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HOW MUCH DOES GRADE REPETITION IN FRENCH PRIMARY AND SECONDARY SCHOOLS COST?

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Summary

While it has been in constant decline in the past twenty years, grade repetition in French schools is still a widespread practice, involving 270,000 school students every year in primary and secondary years. At the age of 15, 28 per cent of students have repeated a school grade at least once in the course of their education (compared with an average of 12 per cent in the OECD). Grade repetition is regularly criticised as a means of preventing academic failure, charged with being not only ineffective but also very expensive. This IPP Note contributes to the debate by proposing an assessment of the budgetary cost of grade repetition in French schools, through simulation of the effects of its suppression on education costs. Using an analysis of the trajectories of students born in 1992, the Note shows that on average, a repeated grade delays by one year the exit from school while at the same time changing the nature of the studies pursued. The annual cost of repeated grades (not counting diploma classes) is estimated at around 2 billion euros. However, if grade repetition were abolished starting from the beginning of the 2015 school year, the total sums saved would be realised only from 2027 onwards. The results indicate that the education resources that would be freed up by abolishing grade repetition are potentially significant but could only be gradually distributed towards alternative policies.

- On average, repeating a grade delays exit from the school system by one year, while increasing the student's chances of being oriented towards the vocational stream.
- The annual cost of grade repetition (outside diploma classes) is estimated at around two billion euros: 500 million for primary, 600 million for junior high school (collège) and 900 for senior high school (lycée).
- If the repetition policy were abolished starting with the 2015 school year, the annual savings would only be fully realised from the 2027 school year onwards..

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Decried as a costly and ineffective measure for combating academic failure, grade repetition is the subject of increasingly intense public debate. This question, fraught with challenges for education policy, was brought to serious attention again recently with the announcement of a decree stressing that the repeating of a grade would henceforth be considered "exceptional" (1).

In view of a strong limitation on grade repetition, it is important to estimate the budgetary resources that such a reform would free up for policy alternatives to help students to overcome their academic difficulties.

This Note contributes to the debate by proposing a rigorous evaluation of the cost of grade repetition in primary and secondary education in France. It is based on the results of a report that IPP published on the question (Rapport IPP no7, January 2015).

Compared with previous assessments of the costs involved in grade repetition, this study makes a double contribution. First, it is based on a deep analysis of the effects of repetition on the duration and nature of the studies that pupils pursue, using previously unpublished data that allow us to follow the academic path followed by a cohort of pupils in their primary and secondary years. Second, the report quantifies the dynamic effects of alternative scenarios were grade repetition to be abolished (partially or completely) from the beginning of the 2015 school year.

Grade repetition in France: a widespread practice now in decline

Figures in the most recent PISA international study of student achievements puts France among those countries most likely to make their pupils repeat grades: **at 15 years old, 28 per cent of young French have repeated a grade at least once, compared with an average of 12 per cent in the OECD countries**.

While rates of grade repetition have clearly been declining in France in the past 20 years (cf. Figure 1), they remain very high.

Every year, almost 270,000 pupils repeat a grade, representing a little less than three per cent of those enrolled in primary and secondary school. While in the 1970s, the grade most often repeated was the first year of elementary school, today it is the first year of lycée (general and technological stream) that tops the list, with a rate of grade repetition of close to eight per cent.

Measuring the effect of grade repetition on academic paths: an empirical challenge

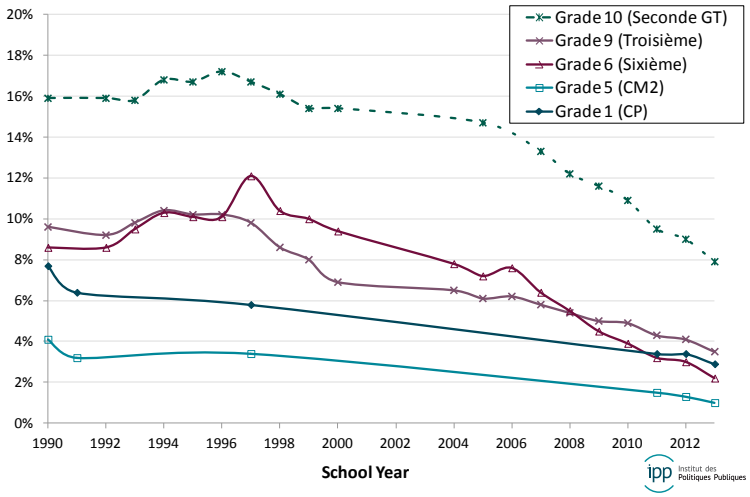
To measure the cost of grade repetition, we must first be able to estimate its effects on pupils' academic trajectories, in terms of both their duration and their nature. To this end, we must follow the complete schooling of a whole cohort of students. The study conducted by IPP uses exhaustive administrative data made available by the Direction de l'évaluation, de la performance et de la prospective (DEPP) of the national education ministry. **These data, which were made available through the FAERE project (2) allow us to observe the schooling of all students born in 1992, up until the 2011-12 school year**.

In these data, we find the known characteristics of grade repetition. First, at the end of their school life, 48 per cent of students have accumulated at least one year of academic delay and the average number of years of repetition is 0.6. Second, on average, more often than other students, repeating students are male, from disadvantaged backgrounds and have weak academic skills. Third, repeating students a) have a greater tendency than other students to be oriented towards the vocational stream than the general and technological stream at lycée; b) attain a lower level of secondary training than those who do not repeat; and c) have a shorter academic life than other students.

It would be erroneous, of course, to attribute causality to these correlations, because the repeating students would probably have different academic trajectories from other students even if they did not repeat grades.

1. Decree 2014-1377 of 18 November 2014 relating to the monitoring and educational support of pupils.
2. *Fichier harmonisé des élèves pour la recherche et les études* (Combined student files for scientific use).

Figure 1: Changes to the rates of grade repetition at several key levels (1990-2013)



Sources : The rates of grade repetition in primary levels are taken from the ADOC/HC 29, notice no. 3686, with the exception of points between 2011 and 2013, which come from Repères et références statistiques sur les enseignements, la formation et la recherche (RERS) published by the DEFP (2012, 2013 & 2014). The rates of grade repetition in secondary levels are taken from RERS 2011 for the period 1990-2000 and RERS 2014 for the period 2000-2013.

On average, a grade repeated delays exit from the school system by one year

In order to isolate the causal effect of grade repetition on academic performance, international research uses statistical methods that allow a reasonably realistic comparison of repeaters and non-repeaters. In this tradition, **our report uses the fact that the month of birth has a marked effect on the probability of grade repetition**, especially among the youngest pupils: at the end of their secondary education, those born in December have accumulated, on average, 0.73 of a year of repetition, while those born in January have accumulated only 0.53 of a year of repetition, a difference of one-fifth of a year (see Figure 2). So, the duration of education seen at the end of schooling is different depending on whether the pupils were born early or late in the year. This can be interpreted as a consequence of grade repetition and allow us to measure its impact.

On this basis, **the study shows that grade repetition increases the total duration of primary and secondary education by almost exactly the number of grade-years repeated**. Put another way, a grade repeater finishes his/her studies with, on average, the same level of secondary training as if he/she had not repeated, although a year of grade repetition delays his/her exit from the school system by a year. this result is not as straightforward as it might seem at first glance, insofar as grade repetition could very well have a positive effect (or, on the contrary, a negative one) on the level of training achieved at the end of secondary school, and therefore on the average duration of schooling. **The analysis shows that the nature of studies is modified by grade repetition**: it results in a statistically significant increase in the probability of being oriented towards the vocation stream.

These results principally concern grade repetition in primary and early (junior) high school classes; estimations of the effects of repetition on lycée classes are less precise.

Grade repetition costs 2 billion euros per annum

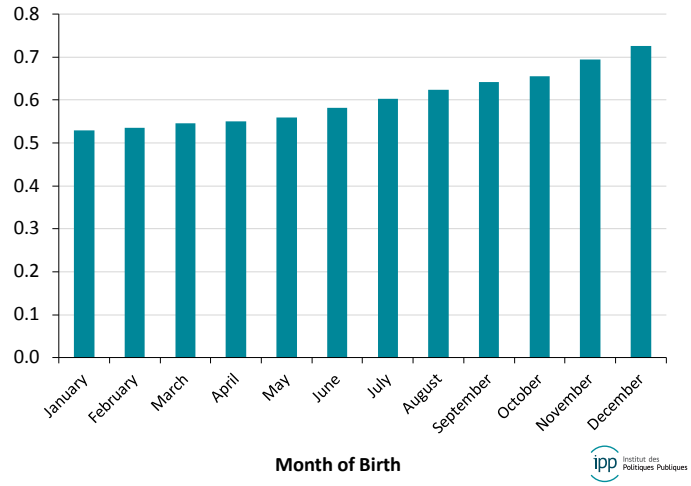
These preliminary results allow the calculation of the budgetary costs of grade repetition. In order to assess the reduction in time spent in the schooling system that would result from its abolition today, the approach followed in this study consisted of estimating the impact of grade repetition on the duration of studies observed for the cohort of 1992, but using the rate of current repetition (which is lower than that known for the older cohort). However, in this simulation, repetition of the *classes diplômantes* (the final year of lycée) is maintained, since it does not seem acceptable to deprive students who fail an exam the possibility of resitting it the following year.

By applying to the repeated years the cost per student at that level and in the stream (professional or not) involved (see Table 1), **we arrive at a cost of grade repetition in primary school and junior high school of around one billion euros** (500 million for grade repetition in primary years and 600 million for junior high). **The cost of grade repetition for the lycée years is estimated at around 900 million euros**.

In total, the cost of grade repetition (not including the *classes diplômantes*) **is estimated at 2 billion euros per year**. In comparison, the total national education budget is estimated at around 65 billion.

However, it should be noted that this cost is not entirely borne by the national education budget or by the state budget, but is shared by the regional administrations. In addition, there are fixed costs in the functioning of the school system (equipment, opening and closing hours for classes, etc) that the abolition of grade repetition would not reduce proportionally, and the figure of two billion euros is a heavier economic burden than we might hope for in the future.

Figure 2: Academic delay (in years)
accumulated by students born in 1992 during their secondary schooling, according to their month of birth



Note: At the end of their secondary schooling, students born in January 1992 had accumulated an average of 0.53 year of grade repetition, while those born in December of the same year had accumulated 0.73.

Source: MENESR DEPP, FAERE 2003 to 2011.

Sample: Total students in the sample used of the cohort born in 1992.

Table 1:
Average cost of a year of study per student in 2012

Study level	Average cost per student (in Euros)
Primary	6 060
Junior high school	8 410
Lycée: general and technological stream	11 310
Lycée: vocational stream	11 960

Note : In 2012, the average cost of a junior high school student was 8,410 Euros
Source : MENESR-DEPP, RERS 2014.

Budget savings that appear only gradually

Contrary to a widespread idea, **savings created by the abolition of grade repetition would not be seen immediately**, but only at the end of relatively long transition period. Indeed, in the short term, a first year primary school pupil who repeats no grades from then on does not reduce education expenses: he simply costs one year of second grade rather than another year of first grade. The savings that result from a quicker exit from the school system are realised only at the end of each academic career. The only cohorts that generate quick savings when grade repetition is abolished are the oldest ones at the moment of abolition.

The report studies precisely the dynamic of the academic effects brought about by the abolition of grade repetition and the associated savings. Several scenarios were simulated. The central scenario is that of a general abolition of grade repetition in primary and secondary school (not including the classes diplômantes), from the beginning of the 2015 academic year. The proposed simulations allow assessment of the impact of such a reform on the student population each year at different teaching levels (see Figure 3a) and on annual education expenses (see Figure 3b) for the period 2016-2035.

Two principal results can be discerned. The first is that in the first year, **the abolition of grade repetition costs nearly 20 million euros**. This cost is related to the more rapid flow in the short term of school pupils towards higher, more costly, grade levels (a transitory flow of students from primary to secondary at within the secondary system, from junior to senior high school).

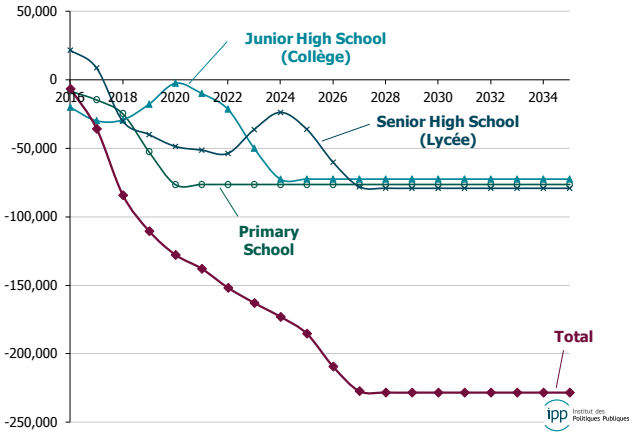
The second result is that the first budget savings (around 240 million euros per annum) are seen starting from the beginning of the 2017 school year. The savings then increase each year, reaching a static state at the beginning of the 2017 school year. It is only from that time that the abolition of grade repetition results in an annual saving of around two billion euros (3).

Analysis of the dynamic effects of abolishing grade repetition reveals, then, that while the expected savings will be significant over time, they will only be seen in their totality over a transition period of several years. This observation has important implications for the debate about the reallocation possibilities for the resources to be freed by such a policy. First, the savings to be made by abolishing grade repetition can only be realised and used for other education purposes gradually. Second, the reform would require several years of careful and rigorous management of the recruitment and allocation of teaching staff over the whole transition period.

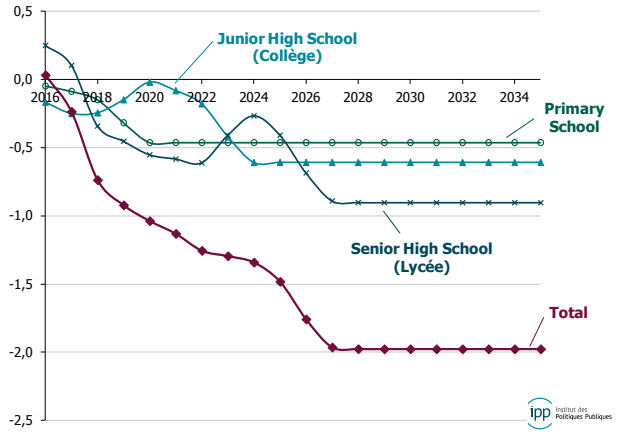
3. The simulations do not take into account the temporarily postponed transfer of part of primary and secondary education expenses to the teaching budgets for higher levels (the abolition of grade repetition being likely to increase temporarily the number of higher-level pupils), because we do not have sufficient data to make accurate estimations of education trajectories after the baccalaureate. Taking into account this "demographic bulge" would slow the rate of education savings to be made in the transition period but not affect their level in the long term.

Figure 3: Simulation of the effects of the abolition of grade repetition in primary and secondary schooling (not including *classes diplômantes*) starting in the 2015 academic year

(a) Impact on actual student numbers every year by grade level (2016-2035)



(b) Impact on annual education expenses by grade level, in billions of euros (2016-2035)



Note : The abolition of grade repetition in primary and secondary schools (not including classes diplômantes) from the beginning of the 2015 school year would provoke a gradual decrease in actual students at any one time. At the end of the transition phase (2016-2027), there would be 230,000 fewer of them than if the rate of grade repetition remained as it was in 2013. The annual savings made by the reform would increase progressively between 2016 and 2027, when it would reach around two billion euros per annum.

In conclusion: How should the resources freed by the abolition of grade repetition be distributed?

The resources freed by the end of grade repetition could be reallocated to alternative mechanisms whose efficiency is generally accepted in the economic literature. Among the multiple possible options, two scenarios can be quite accurately calculated: a reduction in the size of primary classes and the introduction of summer schools for students having the most difficulty.

The savings gained by the abolition of grade repetition would be sufficiently significant to allow, from the end of the transition phase, **the reduction of primary class size by an average of 5.4 students, bringing class sizes down from 22.9 to 17.5**. According to estimations made by Piketty and Valdenaire (2006) (4), such a reduction would be likely to improve student results by around 15 per cent of a standard deviation (which, in a class of 30 students, corresponds to an improvement of around two places in the rankings). If the reallocation of the funds were targeted to the 50 per cent of elementary schools that teach the least socially advantaged pupils, then class sizes could be halved, for gains in achievement in the order of 70 per cent of a standard deviation for the pupils concerned.

Alternatively, **the resources freed by the end of grade repetition could be used to finance intensive summer programmes for the students having the greatest difficulties**. Borman and Dowling (2006) (5) show, using a random evaluation mechanism, that a summer school introduced in Baltimore, consisting of seven weeks of intensive courses, over three consecutive summers, saw participating students improve their performance by around 40 per cent of a standard deviation. A preliminary calculation suggests that the abolition of grade repetition would allow the financing every year of such a programme for around one-quarter of the students in the greatest difficulty in primary and junior high school.

4. Piketty, T. and Valdenaire, M. (2006) *L'impact de la taille des classes sur la réussite scolaire dans les écoles, collèges et lycées français: estimations à partir du panel primaire 1997 et du panel secondaire 1995*, Ministère de l'éducation nationale, de l'enseignement supérieur et de la recherche, Direction de l'évaluation et de la prospective.

5. Borman, G., and Dowling, N. (2006) "The longitudinal achievement effects of multi-year summer school: Evidence from the Teach Baltimore randomized field trial", Educational Evaluation and Policy Analysis, vol. 28, p. 25-48.

References
This note is based on analyses contained in the Rapport IPP n°7 of January 2015: « **Évaluation du coût du redoublement** ».

Written by Asma Benhenda and Julien Grenet, this report can be consulted on the IPP web site www.ipp.eu.

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