern about the deterioration in the quality of education since the end of the 1990s. The decline in Japan's PISA results in 2003 and 2006 intensified the sense of crisis in

20. The *Times Higher Education* ranking is based on 13 indicators covering citations in academic papers, research, teaching, the international mix and industry income. The ranking gives a 32.5% weight to citations, 30% to research, 30% to teaching, 5% to the international mix and 2.5% to industry income.

21. Similarly, 84% of entrants to tertiary-type B institutions graduate, compared to the OECD average of 62%.

Japan, which had long prided itself on its performance in education.²² The so-called “PISA Shock” played a role in the decision to reverse, at least in part, the *yutori* reform launched at the beginning of the decade. However, in the 2009 PISA test, Japanese students improved in absolute terms and relative to other OECD countries in all three subjects, and rank high in each (Figure 4). Japan’s performance in reading (relative to 2000), math (relative to 2003) and science (relative to 2006) remains broadly unchanged. In addition, the PISA shows improved performance on tasks requiring open-ended, higher-order thinking skills, one of the objectives of the *yutori* reform. One lesson is to avoid reading too much into statistically insignificant changes in international comparisons.

28. Improving educational outcomes remains a priority, given the economic benefits. Moreover, while Japan ranks very highly among OECD countries, it faces increasing competition from emerging economies. In the 2009 PISA results, the Shanghai province of China and Hong Kong, China ranked above Japan in each of the three subjects. In addition, improvements in education are demanded by a large proportion of parents. For example, a 2006 survey by the Cabinet Office reported that only 27% of parents are “very satisfied” or “satisfied” with the school that their youngest child attends, while 34% were “dissatisfied” or “very dissatisfied” (Oshio *et al.*, 2010b). This section identifies priorities for improving educational outcomes: investing more in ECEC, reforms to raise the quality of primary and secondary schools and measures to improve tertiary education.

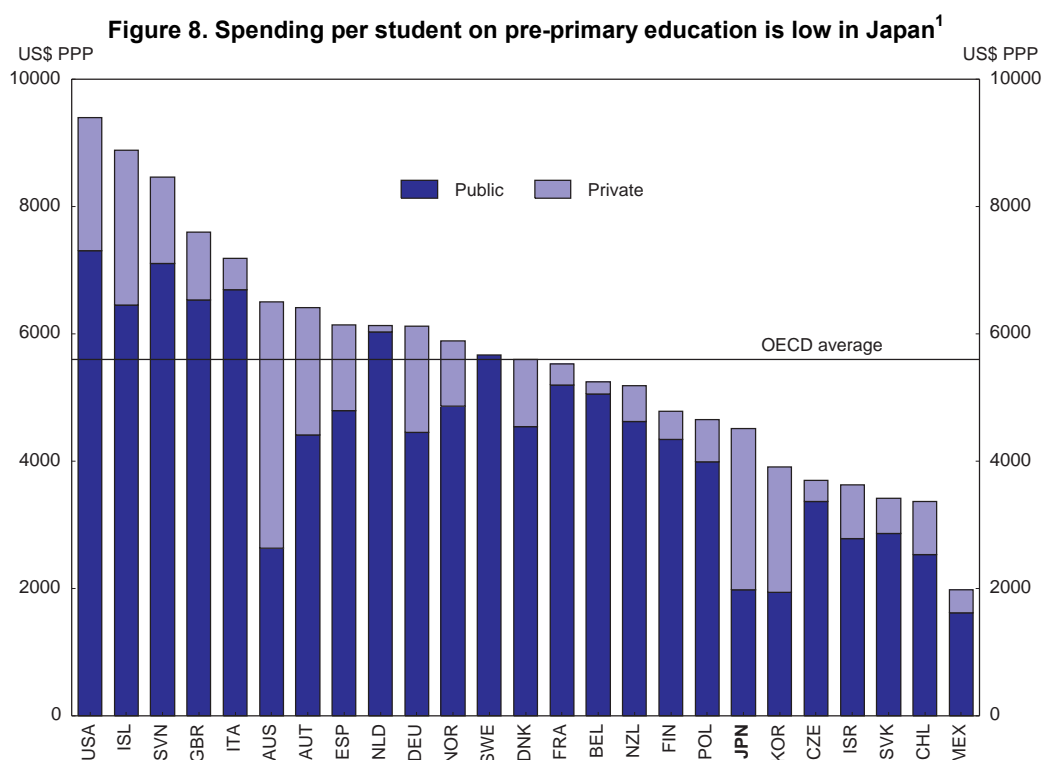
Investing more in early childhood education and care

29. ECEC is crucial for improving the educational development of children as well as increasing the labour force participation of women (see the 2011 *OECD Economic Survey of Japan*). A large body of empirical work has established that fundamental cognitive and non-cognitive abilities are created well before the age of five (Heckman and Masterov, 2007). Given that ECEC provides an important foundation for subsequent learning, high-quality programmes enhance later school achievement, resulting in very high rates of return from pre-primary education. In addition, ECEC also contributes to reducing social inequality as children from disadvantaged families receive much less cognitive and emotional stimulation.

30. In 2007, spending on pre-primary education per student in absolute terms was 17% below the OECD average (Figure 8). In addition, the public-sector share was only 44%, compared with an OECD average of 80% (Figure 2). Consequently, public expenditure on pre-primary education was the third lowest among OECD countries. Moreover, it is relatively low compared to spending at other levels of education; outlays per student in pre-primary education were only 62% of that in primary school and 52% of that in secondary schools, well below the OECD averages of 81% and 66%, respectively.

31. It is important to increase both the quantity and quality of ECEC to improve educational outcomes and meet the needs of parents. The government plans to expand the capacity of licensed childcare centres by 12%, from 2.15 million in FY 2010 to 2.41 million by FY 2014, by increasing the number of places for children age three and under. The target, which aims at eliminating the waiting list, is based on an analysis of demand by the municipalities. This would help achieve the New Growth Strategy’s objective of raising the employment rate of women in the 25-to-44-age group from 66% in 2009 to 73% in 2020 (see the 2011 *OECD Economic Survey of Japan*). To raise the supply of childcare, the central government has expanded a fund to help construct childcare facilities. In addition, it plans to spread the cost of childcare more broadly by requiring firms and workers to contribute as well. However, increasing the burden on Japanese firms is problematic.

22. Japan fell from first in mathematics in 2000 to sixth (among OECD countries) in 2006, from second to third in science and from eighth to 12th in reading comprehension.



1. Annual spending based on full-time equivalent students.

Source: OECD (2010a), *OECD Education at a Glance 2010*.

32. Even assuming that the planned 260 thousand increase in childcare capacity is fully matched by a rise in the number of women in the labour force, the female labour force employment rate for the 25-to-44-age group would only rise to around 67.3%, well short of the Strategy's target of 73%. Moreover, providing generously-subsidised licensed childcare to only a portion of the population raises serious equity issues. Rather than gradually increasing the number of licensed centres, more ambitious measures to expand the capacity of childcare should be a major priority. These could include:

- Private providers should be able to freely set their fees to cover their up-front investment, operational costs as well as to make profits. However, the fees should be capped for those who receive public subsidies to ensure that public money is not misused for profit-making purposes.
- Competition policy should ensure the absence of entry barriers. An easing of minimum standards could be considered to increase the number of licensed or recognised providers.
- Initial start-ups for childcare centres or kindergartens wishing to become ECEC centres should be supported through, for example, earmarked subsidies for renovation of empty classrooms in primary school buildings and a loan system with low interest rates.
- An effective information system on providers and quality standards should be built and effectively communicated to providers and users so that they can make well-informed decisions.
- Seed-funding could be given to those providers aiming to foster innovations in offering high-quality ECEC services.

Each of these options requires effective steering and monitoring to ensure quality and the adequate provision of ECEC services, especially for disadvantaged families.

33. A large expansion of childcare driven by private suppliers requires paying the subsidies to parents rather than to childcare providers, an approach that has a number of advantages. *First*, it gives more choice to parents in selecting a childcare supplier and does not favour one type of provider over another. *Second*, it strengthens competition among childcare providers and raises their cost-consciousness. At present, licensed centres face little pressure to keep costs low or to respond quickly to the changing needs of parents. *Third*, it promotes quality, assuming that payments are conditional on children attending approved facilities. The amount of subsidies to families could be related to income levels, as is the case now, to achieve equity objectives and enhance work incentives among low-wage earners. The Australian system provides a useful example²³ that would be more effective than past government programmes.²⁴

34. Ensuring consistent quality across Japan's fragmented ECEC system requires common curriculum guidelines and standards and effective measures to ensure that they are followed. As noted, the curricula of childcare centres and kindergartens were made more consistent in 2008 and three-quarters of staff are qualified to teach in both types of institution. However, further measures are needed to provide a high-quality early learning environment to all children in ECEC. The government's New Growth Strategy, announced in June 2010 (see the 2011 *OECD Economic Survey of Japan*), set an objective to integrate childcare and kindergarten by measures to "Eliminate facility categories such as kindergartens and nursery schools (childcare centres) and integrate these facilities into children's schools, which will provide both early childhood education and child care". While this is an ambitious target and cannot be accomplished overnight, it is consistent with OECD work showing that a systemic and integrated approach to policy development and implementation will help deliver high quality ECEC services (OECD, 2006). While integration of ECEC often encounters some resistance, Chile, Denmark, Finland, New Zealand, Norway, Slovenia, Sweden and the United Kingdom have integrated the services under one lead ministry. Meanwhile, Austria, France, Germany, Hungary, Italy, the Netherlands, and the United States have been integrating services at the local authority level.

35. Integration is not an end in itself, but instead a means to achieve better policy outcomes. The countries' reasons for integrating ECEC include improving quality, increasing participation in ECEC, promoting fairness and ensuring policy coherence and streamlined management by eliminating a dual approach. Integration of ECEC can take place along different dimensions. The current policy discussion in Japan mainly focuses on administrative (*e.g.* financing) and delivery aspects (*e.g.* location, age coverage, and fee-setting). Other dimensions of closer integration can include: *i*) setting out explicit and coherent policy goals, *ii*) integrating staff qualifications, education and training, and working conditions, *iii*) unifying financial sources, *iv*) setting out common curriculum guidelines or standards, *v*) establishing a common quality assurance mechanism; and *vi*) setting consistent rules for parental fees. Each aspect has different cost implications, requiring more investment.

23. Australia has a Child Care Benefit (CCB), a voucher given to families to help with the cost of care. It varies with family income, the number of children in care and the type of care. Receiving the CCB is contingent on using childcare centres that meet quality standards. Following the introduction of the scheme, the number of childcare places rose from 114 thousand in 1989 to 700 thousand in 2008, contributing to the large increase in the female workforce from 3.1 million to 4.8 million over that period.

24. In July 2006, for example, METI announced the "New Strategy for Economic Growth", which selected six areas; childcare, health/welfare, tourism, business services, software content and distribution/logistics. The specific target was to increase their market size by 70 trillion yen (14% of GDP) by 2015, based on a detailed action plan, entitled "Toward Innovation and Productivity Improvement in Service Industries".

36. Achieving the goals of expanding the quantity and quality of ECEC will require additional public spending.²⁵ Integrating childcare and kindergartens, as stated in the Strategy, would allow some cost savings by streamlining the existing dual system administered by two different ministries. Additional revenue would require some rebalancing of spending. One option would be to use part of the child allowance introduced in FY 2010 – 13 000 yen (about \$160) per child per month up to the age of 15 (see the 2011 *OECD Economic Survey of Japan*), with an increase planned in FY 2011. Shifting part of the allowance to an in-kind benefit for ECEC would help boost investment in pre-primary education, while reducing the financial burden on households.

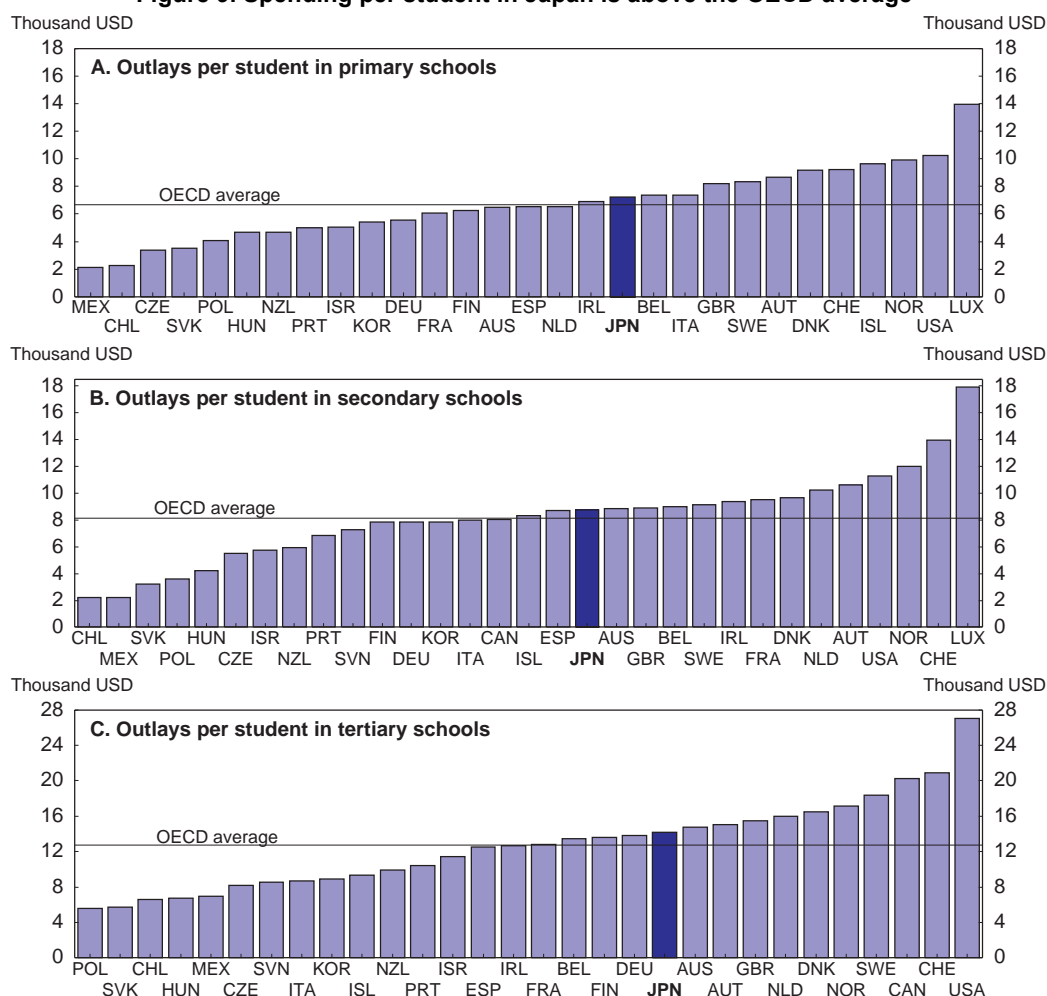
Improving the quality of primary and secondary schools

37. Spending per student at the primary and secondary levels is 8% and 7%, respectively, above the OECD average (Figure 9), suggesting that greater spending on these institutions is not a priority. Moreover, the level of spending on education does not appear to be the determining factor in the quality of education, which varies widely among countries with similar spending levels. The sharp rise in education spending in many OECD countries over the period 1970 to 1994 was not reflected in improved performance (McKinsey, 2010). However, there is significant scope to address weaknesses in schools, as the heavy reliance on *juku* suggests that there are factors that prompt parents to turn elsewhere. It is important to address weaknesses rather than relying on *juku*, with their associated costs and implications for equity. To improve schools, the emphasis should be placed on raising academic standards and expectations, decentralisation and expanding the scope for school choice.

Raising academic standards and expectations

38. Many parents complain that the education standards in schools have fallen significantly, particularly since the introduction of the *yutori* reforms, and are now too low. The government appears to agree, as it is expanding curricula and class hours. Indeed, primary school textbooks have been expanded by almost a quarter. In addition, class time will be increased by one to two hours to cover the lengthier curriculum beginning in FY 2011 for primary school and FY 2012 for middle school. This would boost the length of compulsory instruction time per year in Japan, which is 3% below the OECD average for primary school and 2% below for middle school (OECD, 2010a), to slightly above the average. One study found that increased class hours was the only policy option available to a school that made a statistically significant difference to the university admission rates of its students, after controlling for its students' academic skills and the attributes of the school (Oshio *et al.*, 2010a). The expanded curriculum should be implemented to help raise performance, although it is not clear how such a large expansion in the curriculum can be covered in by a relatively short increase in class time. It is thus important to provide teachers with the information and training necessary to make the new curriculum effective. At the same time, Japan should try to maintain the benefits of the *yutori* reform.

25. Many OECD countries have increased spending on ECEC in recent years. *First*, governments have started to consider public spending on ECEC not as “consumption” but an “investment” to improve the development of children. *Second*, ECEC contributes to reducing social inequality, reducing child poverty, and promoting inter-generational mobility, given that children from disadvantaged families receive much less cognitive and emotional stimulation. *Third*, the provision of affordable, quality childcare services has allowed most OECD countries to maintain or increase female labour participation (OECD, 2006).

Figure 9. Spending per student in Japan is above the OECD average¹

1. In 2007, based on full-time equivalents, in US dollars converted using PPPs.

Source: OECD (2010a), *OECD Education at a Glance 2010*.

Greater decentralisation of education

39. According to the OECD's 2008 *Education at a Glance*, the percentage of decisions related to the "organisation of instruction" taken at the middle school level in Japan is the lowest among member countries and third lowest for personnel management.²⁶ OECD research demonstrates that educational performance is better in countries where decentralisation is more pronounced (Sutherland and Price, 2007). Moreover, a recent international study comparing 20 different school systems found that decentralisation was the key to turning good education systems into excellent ones (McKinsey, 2010). Greater devolution of authority to schools would thus likely lead to better outcomes. However, greater autonomy in terms of resources must be accompanied by increased school accountability (OECD, 2010d).

26. In contrast, the PISA survey of school principals, which involved the high school level in Japan, reported a high level of school autonomy with regards to instructional policies.

Expanding school choice at the primary and secondary level

40. Promoting competition among schools by allowing greater school choice has been found to improve educational outcomes in the OECD area (Sutherland and Price, 2007). In the 2009 PISA, competition and performance do seem related among schools within an OECD country. However, the relationship weakens once the socio-economic profile of students is taken into consideration, as more privileged students are more likely to attend schools that compete for enrolment (OECD, 2010f). School choice has been permitted in Japan since 2000, but only 14% of municipal education boards allowed it in 2006, with the remainder relying on residence-based selection criteria. While experience with school choice is limited, initial studies point to some gains. One study found that the university advancement rate of students in public schools in urban areas is higher in districts allowing school choice, with no negative effect on rural schools (Akabayashi, 2006). Another study of the Adachi area of Tokyo found that its academic results have improved, while between-school differences have not risen (Yoshida *et al.*, 2009). The success of school choice depends on the availability of publicly-provided information, making it important to ensure that adequate information is available. However, while school choice may be beneficial for individual schools, it is important to avoid negative externalities in other schools. Moreover, it is important that financial costs related to changing schools do not limit the ability of low-income households to exercise school choice.

Raising the quality of tertiary education

41. The development of human resources through tertiary education needs to be exploited fully in the face of demographic pressures and the fiscal problem. Increasing quality to create world class institutions is thus a priority. There have been some recent reforms that should help in this regard. In particular, certified evaluations by third-party organisations were introduced in 2004, the number of national universities using a grade-point average system to evaluate students rose from 36 in FY 2005 to 51 in FY 2008 and the number using student evaluations of teachers increased from 45 to 83. The keys to improving quality are strengthening competition between institutions and promoting their internationalisation.

Stronger competition in the university sector through greater transparency

42. Japan is in an unprecedented situation where the supply of and demand for tertiary education are broadly in balance. Consequently, in much of this sector apart from elite institutions, competition for entry into tertiary institutions has been replaced by competition among institutions for students. In this context, consumer choice could be a powerful force to steer institutions towards best practices. The key is reliable and detailed information for prospective students about the quality of individual institutions. The government has required universities to provide public information on their activities, faculty and fees beginning in 2011. The mandatory information should be expanded to include the longer-term labour market outcomes of each university's graduates to enhance student choice and institutional competition. MEXT could also strengthen competition by raising the share of funding that is linked to a university's performance. In FY 2006, only 18% of the budget for tertiary education was allocated on a competitive basis.

Promoting the internationalisation of the tertiary sector

43. The tertiary education system has only a limited degree of internationalisation, given the relatively low number of students from overseas and a near absence of foreign higher education institutions operating in Japan. The share of foreign students in tertiary education in Japan in 2008 was only 3.2%, well below the OECD average of 8.5%. The number of foreign students in tertiary education rose from 10 thousand in 1983 to 133 thousand by 2009, reflecting the worldwide trend toward international

education. In addition, the government has implemented plans to increase international students, such as the 1983 Plan for 100 000 Foreign Students and the 2008 Plan for 300 000 Foreign Students. Chinese students account for three-fifths of foreign students in Japan. Half of all foreign students are university undergraduates. A survey of privately-financed foreign students found that three-quarters were employed part-time. Meanwhile, the number of Japanese students studying overseas has dwindled over the past decade.²⁷

44. Accelerating the internationalisation of Japan's tertiary education is a priority to improve its quality. The aim should be to attract outstanding students to leading graduate schools, rather than simply recruiting foreign students to fill empty chairs. In 2008, the government launched the Global 30 project to help achieve the target of increasing the number of foreign students to 300 thousand by 2020. The project was to support the efforts of 30 universities, with a total budget of 3 billion yen (about \$37 million). Given the strict qualifying criteria, though, only 13 have been selected thus far (McNeill, 2010). A new programme, Campus Asia, was launched in April 2010 with China and Korea, aimed at promoting exchanges by establishing common guidelines on credit transfers and grading policies. Increasing the share of foreign students requires an effective system for attracting high-quality overseas students and boosting the share of classes taught in English to the targeted 30%.

45. Attracting accredited foreign providers to the tertiary sector would also be an effective way to stimulate competition and upgrade the competitiveness of Japanese universities by introducing best practices. However, the number of branch campuses of foreign universities in Japan fell from around 40 in the early 1990s to four at present. Moreover, none have been recognised as a "university". The ministry created a new status of "foreign university" in 2004 and so far five universities have been thus designated.

Investing more in tertiary education

46. Public spending on tertiary education was the second lowest in the OECD area in 2007 at 0.5% of GDP, while the private sector funds two-thirds of outlays in Japan. The dominant role of the private sector is appropriate, as much of the return to higher education accrues to students.²⁸ However, achieving the New Growth Strategy's objective of creating "cutting-edge" universities may require some additional public investment (OECD, 2009b). Any such increase in public spending should be based on a clear statement of its strategic aims, including R&D and the quality of teaching. The steering instruments established in the wake of the incorporation of the national universities (Box 2), which increase both the autonomy and accountability of institutions, should guide any increased investment (OECD, 2008). Cost savings from consolidation of public tertiary institutions, with due regard to universities' autonomy, should be used to help finance additional spending. Finally, any increase in spending should be conditional on: *i*) closer linking of funding to institutional performance; *ii*) further diversification of the structure of tuition fees by institution; and *iii*) the adoption of management practices in universities that promote efficiency (OECD, 2009b).

27. In particular, the number of Japanese undergraduates at American universities has fallen by one-half since 2000 (McNeil, 2010).

28. Taking into account both higher average earnings and lower risks of unemployment, university graduates stand to earn substantially more over their working lifetime than people who end their education at secondary level. The "private internal rate of return", which takes account of these and other factors, including the time taken to earn a degree, tuition costs and taxes (which have a negative impact on returns), is higher than real interest rates in all OECD countries. It is estimated for men at between 10% and 15% in Denmark, France, the Netherlands, Sweden and the United States and 17% in the United Kingdom (OECD, 2002). In addition, there is a benefit to society. On average across OECD countries, a man with a tertiary education will generate an additional \$119 thousand in income taxes and social contributions over his working life, compared to a man with an upper secondary education (OECD, 2010a).

Increasing efficiency: more value for money in education

47. Japan's difficult fiscal situation makes spending cuts necessary (see the 2011 *OECD Economic Survey of Japan*). Indeed, central government outlays on education are to be reduced by 2% in the FY 2011 budget, while local allocation tax grants, which help finance local government education outlays, are to be cut by 4%. The fiscal situation makes measures to increase public spending efficiency in all areas, including education, more important than ever. The government has imposed an annual 1% reduction in management expense grants to national universities, which account for about 40% of their revenue. Other reforms, including the integration of childcare and kindergarten, consolidating educational institutions, allowing universities more autonomy, and increasing the teaching time of teachers, could also help boost efficiency in education spending.

Integrating childcare and kindergarten to reduce costs

48. The integration of childcare centres and kindergarten proposed in the New Growth Strategy has the potential to reduce costs by using excess capacity in primary schools and kindergartens to increase childcare places. Combining childcare and kindergarten would also cut the administrative and overhead costs of running two parallel systems, in part by allowing them to be housed in the same facility. In addition, the fact that most teachers are qualified to teach both childcare and kindergarten would allow savings in personnel costs. Looking ahead, the scope for consolidation is large, given that the number of children age four and under is projected to drop by a third between 2008 and 2030.

Consolidating schools

49. The falling number of school-age children has resulted in a significant decline in the number of primary and secondary schools during the past 15 years. With the number of youth in the 5-to-19-age bracket projected to fall by 35% between 2008 and 2030, further declines are inevitable. An OECD study found that small school size is associated with inefficiency (Sutherland and Price, 2007). In addition to pushing up the cost per student, allowing class and school sizes to dwindle below their optimal size could have negative effects on the quality of those children's education. In the PISA 2009 results, students in cities of more than one million people scored 36 points (1.5 standard deviations) higher than those in towns with 3 000 to 15 000 residents, after adjusting for socio-economic factors (OECD, 2010e).

50. While school consolidation is a local government responsibility, MEXT's working party on primary and middle schools is calling for the central and prefectural governments to provide advice and financial support.²⁹ Such advice could draw on the experience of other countries, such as Portugal, which has closed around 3 000 small schools in a three-year period while establishing new school clusters and a school transport network. It could also involve developing tools for the careful analysis of the costs and benefits of keeping small schools open compared to alternative education options for the children in each school. In particular, there should be funding to cover transport costs in school districts that pursue consolidation. In addition, the payment that municipalities are required to make to the national government when they close schools built with public subsidies should be abolished, thereby allowing the buildings to be used productively, such as for providing childcare. However, such an approach would require new collaboration arrangements between MEXT, which manages primary schools, and other ministries, such as MHLW, which is responsible for childcare.

51. At the tertiary level, a government council stated that "capacity reduction and the consolidation or integration of the national university corporations or their departments is promoted if necessary to

29. A summary of the working group's report can be found at: http://www.mext.go.jp/component/b_menu/shingi/giji/_icsFiles/afieldfile/2009/10/02/1282486_1.pdf.

improve the academic level” (Education Rebuilding Council, 2007). Since 2002, 29 national universities have been merged into 14. Nevertheless, most universities remain very small (Table 7) compared to some other countries. For example, public universities in the United States have an average of almost 11 000 students, and 18% have more than 20 000 students.³⁰ The United Kingdom has more than 50 public universities with an enrolment of more than 20 000 (Higher Education Statistics Agency, 2010). The small average size of national and public universities in Japan suggests there is already scope to consolidate the sector so as to promote institutional excellence, if they fail to reform by rationalising the use of resources and better managing costs. Furthermore, without further consolidation, the projected one-third drop in the university-age population would cut the average number of students at national and public universities to around 5 000 and less than 1 000, respectively, within about two decades, according to OECD estimates. This would further reduce institutions’ capacity to maintain excellence, achieve economies of scale and compete successfully at a global level. Against this backdrop, a more strategic approach to addressing these challenges for the overall tertiary sector will be needed to achieve the government’s broader objectives of a high-performing tertiary sector within a difficult public finance context.

Table 7. Students per university in Japan

Students enrolled at all course levels

Year	National	Public	Private	All universities
1960	2 698	866	2 883	2 557
1970	4 128	1 519	3 821	3 682
1980	4 373	1 532	4 315	4 115
1990	5 402	1 645	4 168	4 208
2000	6 304	1 489	4 202	4 222
2005	7 217	1 452	3 820	3 946
2009	7 230	1 488	3 508	3 682

Source: Ministry of Education, Culture, Sports, Science and Technology.

52. There is also considerable scope for consolidation among private tertiary institutions. Already in 2003, annual income did not cover operating costs for 29% of private universities and 46% of private junior colleges. In addition, 38% of private universities do not fill their current enrolment quotas, which is problematic as these institutions are funded primarily by tuition payments (OECD, 2009b). The establishment of 200 universities since 1995 in the face of the rapid drop in the number of high school graduates adds to pressure for consolidation. Beginning in 2005, the government has appropriately allowed private universities to go bankrupt based on a framework that permits students to transfer to nearby universities (Yonezawa and Kim, 2008) and such consolidation should be allowed to continue.

Using teachers more effectively by allowing them to focus more on teaching

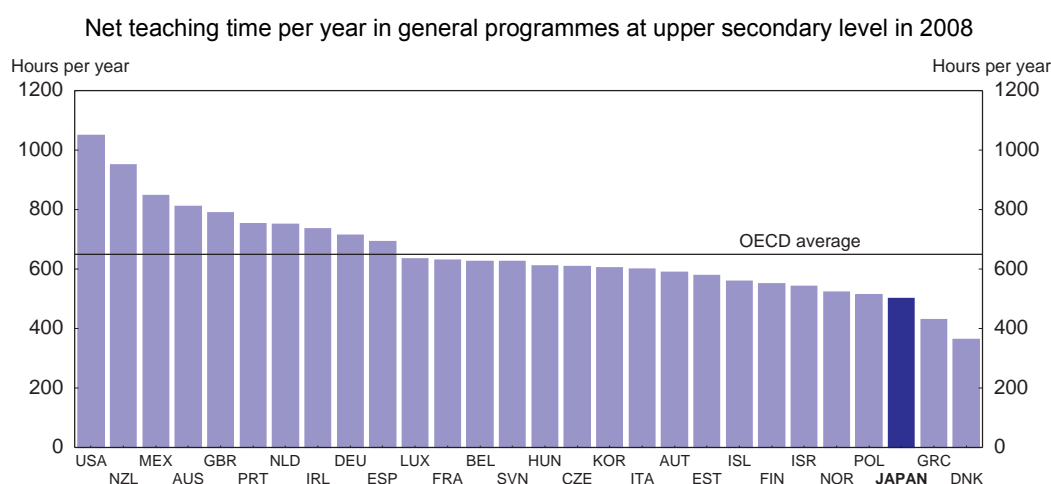
53. Teacher salaries are relatively high in Japan, reflecting the legal requirement that they earn more than other civil servants. In 2008, their pay was 44% above GDP per capita at primary, middle and high school levels, compared to OECD averages of 16%, 22% and 29%, respectively (OECD, 2010a). As the most expensive resource in schools, using their time effectively should be a priority. However, teaching time in Japan is relatively short; at the high school level, teachers have 23% less teaching time than the OECD average (Figure 10). The combination of high salaries and short teaching times results in wages per hour that are 37% above the OECD average for high school teachers.³¹ The relatively short teaching time is

30. Enrolments in Fall 2007, excluding two-year institutions (*Digest of Education Statistics 2009*, NCES 2010).

31. At the middle and primary school levels, teaching time in Japan is 13% and 9% less, respectively, than the OECD average. Consequently, the salary per hour of teaching is 35% above the OECD average for middle school teachers and 38% higher for primary teachers.

due in part to other demands, such as meetings, writing reports, clerical work, supervising extra-curricular activities and counselling students. Non-teaching staff account for 20% of employment in schools compared to 43% in the United Kingdom. A recent survey reported that 90% of teachers do not have enough time to prepare lessons and 80% said that time spent dealing with parents and local residents is increasing (MEXT, 2009c). MEXT has been encouraging schools to review their meetings and events to increase efficiency. There appears to be scope to shift non-teaching assignments, particularly clerical work, to lower-paid staff and increase the use of IT, particularly given the planned increase in teaching time by one to two hours per week. Such an approach would limit costs by allowing teachers to focus more on teaching.

Figure 10. International comparison of teaching time of teachers



Source: OECD (2010a), *Education at a Glance 2010*.

Liberalising regulations on tertiary institutions

54. MEXT sets a standard annual tuition level for national universities, but allows them to charge up to 20% more. However, almost all universities charge the standard amount, perhaps reflecting concern that tuition hikes would be offset by a reduction in government payments. As a result, tuition fees are largely unrelated to the quality of education, its cost or the earnings of graduates. The undifferentiated level of tuition fails to encourage the most efficient use of resources. Limits on tuition fees aim at encouraging university access for low-income families. However, at the same time, the lack of variation in tuition fees also raises equity issues, as students entering prestigious national universities, who tend to come from affluent families, benefit from the high salaries accorded to the graduates of those universities. For these reasons, universities should thus be allowed greater autonomy in setting tuition fees, while at the same time, expanding student loan programmes to ensure access for all qualified students, which in Japan may require some time (see below). More generally, while assuring quality, the government's efforts to relax remaining restrictions, such as enrolment caps and the requirement for MEXT approval for programme changes, should continue. This also requires that Japan develop a professional group of managers capable of effectively leading more autonomous universities.

Reducing the burden on families

55. Households accounted for 21% of spending on educational institutions in 2008, the fourth highest in the OECD area, even before taking account of outlays for *juku*. For a child attending public institutions from kindergarten to university, annual expenditures amount to nearly 10% of average annual disposable income per household (Table 8). The share is more than double if a child attends private institutions.

Indeed, the cost of two children in a private university amounts to half of average household income. The high share of private spending on education is also a source of inequality in outcomes (see below).

Table 8. Household spending on education

Millions of yen in 2008 for six cases by whether institutions are public or private¹

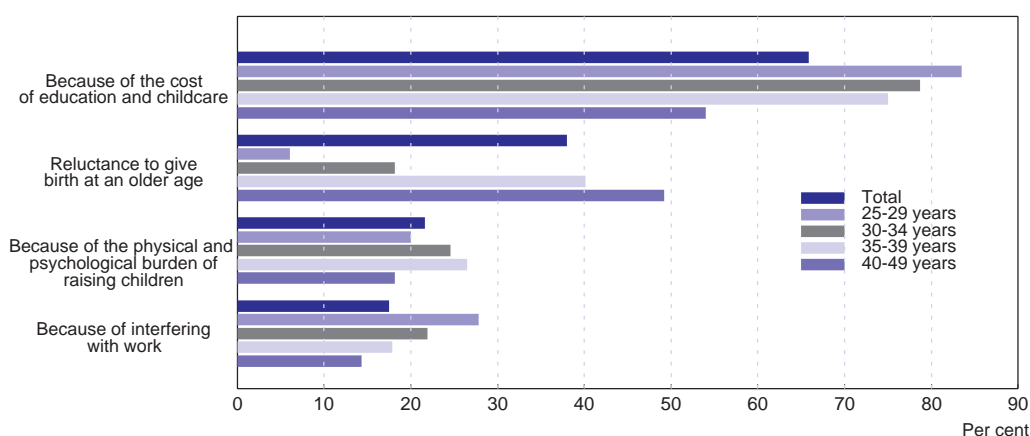
	Type of educational institution					Total	Per cent of household income ³
	Kindergarten	Primary school	Middle school	High school	University ²		
Case 1	0.7	1.8	1.4	1.5	4.3	9.8	9.7
Case 2	0.7	1.8	1.4	1.5	3.9	9.4	9.3
Case 3	1.6	1.8	1.4	1.5	6.2	12.7	12.5
Case 4	1.6	1.8	1.4	2.9	6.2	14.0	13.8
Case 5	1.6	1.8	3.7	2.9	6.2	16.3	16.1
Case 6	1.6	8.3	3.7	2.9	6.2	22.8	22.5

1. Shaded area is for private educational institutions.
2. Average of the cost of: *i*) when students live at home; and *ii*) when they have separate lodging. Case 1 is for national universities and case 2 is for public universities.
3. Total expenditures per year (*i.e.* the total divided by 17) as a per cent of disposable income per household in 2008.

Source: Ministry of Education, Culture, Sports, Science and Technology (2009c), *White Paper on Education, Culture, Sports, Science and Technology, 2009*.

56. The heavy burden of educational expenses on households is one factor explaining Japan's low fertility rate of 1.4, the second lowest in the OECD, and well below the desired number. A government survey found that 44% of married women between 20 and 39 wished to have two children and 39% preferred to have three or more. When asked what steps were needed to boost the fertility rate, 55% of parents cited policies to reduce the economic burden of children, just behind the 59% that mentioned better work-life balance. Indeed, around 80% of those in the 25-to-35-age group identified the high cost of education and childcare as a reason why they had fewer children than they would have liked (Figure 11). The survey results are supported by an econometric study showing that education costs have a significant impact on birth rates (Kato, 2000). Areas with scope to reduce the burden on families include ECEC, *juku* and tertiary education.

Figure 11. Reasons why the actual number of children is less than the desired number¹



1. A survey of parents in the 25-to-49 age group.

Source: Ministry of Education, Culture, Sports, Science and Technology (2009c), *White Paper on Education, Culture, Sports, Science and Technology, 2009*.

Raising the public share of spending on early childhood education and care

57. The share of public spending on pre-primary education is the third lowest in the OECD, as noted above. Average net childcare costs are around 14% of average family income for dual earner families compared to the OECD average of 12% (OECD, 2007). In 2007, 60% of the cost of kindergarten was borne by the private sector, compared with an OECD average of 20% (Figure 2). For women in the 20-to-49-age group with children, 68% mentioned the need to reduce the cost of kindergarten as a key to increase the birth rate (MEXT, 2009a). The cost of one year of ECEC free of charge to parents was estimated at 800 billion (0.2% of GDP) in 2009, only one-half of the 1.7 trillion yen spent on the child allowance in FY 2010. Most European countries provide at least two years of free, publicly-funded education before primary school (OECD, 2010b). The additional outlays could be covered at least in part by cost savings from integrating childcare and kindergarten.

Reducing dependence on *juku*

58. One of the major concerns related to *juku* is the financial cost for families (Table 9). The average expenditure per student more than doubled in real terms between 1985 and 2007, reaching 21.3 thousand yen per month (about \$3 150 annually), excluding the cost of commuting, around 11% of per capita income. Spending on *juku* is about 6% higher for boys than girls and increases with age. Indeed, spending on middle school students was more than double that of the first three grades of primary school. By the third year of middle school, 13% of households paid more than 40 thousand yen monthly per student (about \$5 900 annually). While *juku* are expensive, the cost of home tutoring is even higher. Not surprisingly, there is a link between the number of children and spending on *juku*. For children in the sixth year of primary school, spending on *juku* exceeded 20 thousand yen per month for 41% of those who were only children compared to only 16% for those who had three siblings (NIER, 2008).

Table 9. Spending on out-of-school instruction

Spending per student in 2007 in thousand yen

	Total	Boys	Girls	Grades 1 to 3	Grades 4 to 6	Middle School
<i>Juku</i>	21.3	21.9	20.7	12.0	18.5	26.1
Tutoring at home	24.8	26.3	23.5	13.0	22.6	26.3
Correspondence courses	5.6	5.7	5.5	3.8	5.1	8.4
Non-academic activities ¹	6.6	6.1	7.1	6.4	6.2	8.0

1. The major activities included piano (29%), swimming (27%), calligraphy (23%), foreign-language conversation (11%), soccer (11%) and martial arts (11%).

Source: Ministry of Education, Culture, Sports, Science and Technology (2008), *Report on Children's Out-Of-School Learning Activities*.

59. The contribution of *juku* to educational outcomes is uncertain, given that the biggest rise in its PISA performance in Japan has occurred on open-ended higher-order thinking tasks, not in the reproduction of subject matter that is the focus of *juku*. Although reducing the role of *juku* is not a government objective, it would ease the burden on households and increase equity in educational outcomes (see below). *First*, it is important to improve school quality so that children can acquire sufficient education without attending *juku*. Indeed, dissatisfaction with school quality is also one of the reasons given by parents for sending their children to *juku* (Box 3). In Korea, for example, where *juku* (called *hagwon*) also play a prominent role (Figure 6), time spent at *juku* tend to fall as the quality of schools increases (see the 2008 *OECD Economic Survey of Korea*). *Second*, reducing the reliance on multiple-choice school entrance exams may also help diminish the dependence on *juku*, given that one of their primary roles is to prepare students for such exams. Larger weight could be give to other criteria, such as

recommendations and extra-curricular activities, as well as school grades. Nevertheless, given the severe competition to enter prestigious universities and the large returns available, *juku* will continue to play an important role in Japan.

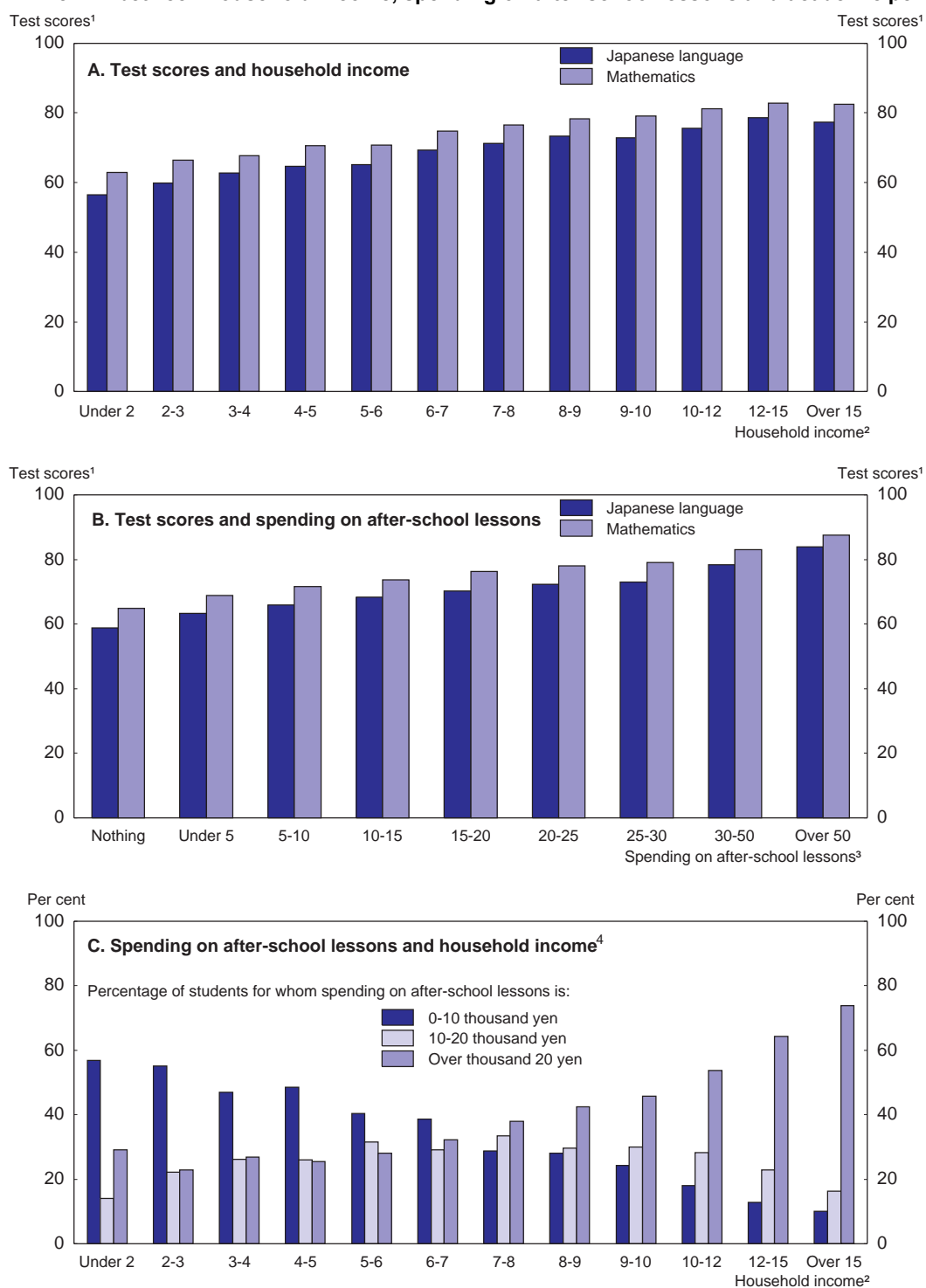
Lightening the burden of tertiary education on parents

60. During the past 30 years, tuition fees increased four-fold at private universities and 15-fold at national universities, while the consumer price index doubled. Increased access to public loans would reduce the burden on parents, while making loan repayment contingent on income (see below).

Reducing inequality in education

61. Japan has had a tradition of relatively egalitarian education outcomes, reflecting the nationwide standardisation of the curriculum and textbooks and a relatively equal distribution of educational facilities and resources. The 2009 PISA tests found that socio-economic factors explain 9% of the variation in student performance, compared to an OECD average of 14%. At the same time, disadvantaged students that attend disadvantaged schools tend to perform worse than expected in Japan, and by a larger margin than in many other OECD countries (OECD, 2010e). However, improving equality is a challenge in the context of Japan's rising income inequality and relative poverty rate, which is the sixth highest in the OECD area (see the 2011 *OECD Economic Survey of Japan*). Educational results are positively related to income levels; as household income rises from less than 2 million yen annually to more than 15 million yen, the proportion of correct answers by sixth-grade primary students in math rose from 63% to 83%, with a similar improvement in the Japanese language test (Figure 12). In addition, test scores are positively related to spending on after-school lessons. The share of correct answers rises 25 percentage points as spending on after-school lessons increases to more than 50 thousand yen per month (Panel B). Not surprisingly, spending on after-school lessons is positively related with family income (Panel C). Among households earning more than 15 million yen a year, 72% spent more than 20 thousand yen per month for their children to attend *juku*, compared to only 5% of households earning less than 2 million yen a year. Econometric studies also suggest that family income is a key determinant of *juku* attendance (Oshio and Seno, 2007).

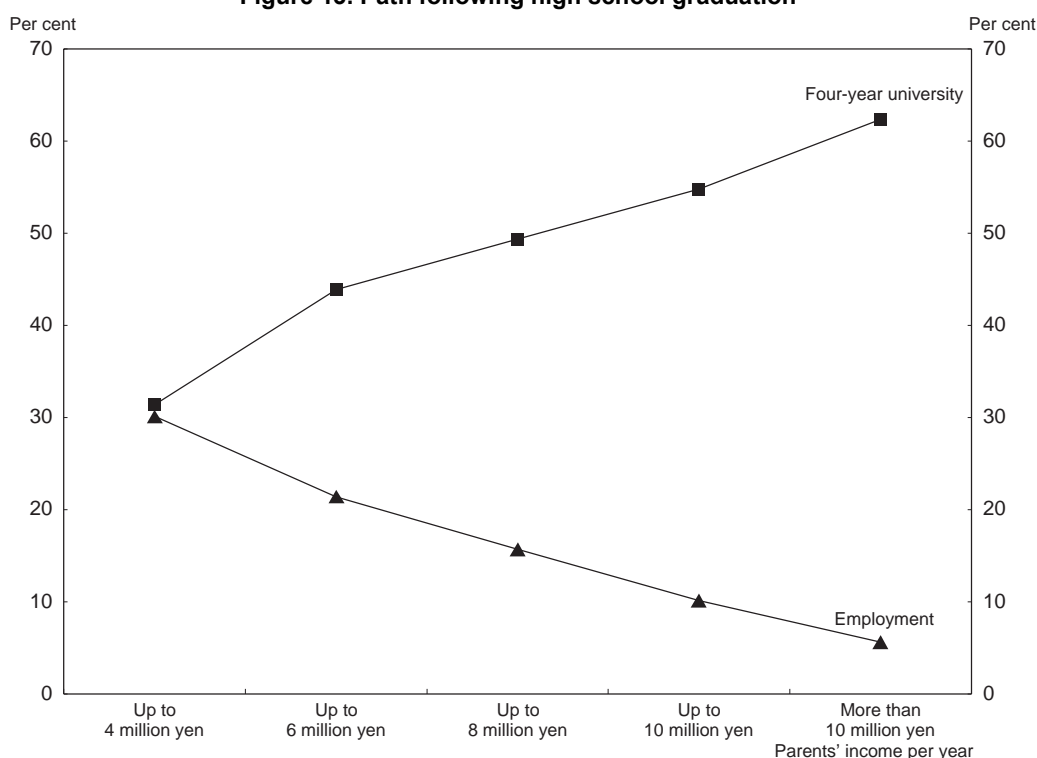
62. The high test scores achieved by students from wealthier households translate into higher entry rates to university. For high school graduates with parents earning less than 4 million yen per year, one-third enter four-year universities and another third begin working (Figure 13). In households earning more than 10 million yen, almost two-thirds enter university, 11 times more than the number entering the labour market. Moreover, students from high-income families tend to attend more prestigious universities, which have a significantly higher return (Oshio and Seno, 2007). University attendance, in turn, is a critical factor determining employment status and income. A government survey found that more than half of men under the age of 30 with university degrees were hired as regular employees, while only 14% were hired as non-regular employees (Figure 14). The situation was reversed for men with only high school degrees: 21% were hired as regular employees and 34% as non-regular workers. The pattern for women is similar, although they are more likely to end up in non-regular employment than men at each level of educational attainment (Panel B). In sum, as household income rises, students tend to receive more training in *juku* and higher test scores, are more likely to attend university and have a greater probability of being hired as a regular worker rather than as a non-regular worker, who receive less training, are paid substantially, receive less coverage from the safety net and are employed in precarious jobs (see the 2011 *OECD Economic Survey of Japan*).

Figure 12. The link between household income, spending on after-school lessons and academic performance

1. Percentage of correct answers on exams taken by primary students in sixth grade (age 11) to test basic knowledge.
2. In million yen.
3. In thousand yen per month.
4. Percentage of students in each income level by amount of spending on after-school lessons per month.

Source: Ministry of Education, Culture, Sports, Science and Technology.

Figure 13. Path following high school graduation



Source: Ministry of Education, Culture, Sports, Science and Technology (2009c), *White Paper on Education, Culture, Sports, Science and Technology, 2009*.

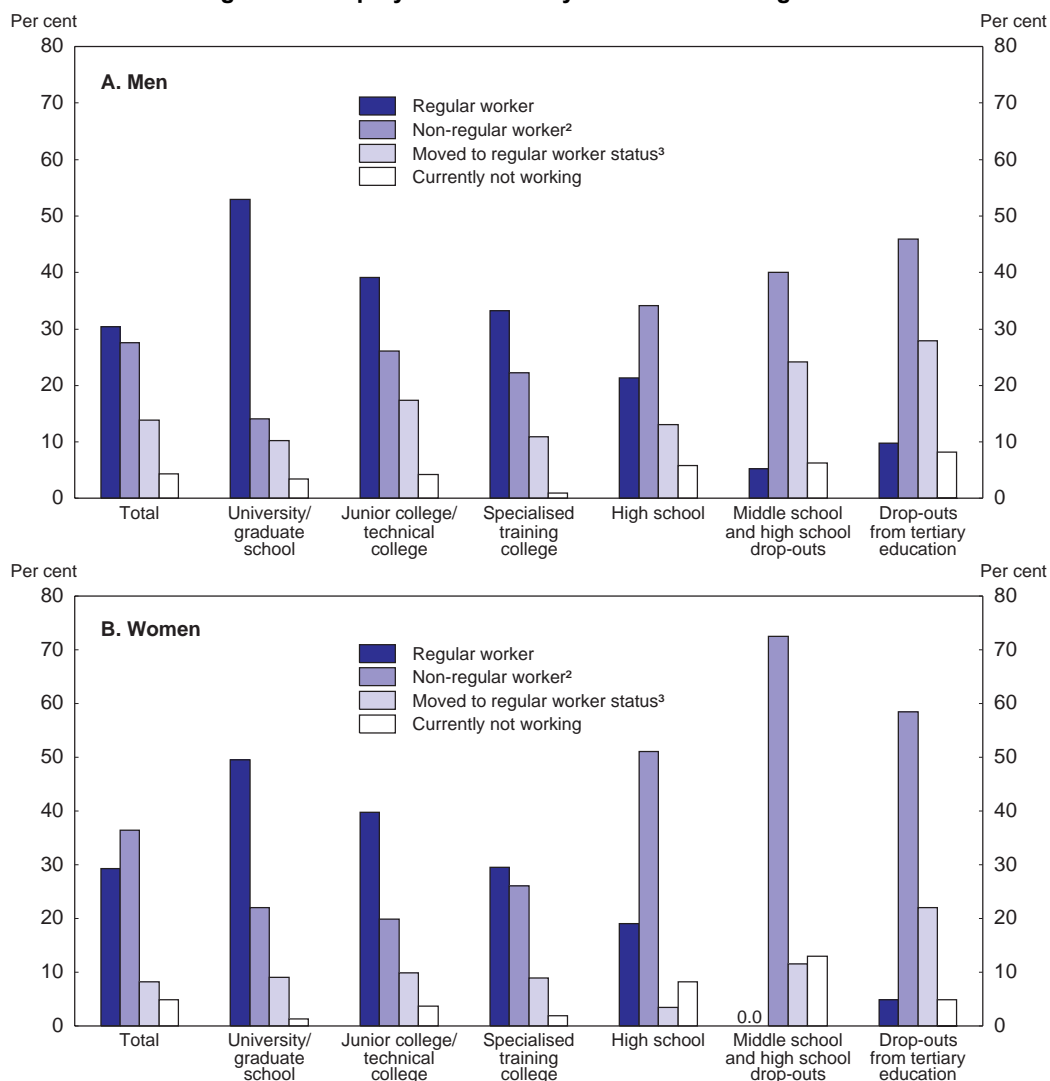
63. Reducing dependence on *juku* through the policies discussed above is a key to promoting equality. Nevertheless, *juku* will continue to play an important role, as noted above, making it important to provide their benefits more broadly and at lower cost. For example, outstanding *juku* teachers could be paid to teach courses at school after classes. Moreover, schools could offer after-school activities to compete with *juku*. Korea, for example, introduced after-school programmes in 1995 that help students prepare for university entrance exams. The programmes appear to be achieving their goal of providing extra instruction for low-income students and reducing outlays on private tutoring (Bae *et al.*, 2001). In addition, greater use could be made of Internet-provided services, which are a rapidly growing component of the private education service industry (Ventura and Jang, 2010) and tend to be much less expensive. In Japan, distance learning costs only one-quarter as much per student as *juku* (Table 9). Finally, greater use could be made of NHK, the public broadcasting station, which already offers a number of programmes for the 128 “Distance High Schools”.

64. The high level of tuition in Japan is another obstacle to university for students from low-income households. Japan has two types of means-tested loans (Table 10). The first is an interest-free loan for students from families facing severe financial difficulty and who rank in the top third of their class. The second is a loan based on the prime rate up to a maximum of 3%. In FY 2010, 34% of university students received loans, with total lending amounting to 0.2% of GDP. According to the government, almost all applicants who fulfil the requirements receive loans. In contrast, more than three-quarters of university students receive public loans and/or scholarships and grants in Australia, the Netherlands and the United States, as well as in Denmark, Norway and Sweden, where public universities do not charge fees.

65. The loan take-up ratio in Japan is still limited by risk aversion by potential students, who are worried that they would not be able to meet the fixed re-payment schedule, which takes no account of their post-graduation income. Moreover, some students may borrow less by taking a shorter, less costly course of study than is optimal. Indeed, in 2009, only 60% of students found regular full-time employment,

compared to a rate of more than 80% prior to the collapse of the bubble economy. Around 2.4 million former students – almost 7% of the 25-to-45-age group – are behind in their loans. While the government has introduced measures in the wake of the crisis to ease loan repayments, Japan should expand the loan system by making repayments contingent on income to encourage students, particularly from low-income households, to invest in higher education. Greater transparency about income would enhance the success of an income-contingent loan system by limiting the scope for self-employed to hide income.

Figure 14. Employment status by educational background



1. Based on a survey of 2 000 people between the ages of 18 and 29 in Tokyo.
2. Part-time, fixed-term contract and dispatched workers.
3. Workers who moved from non-regular worker or self-employed to regular worker status.

Source: Ministry of Education, Culture, Sports, Science and Technology (2009c), *White Paper on Education, Culture, Sports, Science and Technology, 2009*.

Strengthening vocational education and training

66. Vocational education and training (VET) plays a crucial role in preparing people for work and responding to labour market demands (OECD, 2010c). Japan's vocational education and training have been considered a model in many respects, thanks to the variety of institutions, including colleges of technology and specialised training colleges (OECD, 2009b). However, the major role of tertiary education was to signal the capacity of students for a lifetime of skill accumulation within the firm rather than to train

students for specific occupations (Oshio and Seno, 2007). In a survey of university graduates four years after graduation, they left the university, 47% of Japanese graduates reported “little use” of knowledge gained in school compared to an average of 19% for ten European countries (Teichler, 2007).

Table 10. Japan's student loan scheme¹

	Interest-free loans	Low-interest loans
Number of loan recipients	460 thousand students	631 thousand students
Loan amount	272.1 billion yen	527.8 billion yen
Monthly loan amount	Fixed amount based on institution ²	Variable ³
Loan criteria		
Academic ability	Above 3.5 GPA at high school (on 5.0 scale) Maintain class rank in top third at university	Above average Recognised to be excellent in a certain field of study High motivation to study
Family income	Less than 9.97 million yen ⁴	Less than 13.43 million yen ⁴
Repayments	Up to 20 years after graduation	Up to 20 years after graduation
Interest rate	No interest	Prime rate (currently 1.3%)

1. Data are for 2006. Loans are available for students in all types of tertiary education (see Table 5).

2. For example 64 thousand yen for a student to attend a private institution away from home.

3. For example, in the case of universities, students can receive between 30 thousand and 100 thousand yen (about \$370 to \$1 230) per month.

4. For a student enrolled in a private institution living at home in a family of four where one parent is an office worker. The income limits are equivalent to \$122 thousand and \$165 thousand, respectively.

Source: OECD (2009b), *OECD Reviews of Tertiary Education: Japan*.

67. However, firms are shifting from long-term employment in which they train employees themselves to hiring workers with specific qualifications (see the 2011 *OECD Economic Survey of Japan*). Meanwhile, unskilled jobs are fast disappearing as structural change shifts the industrial structure toward higher value-added activities. At the same time, the role of traditional vocational training institutions has been evolving. *First*, the “academic drift” is severe as the share of high school students choosing the general education track that leads to university has been increasing. *Second*, tertiary institutions focused on vocational training have seen a decline in enrolments, as students shift to university. Consequently, it is important to enhance the vocational training role of universities by increasing their links to the business sector. In 2010, the government launched a new initiative to encourage universities to enhance students’ employability by providing more career guidance. This initiative also involves firms and unions in developing vocational education curricula. In addition, it is essential to achieve the New Growth Strategy’s goal of creating qualifications that are recognised by firms.

Increasing the role of the education system in innovation

68. R&D spending in Japan was the second highest in the OECD area at 3.8% of GDP in 2007. However, the university sector, which employs a majority of PhDs in natural science, plays a limited role, accounting for only 5.6% of R&D spending that year (Table 11). The third Science and Technology Basic Plan for FY 2006-10 aimed at increasing the role of tertiary education in innovation by strengthening ties between industry, universities and the government, in particular through greater support for university intellectual property headquarters and technology licensing organisations (TLOs). While 12.6% of R&D was performed in universities in 2007, the share funded by the business sector was only 3%, half of the OECD average. The share may have increased in the past few years, as research funds received by universities from the private sector rose by 10% between FY 2005 and FY 2009, reaching 41 billion yen (around \$500 million). However, the number of TLOs is on a downward trend as universities’ intellectual property headquarters play a bigger role. In FY 2008, universities received 990 million yen (\$12 million) in license income, well below the 2.5 billion spent to apply for patents according to the government.

Japanese universities apply for patents for only 24% of their technologies, compared to 51% in the United States and 61% in Europe (*Asahi Shimbun*, 1 October 2010). Moreover, only 20% of the patents owned by universities are used by firms. Another worrisome trend is a decline in the number of papers published in academic journals by researchers at national universities in recent years.

Table 11. Flows of R&D funds in 2007
A. R&D Funding

	Share of total R&D spending	Allocation between R&D actors ²				Total
		Government	Universities	Business enterprises		
Government ¹	16.4	54.0	40.5	5.5	100.0	
Universities	5.6	0.3	99.6	0.1	100.0	
Business enterprises	77.7	0.8	0.5	98.7	100.0	
Foreign sources	0.3	13.7	1.9	84.4	100.0	

B. Sector performing R&D						
	Share of total R&D performed	Funding source for R&D performed				Total
		Government	Universities	Business enterprises	Foreign sources	
Government ¹	9.5	92.8	0.2	6.6	0.5	100.0
Universities	12.6	52.6	44.3	3.0	0.1	100.0
Business enterprises	77.9	1.2	0.0	98.5	0.4	100.0

1. Includes private non-profit institutes.

2. By which sector performs the R&D.

Source: OECD R&D Statistics Database.

69. Discoveries that originate at universities can become the seeds for innovation and promote economic growth. It is imperative to promote co-operation between universities and the industrial sector, including joint research, with the government playing a facilitating role. The third Basic Plan also emphasised the importance of enhancing the mobility of researchers by expanding the use of fixed-term contracts and performance evaluation at universities and by requiring young researchers to change their organisational affiliation at least once after graduation before obtaining a permanent position. Finally, the share of government R&D funding for universities that is allocated competitively should be increased to enhance its effectiveness.

Conclusion

70. Implementing educational reform is challenging, given its central role in every country and the magnitude of what is at stake. Making reform happen depends on a number of factors. *First*, it is important to actively engage stakeholders – particularly parents, teachers, students and school administrators – in formulating and implementing policy responses. In particular, teachers need reassurance that they will receive the tools that they will need to be successful. *Second*, it is necessary to clearly explain the underlying principles and aims of reform. *Third*, reform should be based on clear evidence. Given the complexity of the education system, there are no simple action plans that can lead to substantial improvements. Moreover, even with good policies, improved educational results usually take a long time to achieve, and clear evidence of the improvements takes even longer. It is necessary, therefore, that all stakeholders have realistic expectations about achieving better education results. Nevertheless, upgrading the education system is crucial, as small improvements can have enormous positive impacts. Key elements of the comprehensive reform discussed above are summarised in Table 12.

Table 12. Summary of recommendations

Objective	Early childhood education and care	Primary and secondary schools	Tertiary education
Improve educational outcomes	<ul style="list-style-type: none"> Invest more in ECEC to expand quality and quantity Integrate childcare and kindergarten, as outlined in the New Growth Strategy, to enhance the quality of ECEC Expand the role of private providers of ECEC, in part by providing payments directly to families 	<ul style="list-style-type: none"> Effectively implement the planned increase in curriculum and school hours, while retaining the advantages of the <i>yutori</i> reform Increase the autonomy of schools Expand school choice to encourage schools to excel, while increasing information about performance 	<ul style="list-style-type: none"> Increase transparency about performance, including labour market outcomes of graduates, to strengthen competition Promote internationalisation by increasing the number of foreign students Encourage the establishment of more foreign tertiary institutions in Japan
Increase value for money	<ul style="list-style-type: none"> Reduce costs by integrating childcare and kindergarten 	<ul style="list-style-type: none"> Support an efficient framework to cope with school consolidation Use teachers' time more effectively 	<ul style="list-style-type: none"> Facilitate the consolidation of the tertiary sector Liberalise restrictions, including those on tuition, student caps and programme changes, while assuring equity and quality
Reduce burdens on household	<ul style="list-style-type: none"> Raise the public share of spending on ECEC 	<ul style="list-style-type: none"> Reduce dependence on <i>juku</i> Lower the burden of out-of-school education by developing low-cost alternatives 	<ul style="list-style-type: none"> Expand public loans for tertiary education to cover a higher share of students
Reverse the rising trend in inequality	<ul style="list-style-type: none"> Invest more in ECEC to reduce the disadvantages of children from low-income families 	<ul style="list-style-type: none"> Reduce dependence on <i>juku</i> Make the benefits of <i>juku</i> more widely available and at lower cost, notably to students from low-income families 	<ul style="list-style-type: none"> Expand public loans for tertiary education to cover a higher share of students Make repayment of loans income-contingent
Enhance links between labour market and education		<ul style="list-style-type: none"> Create vocational qualifications that are recognised by firms, as planned in the New Growth Strategy 	<ul style="list-style-type: none"> Expand the vocational training role of universities, which are educating an increasing share of young people
Expand the contribution of tertiary sector to innovation			<ul style="list-style-type: none"> Enhance co-operation between university research and industry Increase public investment to create leading universities Boost the share of public research funds for universities that is allocated competitively

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