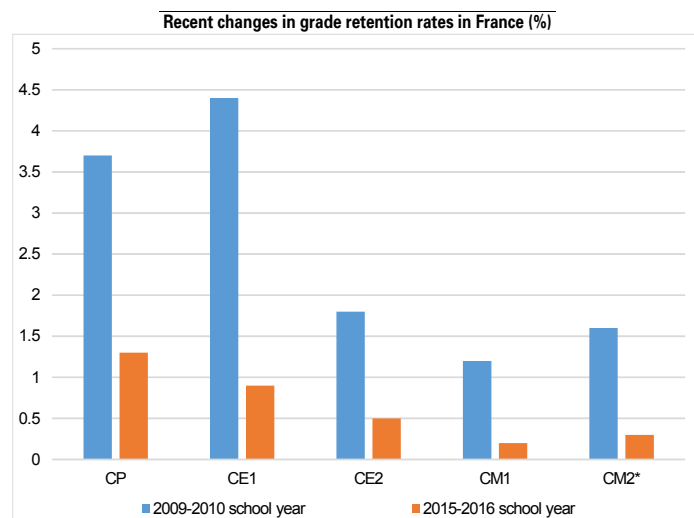


Overcoming student difficulties at school*

- France has achieved four of the six objectives in the European Union's strategic framework for Education and Training 2020 (ET2020), namely: reducing the school dropout rate to below 10%, ensuring that over 40% of persons aged 30-34 have a tertiary degree, enrolling over 95% of children aged 4 to 6 in early childhood education, and providing lifelong learning for over 15% of adults.
- However, in each of the three PISA assessment areas—reading, mathematics and science—slightly over 20% of students performed poorly; this percentage is higher than the OECD average and well above the European objective of 15%. The PISA assessments also find that performance by secondary school students in France has fallen since 2000. For instance, the mathematics performance mean score for France fell from 517 points in 2000 to 493 in 2015, with most of the decline occurring between 2003 and 2012. (By definition, the OECD average is 500.)
- Academic failure is a major economic issue because it is associated with very high unemployment of young people with few or no educational qualifications. It must therefore be addressed either by remedial measures targeting the students in greatest difficulty, including by grade retention, or, at an earlier stage, by strengthening preventive measures.
- Despite reduced recourse to grade retention since the early 1970s, France still ranked sixth among OECD countries in 2015 for the percentage of students aged 15 having repeated a grade. The 2013 Education Act ("Loi pour la refondation de l'École de la République") has amplified the reduction by providing that grade retention must be "exceptional". At the end of the 2015-2016 school year, grade retention fell below 1%, except in CP (cours préparatoire, the equivalent of 1st grade) and *troisième* (the equivalent of 9th grade).
- This rapid decline in the use of grade retention is a positive development. Empirical evidence points to the overall lack of effectiveness of grade retention on students' performance in the medium term, as most students repeating a year would actually benefit from promotion. Further, for students with identical proficiency, grade retention primarily affects those from disadvantaged social backgrounds. Lastly, it is expensive. OECD (2013)¹ estimates that grade retention in France for students aged 6-15 costs close to €1.5 billion in 2012.
- Empirical evidence tends to indicate that the most effective remedial measures are reinforced personal tutoring, along with remedial courses during school holidays. Other preventive measures that could be tested or considered include "looping"-in which a teacher works with the same class for three years, for example, from CP to CE2 (from 1st to 3rd grade)-and more horizontal measures. For example, many empirical studies, especially in France, stress the positive impact of reduced class size on academic performance by students from disadvantaged backgrounds in the early years of schooling.

*Sources: Repères et Références Statistiques (RERS) 2011 and 2016; Direction de l'Évaluation, de la Prospective et de la Performance (DEPP): Note d'information no. 11.09 (June 2011) and Note d'information no. 40 (December 2016).
For CM2 (5th grade), 2010-2011 school year (instead of 2009-2010).



* We wish to express our gratitude towards Fabienne Rosenwald, Director of the Department of Evaluation, Forecasting and Performance (DEPP) in the Ministry of Education, and Nathalie Mons, President of the National Council for School System Evaluation (Cnesco). Our discussions provided valuable insight for some of the topics examined in this document.

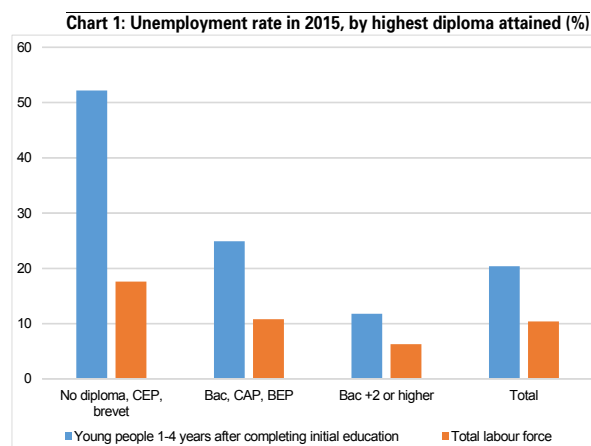
(1) OECD (2013), PISA 2012 Results: What Makes Schools Successful? Resources, Policies and Practices, vol. IV, <http://dx.doi.org/10.1787/9789264201156-en>.

1. Academic failure greatly increases the risk of unemployment

Education plays a decisive role in helping people to perform in the labour market by reducing both the risk and duration of unemployment, while enabling them to earn higher wages. In France and elsewhere, there is a significant long-term link between educational attainment and the school-to-work transition. Conversely, young people having failed at school subsequently experience a very high rate of unemployment¹. In 2015, among young people having completed their initial education one to four years before, the unemployment rate was 50% for those who left school with no diploma or only the brevet (lower secondary certificate of general education), compared with less than 12% for Bac+2 and higher (graduates with two or more years of tertiary education) (see Chart 1)². Moreover, a survey of the 2010 cohort by the Céreq³ found that three years after completing initial education, the median monthly wages of young people who left school without a diploma were 20% lower than those with Bac+2 degrees (two years after the baccalaureate, particularly BTS and DUT degrees) and only half as high as engineering school or business school graduates. More broadly, education contributes to stimulating innovation and technical progress, tends to reduce passive social spending, and allows fuller integration into society. By standing in the way of further schooling, academic failure thus restricts the French economy's growth prospects, productivity and competitiveness.

Strategies to counter academic failure are therefore essential to promote future economic prosperity. These strategies fall into

two categories: preventive measures ("upstream" actions) and remedial measures. They are often used together.



Source: INSEE, *Labour Force Survey*.

Bac: baccalaureate; Bac +2 or higher: 2 or more years of higher education after the baccalaureate; CEP: primary level certificate; brevet: lower secondary level certificate; CAP, BEP: vocational training certificates.

Scope: France (excl. Mayotte); labour force aged 15+.

Interpretation: In 2015, 11.8% of the labour force aged 15+, who held a higher education degree corresponding to two or more years' study after the baccalaureate, and who had completed their initial education 1-4 years earlier, were unemployed.

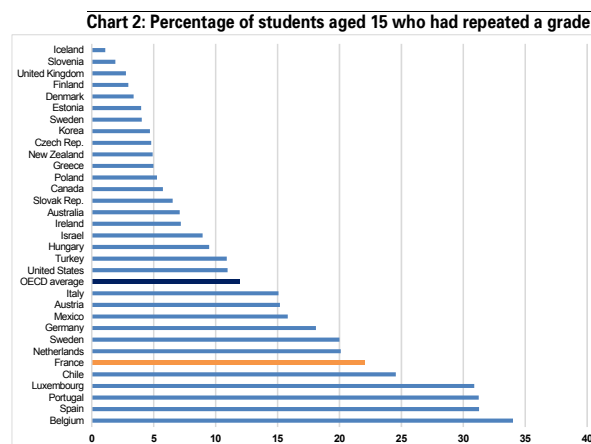
2. Until recently, France's response to academic failure involved considerable use of grade retention compared to other countries, but retention has declined sharply and alternative measures have been introduced

2.1 International comparisons to 2015 showed a high percentage of students in France had repeated a grade

International comparisons show that grade retention is a common remedial measure used to address difficulties in school in some countries (such as France, Spain and Belgium) but is seldom used in others (such as the United Kingdom, South Korea and Finland).

In 2015, the PISA⁴ data indicate that 22% of 15-year-olds in France reported they had repeated a grade at least once (see Chart 2). This ranks France sixth among OECD countries for grade retention, with only Chile, Spain, Portugal, Luxembourg and Belgium reporting higher rates.

At the opposite end of the scale, in nearly a third of OECD countries, fewer than 5% of 15-year-olds reported they had repeated a grade; these countries have all implemented alternative strategies against academic failure.



Source: PISA 2015.

Note: Charts 3 and 4 show retention rates by grade. Chart 2 shows the percentage of 15-year-olds who have already repeated a grade. The decline in retention has a slower visible impact on the latter indicator.

2.2 Grade retention is now far less prevalent in France

While France's grade retention rate remains one of the highest among OECD countries, it has nevertheless fallen considerably, especially in primary school. In 1970, nearly one student in six repeated CP (1st grade) and one in seven repeated CM2 (the last

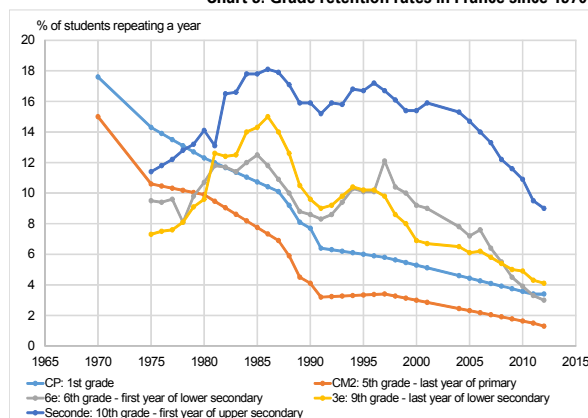
- (1) In 2015, 107,000 young people left the school system without a diploma, according to the DEPP in the French Ministry of Education.
- (2) See Anne-Braun, J., Lemoine, K., Saillard, E. and Taillepiep, P. (2016), "Initial and continuing education: the implications for a knowledge-based economy", *Trésor-Economics*, no. 165.
- (3) Barret, C., Ryk, F. and Volle, N. (2014), "2013 survey of the 2010 cohort: The gap between levels of qualification widens as the crisis deepens", *Training and Employment* no. 109-110. Originally published in *Bref du Céreq* no. 319, March 2014. Céreq is the French Centre for Research on Education, Training and Employment.
- (4) Programme for International Student Assessment. The survey began in 2000 and is repeated every three years. It provides a basis for comparing the performance of 15-year-olds in three areas: reading, mathematics and science.

year of primary education -5th grade), compared with fewer than one in 25 in 2012. In the decade starting in 2000, the decline was most pronounced in *sixième* (first year of lower secondary education - 6th grade) and in *lycée* (upper secondary) (see Chart 3).

The decree of 18 November 2014 implementing the 2013 Education Act ("*Loi pour la refondation de l'École de la République*") specifies that "grade retention may be decided [only] to remedy a significant period of interruption in school learning". It is now banned in kindergarten classes.

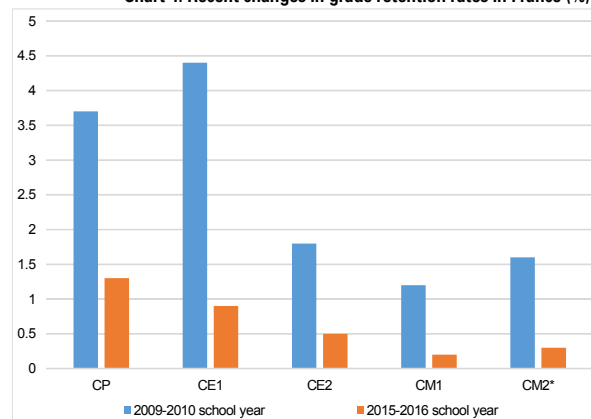
The impact was sharply lower retention rates in public elementary schools at the beginning of the 2016-2017 school year, as 1.3% of pupils in CP (1st grade) and 0.9% of pupils in CE1 (2nd grade) were repeating that grade⁵ (see Chart 4).

Chart 3: Grade retention rates in France since 1970



Sources: ADOC/JC 141 dataset, notice no. 8507 de la DEPP. *Repères et Références Statistiques* (MENESR-DEPP, 2013). Primary and secondary: ADOC/HC 29 dataset, notice no. 3686 except for 2011 and 2012 data, from MENESR-DEPP (2012, 2013). Based on Cnesco (2014), "Le redoublement, une aide à la réussite scolaire?", formatted by DG Trésor.

Chart 4: Recent changes in grade retention rates in France (%)



Source: *Repères et Références Statistiques* (RERS) 2011 and 2016; Department of Evaluation, Forecasting and Performance (DEPP): Note d'information no. 11.09 (June 2011) and Note d'information no. 40 (December 2016). *2010-2011 school year (instead of 2009-2010) for CM2 (5th grade).

The grades most often repeated today are *troisième* and *seconde générale et technologique* (last year of lower secondary school, and first year of upper secondary school in the general and technological curricula), often at the request of students or parents objecting to the educational track recommended by the school (Cnesco, 2014).

2.3 As an alternative, France has implemented several measures to address academic failure

France has implemented both preventive measures and remedial measures. The preventive measures are actions that mainly target schools in "Priority Education networks" and include smaller class sizes and the "more teachers than classes" (*plus de maîtres que de classes*) system⁶. When school resumed in autumn 2016, the programme was rolled out more widely in "educational priority" schools, mainly in cycle 2 (from CP to CE2, i.e., in 1st to 3rd grade).

In addition, the recent reform of lower secondary schools (*collège*) that took effect in autumn 2016 established "personalised support time" (*temps d'accompagnement personnalisé*) including three hours a week in *sixième* (the first year of lower secondary) and at least one hour a week in the next three grades⁷. In "Priority Education" districts, students in *sixième* benefit from (i) help with homework, methodological support or tutoring up to 4:30 pm, during free time between classes, and (ii) the extension of a web-based interactive digital tutoring system (D-COL).

Among remedial measures, the personalised programme for academic achievement (*programme personnalisé de réussite éducative*: PPRE) is systematically offered to all students in primary or lower secondary school who have repeated a grade. The PPRE focuses mainly on French and mathematics, and adds the first foreign language in lower secondary school. It consists in a coordinated action plan (including tutoring, academic support, social support, and access to culture and sports) designed to address a student's difficulties; it is formalised and personalised in a document that specifies the programme objectives, methods, milestones and evaluation methods. The duration varies depending on the student's academic difficulties and progress. In addition, supplementary pedagogical activities (*activités pédagogiques complémentaires*: APC) can be offered to students with difficulties in primary school. APC activities take place outside the compulsory school hours, in small groups of pupils. In addition, specialised teachers and psychologists in the networks of specialised help for pupils in difficulty (*réseau d'aides spécialisées aux élèves en difficulté*: RASED) provide specialised assistance to kindergarten and primary school pupils in great difficulty. CM1 and CM2 (4th and 5th-grade) pupils requiring help may attend free remedial courses during school holidays.

(5) DEPP, Note d'information no. 40 (December 2016).

(6) Under this system, after approval of a specific educational project, an additional teacher can be assigned to a school or group of schools. This makes it possible to put in place alternative forms of instruction in order to help the students in greatest difficulty to make progress.

(7) As this programme is intended for all students, irrespective of whether or not they are in difficulty, it cannot be considered a remedial measure. See: <http://www.reformeducollege.fr/cours-et-options/ap>.

3. The general consensus from the empirical studies is that retention, when used as the principal means of addressing difficulties in school, is ineffective

3.1 Parents and teachers continue to support retention, in the absence of what they consider to be more effective alternatives

As stated by the Cnesco (2014), French teachers consider that "in most cases, the student repeating a year will be somewhat better in the year he or she repeats" (Dubet 2002⁸). Marcoux and Crahay (2008)⁹ explain that, because of a sequential view of learning, Swiss teachers consider that a student cannot progress if (s)he fails to master one of the phases in the sequence. Under these conditions, retention is seen as the way of consolidating basic skills while allowing students to become more mature. Parents and teachers also see retention as an incentive to greater achievement insofar as retention is experienced as a negative sanction.

3.2 Empirical evidence, however, points to the lack of effectiveness on students' performance in the medium term

Theoretically, grade retention can have positive or negative effects on a student's subsequent academic performance. Afsa

(2011)¹⁰ identified two contrasting effects: a positive direct effect (arising from the additional year of instruction) and a negative indirect effect (chiefly owing to decreased self-esteem). Empirical research seeks to determine which effect is greater, in the short and longer term (see Box).

Working on U.S. data, Hong and Raudenbush (2006)¹¹ and Dong (2010)¹² used different methods to analyse the effect of retention in **kindergarten** on 1st-grade performance. Hong and Raudenbush (2006) used a structural model to distinguish between high-retention and low-retention schools, and the probability of each child being retained; they found no empirical support for kindergarten retention policy, even in the short term. Dong (2010), developing an approach to control for the effect of unobservable characteristics¹³, found that kindergarten repetition led to an improvement of roughly 14% in mathematics and reading in 1st grade (compared with performance had they not been retained). The effect, however, diminishes fairly rapidly: by 3rd grade, it was still observable in mathematics but not in reading. He concludes that students held back do not appear to benefit in the medium term from the additional year.

Box : Measuring the causal effect of retention on student performance

To measure the causal effect of retention on students' performance, empirical evidence cannot be based only on comparisons between students with equivalent academic proficiency, some of whom stay back while others are promoted. The comparison must take into account the students' characteristics that influence both the retention decision and subsequent academic achievement. For example, if a teacher detects difficulties that are not evident in a student's test scores, the teacher may be more likely to have the student repeat a grade. Failure to take the teacher's insight into account would lead to misinterpretation of the relationship, with subsequent poor performance attributed to grade retention, by conflating the causal effect of retention on students' subsequent performance with differences observed between students by the teacher in deciding that a student should stay back.

To correct this bias and thus properly measure the causal impact of retention on academic success, two basic approaches can be used:

- (i) Natural experiments involve the use of econometric techniques to construct a control group and a test group with comparable individual characteristics, for situations in which the decision to repeat a grade varies with exogenous parameters (e.g., decision based on results of standardised tests, month of birth, distance between home and schools using retention, or relative position in the class at a given grade level). Many studies in this area use a regression-discontinuity (RD) approach^a or instrumental variables. To take one example, the quarter of the year in which a child was born can be used as an instrumental variable. Students born late in the year have a greater likelihood of repeating a grade, as teachers may consider them less mature than students born earlier in the year and so better able to adapt to younger classmates. Still, while the quarter of birth influences the likelihood of repeating a grade, these studies assume it has no direct impact on students' performance. To estimate the influence of grade retention on future school results, the econometrician can thus construct a group of individuals (students repeating a grade because born late in the year) and compare it with a control group with similar characteristics (but not repeating a grade, because born early in the year).
- (ii) Estimation of a structural model based on ad hoc assumptions on the decision-making process leading to retention or promotion. Some studies, for instance, assume that the likelihood of repeating depends on academic performance (and possibly other observable characteristics) and the practice of retention in the student's school. Based on these assumptions, one can estimate the causal effect of retention on academic performance by comparing two identical students, one repeating a year in a high-retention school, and the other who is promoted in a low-retention school.

- a. Regression discontinuity is based on the fact that many systems have cutoffs. The idea is that in the vicinity of the discontinuity threshold, individuals who are very close could have very different probabilities of benefiting or not benefiting from a treatment. For instance, results on standardised tests are frequently used to determine grade retention, particularly in the U.S. Individuals who are near the cutoff, on either side, are thus similar and form two groups: those receiving a treatment (the students repeating a year because just below the cutoff) and the control group (students just above the cutoff).

(8) Dubet, F. (2002), "Pourquoi ne croit-on pas les sociologues?", *Éducation et Sociétés*, no. 9/2002/1.

(9) Marcoux, G. and Crahay, M. (2008), "Mais pourquoi continuent-ils à faire redoubler? Essai de compréhension du jugement des enseignants concernant le redoublement", *Revue Suisse des Sciences de l'Éducation*, 30, pp. 501-18. (English-language abstract: "Why do they persevere with grade retaining? An attempt to understand teachers' judgment concerning grade retaining".)

(10) Afsa, C. (2011), "Faut-il supprimer le redoublement?" *Working paper* 2011-05, DEPP.

(11) Hong, G. and Raudenbush, S. W. (2006), "Evaluating kindergarten retention policy: A case study of causal inference for multilevel observational data", *Journal of American Statistical Association*, 101 (475), pp. 901-10.

(12) Dong Y. (2010), "Kept back to get ahead? Kindergarten retention and academic performance", *European Economic Review*, 54, pp. 219-36.

(13) The author uses and compares two different methods, the second of which captures the influence of unobservable characteristics: (1) matching (matching individuals with similar observable characteristics to construct two identical groups, a test group and a control group); and (2) instrumental variables estimation (to correct selection bias caused by enrolling a child in a school that uses retention rather than in another school, by incorporating variables for distance and modes of transport; and to correct for bias in schools regarding which students will repeat, by incorporating age variables).

A greater number of studies examine grade retention in **primary schools**, but they are largely dependent on the school systems they investigate. A significant portion apply regression-discontinuity analysis to U.S. data to study the short- and medium-term effects of grade retentions decided after poor performance on standardised tests (Jacob and Lefgren 2004¹⁴; Roderick and Nagaoka 2005¹⁵; Schwerd and West 2012¹⁶), which facilitates a rigorous assessment of the impact of retention. These studies also find few or no short-term effects.

Working with French data, Alet *et al.* (2013)¹⁷ combined structural modelling with instrumental variables (quarter of birth to instrument for grade retention¹⁸, see Box). They show that repeating a year during the first cycle of primary school (1st to 3rd grade) leads to improved performance in the short term (CE2: 3rd grade) but the impact becomes negative at the start of lower secondary school, or sixth grade.

There are fewer rigorous studies at the *collège* (lower secondary) level. In France, Gary-Bobo *et al.* (2013)¹⁹ used a structural model and identified negative effects, except for the poorest-performing students. But even for those students, they found a greater risk of dropping out before completing *troisième* (9th grade).

Afsa (2011) estimates the effect of grade retention in *sixième* (6th grade) using instrumental variables (the student's deviation from the mean for his or her class in mathematics and in French), which are assumed to affect the probability of retention (effect of student's relative level with respect to mean test score for the class), but not performance (absolute level as measured by test score). This reflects the fact that for students with identical test scores, a student in a high-achieving class would have a greater risk of repeating a grade than a student in a lower-achieving class. Using data from the 1995 DEPP Panel, Afsa demonstrates that repeating *sixième* has a strong adverse effect on the probability of earning a secondary education diploma (CAP, BEP or Baccalauréat) and thus of not becoming a dropout. Afsa (2011) also finds that grade retention is beneficial for only one-fourth of students who repeat a year.

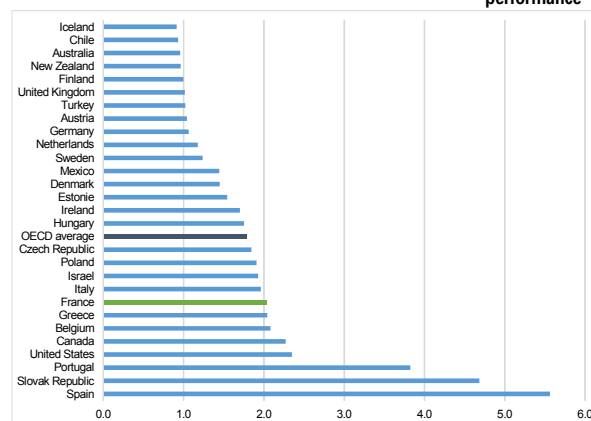
By contrast, relatively little research has been done on the *lycée* (higher secondary school). A recent study (Baert *et al.* 2015)²⁰ of the Flemish school system in Belgium, based on data from retrospective surveys, uses a dynamic discrete choice model capturing treatment heterogeneity with controls for unobservable determinants (see Box). The authors find that grade retention has no positive effect on academic achievement in the short run, but, to the contrary, increases the probability of downgrading to vocational studies within the hierarchical tracking system

and leads to higher drop-out rates in the medium term (after age 18).

3.3 Grade retention is more prevalent among those from disadvantaged backgrounds, even when controlling for proficiency

The results published by OECD (2016)²¹ show that in many countries, for students with identical proficiency in reading and science, a socially disadvantaged background²² increases the probability of repeating a grade by an average factor of 1.8 in the OECD countries²³, and by a factor of two in France (see Chart 5).

Chart 5: Likelihood of grade repetition by students from disadvantaged socio-economic background, relative to advantaged students, with identical performance*



Source: PISA 2015.

*Proficiency in science and reading.

On top of that, the relationship between student performance and socio-economic background is greater in France than in other countries: the 2015 PISA survey indicates that a one-unit increase in the PISA index of economic, social and cultural status (ESCS) is associated with a far greater increase in mathematics proficiency in France (53 points) than in the OECD countries as a whole (37 points).

Analysing the PISA surveys, Cnesco (2014) investigates the impact of various characteristics on the probability of grade repetition, and the evolution over the period 2003-2012. However, they do not control for students' proficiency, unlike the approach in Chart 5. The authors find that the correlation between economic conditions (proxied by parents' employment status—full-time, part-time, unemployed) and grade retention rose between 2003 and 2012, while they do not investigate whether this evolution is due to the causal link between social background and grade retention. In 2012, the probability that a

(14) Jacob, B. and Lefgren, L. (2004), "Remedial education and student achievement: A regression-discontinuity analysis", *Review of Economics and Statistics*, 86(2), pp. 226-44.

(15) Roderick, M. and Nagaoka, J. (2005), "Retention under Chicago's high stakes testing programme: Helpful, harmful or harmless?", *Educational Evaluation and Policy Analysis*, 27(4), pp. 309-40.

(16) Schwerd, G. and West, M. R. (2012), "The effects of test-based retention on student outcomes over time: Regression discontinuity evidence from Florida", *Working paper* PEPG, Programme on Education Policy and Governance.

(17) Alet, E., Bonnal, L. and Favard, P. (2013), "Repetition: Medicine for a short-run remission", *Annals of Economics and Statistics*, 111, pp. 227-50.

(18) Students born late in the year have a greater probability of repeating a grade.

(19) Gary-Bobo, R., Goussé, M. and Robin, J.-M. (2013), "Grade retention and unobserved heterogeneity", *Working paper*.

(20) Baert, S., Cockx, B. and Picchio, M. (2015), "Modeling the effects of grade retention in high school", *Discussion Paper* 2015-23, Institute of Economic and Social Research, Catholic University of Leuven.

(21) OECD (2016), PISA 2015 Results.

(22) According to the OECD's PISA index of economic, social and cultural status (ESCS), which takes account of parents' characteristics and students' material and cultural environment.

(23) This covers the probability of grade repetition at least once during primary or secondary education. Performance is measured at age 15, and therefore takes into account the impact of any earlier grade retentions. This accordingly provides a comparison between two students of the same age and with the same educational performance, but who are not in the same grade because one repeated a grade and the other did not. This tends to complicate the interpretation of these statistics.

child whose father was unemployed had already repeated a grade was twice as high as for a child whose father was in full-time employment, whereas it was barely higher in 2003.

3.4 Grade retention is expensive

A report by IPP (Institut des Politiques Publiques) estimated the cost of grade retention in primary and secondary education in France and the savings that would arise from eliminating it (Benhenda and Grenet 2015²⁴). The report pointed out the small number of studies on the cost of grade retention, whether in France or abroad. Most studies followed Shepard and Smith (1989)²⁵ in using the following equation:

Cost = number of students * grade retention rate * annual spending per student

For France, Paul and Troncin (2004)²⁶ estimated the cost of grade retention in primary and lower secondary school (*collège*) at €2.24 billion in 2002. For a similar population, OECD (2013) found a slightly different result, estimating the cost of grade retention for students repeating a year from age 6 to 15 at €1.41 billion in 2012, when fewer students had repeated a grade than in 2002.

The IPP study, however, takes into account two effects overlooked in the other approaches described above, namely, the impact grade retention can have on (1) the total duration of schooling, and (2) the tracking decision after *troisième* (the last year of lower secondary). Several studies (Caille 2004²⁷; Pirus

2013²⁸) find that students who have repeated a grade are more likely to be moved to a vocational track because of both the student's own limited ambitions and teachers' reluctance to allow a student who has fallen behind to study for the general or technological baccalaureate at the upper secondary level. The average annual expenditure per student in the vocational curriculum is higher than in the general and technological curriculum, but the average number of years in school is lower. On average, the cost of vocational studies is lower than the cost of general and technological studies.

To estimate the impact of banning grade retention on the number of years spent in the school system²⁹, the report takes the duration of schooling observed for the 1992 cohort but uses the current retention rates (which are lower than observed for the 1992 cohort). In this simulation, however, retention was maintained for students who had failed their final year before a diploma (CAP or baccalaureate degree). It would not be realistic to prevent students who had failed their final exam from repeating their last year; to do so would force them to drop out and re-take the exam without formal preparation in school.

Ultimately, IPP estimates the cost of grade retention per cohort at roughly €500 million in primary education, €600 million for lower secondary education (*collège*) and €900 million for upper secondary education (*lycée*). The total estimated cost of grade retention—excluding students repeating their final year before a diploma—thus comes to roughly €2 billion a year.

4. Some preventive and remedial measures implemented in other countries could be effective in France

In France, there exist a number of measures to tackle difficulties at school. But little is known about the effects of some of the measures, as rigorous *ceteris paribus* assessments are seldom available (as in the case of RASED and PPRE). By combining the findings of the few available studies using French data and evaluations of measures in other countries, one can identify the most effective means currently in place to address learning difficulties and one can consider others that deserve to be tried.

4.1 In terms of prevention, effective horizontal measures include early schooling and targeted reductions in class size, while other, more specific measures would have to be tested

As stated by the Cnesco (2014), the leading preventive measures used outside of France involve organising classes in ways that lead to less retention (small class sizes, looping³⁰,

and multi-age classes), additional teaching support, early enrolment in kindergarten, personalised tutoring, and cooperative learning.

Many empirical studies (Krueger 2003³¹ based on Project STAR in the U.S.; Piketty and Valdenaire 2006³² working on French data) highlight the positive impact of **reducing class size** on student achievement, particularly in early grades and for students from disadvantaged backgrounds.

Traditional school systems operate with an annual curriculum and periodical assessments that determine whether or not the student is promoted to the next grade; the following year's class may have a new set of students and often a different team of teachers. By contrast, a system organized in cycles facilitates **looping** (Jimerson *et al.* 2006³³), which is widely used in Finland (Jost 2007³⁴ and Robert 2008³⁵), Belgium, and some

(24) Benhenda, A. and Grenet, J. (2015), "Combien coûte le redoublement dans l'enseignement primaire et secondaire en France?", Les notes de l'IPP (Institut des Politiques Publiques), no. 17. Report commissioned by the Cnesco.

(25) Shepard, L. and Smith, M. (1989), *Flunking grades: Research and policies on retention*, The Falmer Press, London.

(26) Paul, J.-J. and Troncin, T. (2004), "Les apports de la recherche sur l'impact du redoublement comme moyen de traiter les difficultés scolaires au cours de la scolarité obligatoire", Rapport 14, Haut Conseil de l'évaluation de l'école (Hcéé).

(27) Caille, J.-P. (2004), "Le redoublement à l'école élémentaire et dans l'enseignement secondaire: évolution des redoublements et parcours scolaires des redoublants au cours des années 1990-2000", *Éducation et Formations*, no. 69, pp. 79-88.

(28) Pirus, C. (2013), "Le déroulement de la procédure d'orientation en fin de troisième reste marqué par de fortes disparités scolaires et sociales", *Note d'information*, no. 24, MENESR-DEPP.

(29) The IPP indicates, for instance, that a year's retention in *collège* is associated with a 0.3-year increase in the duration of schooling but a 0.52-year decrease in the level of educational attainment.

(30) "Looping" involves a teacher remaining with the same class of students for two or more school years, which makes it possible to better "meet the needs and understand the strengths of each student".

(31) Krueger, A. B. (2003), "Economic considerations and class size", *Economic Journal*, 113, F34-F63.

(32) Piketty, T. and Valdenaire, M. (2006), "L'impact de la taille des classes sur la réussite scolaire dans les écoles, collèges and lycées français - Estimations à partir du panel primaire 1997 and du panel secondaire", French Ministry of Education, *Les dossiers*, no. 173, March.

(33) Jimerson, S. R., Pletcher, S. M. W., Graydon, K., Schnurr, B. L., Nickerson, A. B. and Kundert, D. K. (2006), "Beyond grade retention and social promotion: Promoting the social and academic competence of students", *Psychology in the Schools*, 43(1), pp. 85-97.

(34) Jost, R. (2007), "À la découverte de l'école en Finlande", *Activités Mathématiques and Scientifiques*, 62, pp. 47-77.

(35) Robert, P. (2008), "La Finlande: Un modèle éducatif pour la France. Les secrets de la réussite", *ESF Edition*.

states in the U.S. (Cnesco, 2014). Hooks and Corbett (2005)³⁶ report that looping is typically found in primary schools.

Research points to the benefits of looping, which include more time for learning, starting in the second year, by eliminating the transitional period needed for teachers and students to get to know one another and set out expectations and rules. The published studies, however, cannot be considered robust assessments, as there is no properly constructed control group.

Multi-age classes³⁷ are intended to allow students to progress at their own pace. In 1995, over half of primary school classes were multi-age classes in the Netherlands, Finland, Portugal and Australia (Song *et al.* 2009³⁸ and Veenman 1995³⁹). Researchers, however, are divided regarding their effectiveness, which has not been established with certainty in the studies published to date.

Learning difficulties can also be addressed preventively by **tutoring both inside and outside the classroom**. Several studies on randomised experiments⁴⁰ indicate that free tutoring is effective in improving student performance and reducing the likelihood of repeating a grade (Kegel and Bus 2012⁴¹ for pre-primary school students in the Netherlands; Fuchs *et al.* 2013⁴² for 1st-grade students in England; Miller and Connolly 2013⁴³ for 8- and 9-year-old Irish students; Wijekumar *et al.* 2014⁴⁴ for 5th-grade students in the U.S.). Another approach involves teaching assistants or co-teachers in the classroom, but research is not unanimous regarding its effectiveness. The approach was tried unsuccessfully in the randomized STAR project in the U.S.

Various forms of early support—as early as kindergarten, including interventions at home—aim to stimulate young children's cognitive abilities and avoid grade retention in primary school. There is an abundant literature indicating the effectiveness of a number of key programmes in the U.S., such as the High Scope Perry Preschool Programme (Heckman *et al.* 2010⁴⁵). Smith *et al.* (2003)⁴⁶ show that the Bright Beginnings programme in North Carolina improves preparation for elementary school and reduces grade retention rates.

In England, Apps *et al.* (2013)⁴⁷ analysed data from a cohort study to investigate the **impact of pre-school** childcare on adolescents' cognitive development and their entry into adulthood. The authors show that early schooling moderately

improves results in cognitive tests at age 11, 14 and 16, with more noticeable positive effects for girls and children from disadvantaged socio-economic backgrounds. In France, Caille (2001)⁴⁸ has shown that starting pre-primary school (*mater-nelle*) early—at age two rather than three—reduces the likelihood of repeating a grade and improves student achievement, even if the benefit appears to fade over the course of primary schooling. Some countries in Scandinavia (Finland, Iceland and Norway) and Asia (Japan and South Korea) have adopted automatic promotion or drastically limit grade retention, along with policies to prevent academic failure. This involves **individualised work with pupils**, for example through differentiated educational methods for ability groups within a single classroom, as in Finland.

Other practices can involve establishing multigrade classes to facilitate cooperative teaching and peer tutoring, as in Japan. In any event, there are still very few rigorous evaluations of these practices, and none of the studies covers primary or lower-secondary schools.

4.2 In terms of remedial measures, summer school deserves to be tested in France

Alongside preventive measures, **there are three main categories of remedial measures in use outside of France**: retesting at the end of the school year, summer school and conditional promotion.

France is one of only three European countries that do not allow primary school students to be retested at the end of the school year or at the start of the following year before repeating a grade (Cnesco, 2014). **Retesting** is often restricted to grades for which no diploma is obtained, and is generally limited to one or two subjects at most. In Greece and Spain, students can retake exams in all subjects. In Luxembourg, students are assigned additional homework. In Finland, the remediation generally combines written and oral tests. Cnesco (2014) finds that make-up exams—apart from the additional lessons and practice in test-taking—fail to provide a solution for students with serious difficulties, for whom it is worth combining make-up exams with summer school or another form of remediation.

Summer school allows students to learn before retesting in September to gain promotion to the next grade. The published

(36) Hooks, J. and Corbett, F. (2005), "Looping: How It Can Work In Higher Education", paper presented at the Annual Meeting of the New England Education Research Organization.

(37) Multi-age classrooms combine students of different ages with the aim of improving scholastic performance via peer effects.

(38) Song, R., Spradlin, T. E. and Plucker, J. A. (2009), "The advantages and disadvantages of multi-age classrooms in the era of NCLB accountability", *Education Policy Brief*, 7(1), pp. 1-8.

(39) Veenman, S. (1995), "Cognitive and Noncognitive Effects of Multigrade and Multi-Age Classes: A Best-Evidence Synthesis", *Review of Educational Research*, 65(4), pp. 319-81.

(40) A randomized experiment is based on the comparison of two groups formed at random by the researcher (unlike a natural experiment) and having the same initial characteristics, with one benefiting from tutoring, and the other without tutoring.

(41) Kegel, C. A. T. and Bus, A. G. (2012), "Online tutoring as a pivotal quality of web-based early literacy programs", *Journal of Educational Psychology*, 104(1).

(42) Fuchs, L. S., Geary, D. C., Compton, D. L., Fuchs, D., Schatschneider, C., Hamlett, C. L., DeSelms, J., Seethaler, P. M., Wilson, J., Craddock, C. F., Bryant, J. D., Luther, K. and Changas, P. (2013), "Effects of 1st-grade number knowledge tutoring with contrasting forms of practice", *Journal of Educational Psychology*, 105(1).

(43) Miller, S. and Connolly, P. (2013), "A Randomized Controlled Trial Evaluation of Time to Read: A Volunteer Tutoring Programme for 8- to 9-Year-Olds", *Educational Evaluation and Policy Analysis*, 35(1).

(44) Wijekumar, K., Meyer, B. J. F., Lei, P.-W., Lin, Y.-C., Johnson, L. A., Spielvogel, J. A., Shurmatz, K. M., Ray, M. and Cook, M. (2014), "Multisite randomised controlled trial examining intelligent tutoring of structure strategy for 5th-grade readers", *Journal of Research on Educational Effectiveness*, 7(4).

(45) Heckman, J. J., Moon, S. H., Pinto, R., Savelyev, P. A. and Yavitz, A. (2010), "The Rate of Return to the High/Scope Perry Preschool Programme", *Journal of Public Economics*, 94 (12), pp. 114-28.

(46) Smith, E. J., Pellin, B. J. and Agruso, S. A. (2003), "Bright Beginnings: An Effective Literacy-Focused PreK Programme for Educationally Disadvantaged Four-Year-Old Children", *Educational Research Service*.

(47) Apps, P., Mendolia, S., and Walker, I. (2013), "The impact of pre-school on adolescents' outcomes: Evidence from a recent English cohort", *Economics of Education Review*, 37.

(48) Caille, J.-P. (2001), "Scolarisation à 2 ans et réussite de la carrière scolaire au début de l'école élémentaire", *Éducation & formations*, 60.

studies identify an overall positive effect at all levels (appraisal of the generalization of remedial summer courses in Italy by Battistin and Schizzerotto 2012⁴⁹; meta-analyses by Cooper *et al.* 2000⁵⁰ and by Kim and Quinn 2013⁵¹; randomised field trials by Borman and Dowling 2006⁵²; Guryan *et al.* 2014⁵³).

Conditional promotion is less common than remedial summer courses, and is generally restricted to grades for which no diploma is obtained. Conditional promotion allows students to move to the following grade provided they take remedial courses the following year in subjects they failed. This approach is used in Germany, Spain, Austria and Poland. Its effectiveness depends in practice on the quality of the remedial courses.

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- (49) Battistin, E. and Schizzerotto, A. (2012), "Threat of grade retention, remedial education and student achievement: Evidence from upper secondary schools in Italy", *IZA discussion paper* 7086, Institute for the Study of Labor.
- (50) Cooper, H., Charlton, K., Valentine, J. C., Laura, M. and Borman, G. D. (2000), "Making the most of summer school: A meta-analytic and narrative review", *Monographs of the Society for Research in Child Development*, 65, pp. 1-127.
- (51) Kim, J.S. and Quinn, D. M. (2013), "The effects of summer reading on low-income children's literacy achievement from kindergarten to grade 8: A meta-analysis of classroom and home interventions", *Review of Educational Research*, 83(3).
- (52) Borman, G. D. and Dowling, N. M. (2006), "Longitudinal Achievement Effects of Multiyear Summer School: Evidence from the Teach Baltimore Randomized Field Trial", *Educational Evaluation and Policy Analysis*, 28.
- (53) Guryan, J., Kim, J. and Quinn, D. (2014), "Does Reading During the Summer Build Reading Skills? Evidence from a Randomized Experiment in 463 Classrooms", *NBER Working Paper* 20689.

Publisher:

Ministère de l'Économie
et des Finances

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139, rue de Bercy
75575 Paris CEDEX 12

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English translation:

Centre de traduction des
ministères économique
et financier

Layout:

Maryse Dos Santos
ISSN 1962-400X
eISSN 2417-9698

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