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ABSTRACT

Dismissal Abolition and Student Dropout* Evidence from Benin, Using Difference in Differences Model

In this paper, we assess the effect of a dismissal abolition policy on dropout rates in junior secondary schools in Benin. The policy, introduced in 2013, aimed to prevent students from being excluded from public school because of poor academic performance and thereby improve school retention. The study examines whether the policy affected dropout of public school and whether its effect differs by gender. Using school-level and student-level information covering the pre- and post-policy periods, the analysis implies a Difference-in-Differences (DiD) framework. Several specifications are estimated progressively controlling for student characteristics, household wealth index, age, and subsidy receipt, with school fixed-effects used to account for time invariant differences across schools. Gender heterogeneity is further examined using a triple-differences (DDD) specification. The results show a positive and statistically significant DiD estimate in baseline specification, suggesting that dropout rate of public school increased relative to the private school following the policy. However, the estimated effect declines substantially after controlling for student characteristics and becomes statistically insignificant when school fixed-effects are introduced. Gender-decomposition estimates reveal a larger positive baseline association for girls than for boys, but these effects also disappear in the school fixed-effects specifications. Moreover, the triple-interaction estimates are positive but statistically insignificant, indicating no statistically robust evidence that the policy affected girls and boys differently. Age is consistently and positively associated with dropout, whereas receiving a subsidy is strongly associated with lower dropout rates. Overall, the findings suggest that the abolition of dismissal did not generate a robust causal change in dropout once observable characteristics and persistent school-level heterogeneity are considered. The results highlight the importance of complementary policies addressing financial constraints, delayed progression, and school-specific barriers. Preventing dismissal alone may therefore be insufficient to improve student retention, emphasizing the need to combine progression reforms with financial and academics support mechanisms.

JEL Classification:

I21, I24, I28, C23

Keywords:

School dropout; Dismissal abolition; Secondary education; Gender-difference; difference-in-differences

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1. Introduction

Education has long been a central priority of public policy in Benin, particularly as the country seeks to expand human capital, improve social mobility, and reduce inequalities in access to economic opportunities. Over the past decades, substantial progress has been made in expanding access to primary and secondary education. However, ensuring that students remain in school and successfully complete their educational trajectories remains a major challenge. This challenge is particularly important at the secondary level, where the transition from primary to junior secondary education is accompanied by increasing risks of repetition, delayed progression, and school dropout. Recent data indicate that completion of junior secondary education remains low in Benin, with completion rates of approximately 27% for girls and 29% for boys in 2022. These figures suggest that increasing enrollment alone is insufficient: the education system must also ensure that students remain enrolled and progress successfully through the different grades.

School dropout in Benin is the result of a combination of academic, economic, household, and institutional factors (proof). Although tuition fees in public education have been reduced or eliminated at different levels, schooling continues to generate direct and opportunity costs for households. Transportation, school supplies, uniforms, examination-related expenses, and the opportunity cost of children's time can constitute significant barriers, particularly for poorer households. Evidence from Benin indicates that direct and opportunity costs of schooling, inadequate learning, and difficulties in educational progression remain important factors associated with students' inability to complete their schooling. These constraints are particularly relevant in a context where many households depend on children's contributions to domestic activities or income-generating activities. Consequently, remaining enrolled in school depends not only on academic performance but also on whether households are able and willing to bear the economic and social costs associated with continued education.

The problem becomes more pronounced as students progress into secondary education. In the Beninese education system, students who experience academic difficulties may face grade repetition and, under the traditional system, the possibility of being excluded or dismissed when their academic performance does not meet the required standards. Such mechanisms have an ambiguous relationship with school persistence. On the one hand, the possibility of repetition or dismissal may provide students with incentives to exert greater academic effort. On the other hand, repeated academic failure and exclusion can increase the likelihood that students permanently leave school. International evidence supports the latter mechanism.

This issue is particularly relevant to the reform examined in this study. In 2013, Benin introduced a policy aimed at preventing the dismissal of students in selected grades which spanned to all junior secondary education because of academic performance. The reform changed the consequences associated with academic failure by allowing affected students to remain within the education system rather than being permanently excluded. From a policy perspective, such a reform is intended to promote educational inclusion and retention. However, its effect on dropout is theoretically ambiguous. By preventing exclusion, the reform may reduce dropout among students who would otherwise have left school following academic failure. At the same time, eliminating the threat of

dismissal may reduce the perceived consequences of poor academic performance and potentially weaken incentives for academic effort. The overall effect therefore depends on the relative strength of these competing mechanisms.

The Beninese context makes this question particularly important. The country’s education system faces persistent challenges related not only to access but also to learning quality, grade progression, school resources, and socioeconomic inequality. A policy that prevents students from being dismissed may increase the number of students remaining formally enrolled without necessarily addressing the underlying factors that lead to disengagement or eventual dropout. In other words, retention and successful progression are not necessarily equivalent. Keeping students in school requires complementary measures capable of addressing learning difficulties, financial constraints, and school-level barriers.

The gender dimension adds another layer of complexity. Although differences in school participation between girls and boys have narrowed in some stages of education, girls face increasing risks as they progress through adolescence and secondary school. Evidence from Benin indicates that girls’ educational progression is affected by financial constraints, household responsibilities, social norms, early marriage, adolescent pregnancy, and other gender-specific factors. These constraints may interact with academic performance and institutional rules governing progression. For example, a girl experiencing academic difficulties may simultaneously face household responsibilities or economic pressures that increase the opportunity cost of remaining in school. Consequently, a policy that changes the consequences of academic failure could potentially have different implications for girls and boys.

Despite the importance of these issues, there is limited causal evidence on the consequences of eliminating academic dismissal in Benin. Existing research on educational progression in the country has primarily focused on access, household socioeconomic conditions, gender disparities, learning outcomes, and the costs of schooling. Less attention has been devoted to understanding how changes in the institutional rules governing academic progression affect dropout. This represents an important research gap because the abolition of dismissal constitutes a substantial change in the incentives and constraints faced by students, teachers, schools, and families.

This study addresses this gap by evaluating the effect of the 2013 dismissal-abolition policy on student dropout in junior secondary education in Benin. The analysis is motivated by a simple but important question: Does allowing students to remain in school despite academic failure reduce their likelihood of dropping out, or does the removal of academic sanctions generate unintended consequences for school persistence? The study further asks whether the consequences of the reform differ between girls and boys.

To answer these questions, the study employs a Difference-in-Differences (DiD) approach, comparing changes in dropout rates between public school students exposed to the reform and those of private school before and after the policy was introduced. The analysis progressively incorporates individual and household characteristics, including age, socioeconomic conditions, and subsidy receipt. School fixed-effects specifications are then estimated to account for persistent differences between schools that could influence both treatment exposure and dropout. Finally, the study examines gender heterogeneity using a Difference-in-Differences-in-Differences (DDD) specification

based on the interaction between treatment status, the post-policy period, and gender.

The study has four main objectives. First, it estimates the effect of the dismissal-abolition policy on student dropout. Second, it examines whether the estimated effect remains robust after controlling for individual and household characteristics and school-specific factors. Third, it investigates whether girls and boys respond differently to the reform. Fourth, it examines the role of age and financial support in explaining dropout patterns. These objectives are particularly relevant for Benin because reducing dropout requires more than expanding access to education; it requires policies capable of addressing the institutional, academic, and socioeconomic factors that determine whether students remain and progress within the education system.

The study contributes to the literature in three main ways. First, it provides evidence from Benin on the consequences of a policy that directly changes the institutional consequences of academic failure. Second, it contributes to the broader literature on grade progression and dropout by examining whether preventing dismissal necessarily improves school persistence. Third, it contributes to the literature on gender and educational inequality by formally testing whether the policy response differs between girls and boys rather than inferring gender differences from separate regression coefficients.

The remainder of the paper is organized as follows. Section 2 reviews the theoretical and empirical literature on school dropout, grade progression, academic dismissal, and gender differences in educational persistence. Section 3 presents the Beninese education system, describes the 2013 reform, and discusses the data and variables used in the analysis. Section 4 presents the empirical strategy, including the Difference-in-Differences framework and the triple-difference specification used to assess gender heterogeneity. Section 5 presents the empirical results, including the baseline estimates, gender-specific results, robustness specifications, and heterogeneity analysis. Section 6 discusses the findings in relation to the existing literature and their implications for education policy in Benin. Section 7 concludes and presents policy recommendations and directions for future research.

2. Literature review

2.1 Theoretical frameworks

This study is grounded first in a human-capital and educational-investment framework. Students and households weigh the expected benefits of continued schooling against direct costs, opportunity costs, and the expected returns to education. When academic failure produces repetition or exclusion, the private cost of continuing school may increase. A policy that abolishes dismissal therefore changes the constraints surrounding the schooling decision. It may reduce dropout by preventing academic failure from immediately becoming permanent school exit, but it may also change incentives for academic effort if dismissal previously represented a credible academic sanction.

A second framework concerns educational progression. Enrollment is only one stage of educational participation; students must also acquire sufficient learning and progress through grades. In

Francophone African systems, repetition has historically been used to respond to low achievement. Evidence from Senegal is particularly relevant to Benin. Glick and Sahn (2010) show that early academic performance is strongly associated with later attainment and that repetition can increase the likelihood of leaving school before completion. André (2009) similarly finds a negative effect of grade repetition on subsequent enrollment. These findings suggest that policies preventing exclusion may be useful only when accompanied by mechanisms that help struggling students acquire the skills needed for progression.

A third framework is a gendered educational-constraint framework. Girls and boys may face different combinations of economic, household, social, and school-level constraints. UNICEF and the World Bank identify direct and opportunity costs, insufficient learning, social norms, and limited second-chance opportunities as important barriers to educational progression in Benin. For girls, these constraints can interact with adolescence, household responsibilities, early marriage, and pregnancy risks. Consequently, a gender-neutral academic rule can generate different outcomes if girls and boys face different underlying constraints.

2.2 Evidence on dropout, progression and academic sanctions

International evidence suggests that academic progression policies can have unintended consequences for retention. Glick and Sahn (2010), using longitudinal evidence from Senegal, find that students subjected to grade repetition are more likely to leave school before completing primary education. André (2009) reaches a similar conclusion using identification strategies designed to address the endogeneity of repetition. These findings are relevant to Benin because they demonstrate that an institutional response intended to correct academic failure can itself contribute to dropout.

The evidence does not imply, however, that abolishing academic sanctions automatically reduces dropout. The effect depends on what replaces the sanction. If dismissal is abolished without remedial instruction, monitoring, teacher support, or academic recovery mechanisms, students may remain formally enrolled while their underlying learning difficulties persist. The relevant policy question is therefore whether the reform creates a credible pathway from retention to successful progression.

2.3 Gender, economic constraints and school persistence

The gender dimension is central in the Beninese context. UNICEF and the World Bank report that girls increasingly fall behind during adolescence and at the beginning of secondary education. Their analysis identifies schooling costs, learning deficiencies and gender norms among the factors affecting progression. Recent UNICEF evidence also emphasizes that many girls leave school around the transition to secondary education and that social and economic constraints can reinforce this pattern.

The international evidence supports the importance of financial barriers. Psaki et al. (2022), in a systematic review of 82 experimental and quasi-experimental studies in low- and middle-income countries, conclude that financial barriers and insufficient academic support are among the areas where interventions can improve girls' education outcomes, while evidence remains limited for

several other gender-related barriers. Baird, McIntosh and Özler (2011) find that cash transfers reduced dropout among adolescent girls in Malawi, with conditional transfers producing a larger dropout reduction than unconditional transfers at the end of the intervention. Duflo, Dupas and Kremer (2015) find that education subsidies reduced adolescent girls' dropout in Kenya.

2.4 Research gaps and positioning

Three gaps motivate the present study. First, there is limited causal evidence on the consequences of abolishing academic dismissal in Benin. Second, research on educational progression in Benin has emphasized access, costs, learning, gender and household conditions more than the institutional consequences of academic failure. Third, gender differences are often described through separate estimates rather than formally tested through an interaction framework.

This study addresses these gaps by evaluating the reform using Difference-in-Differences and by complementing the overall model with separate estimates for girls and boys and a Difference-in-Differences-in-Differences specification. It therefore contributes to the literature on education policy, school progression, dropout and educational inequality in Benin.

2.5 Conceptual framework

The conceptual framework assumes that the dismissal-abolition policy changes the institutional consequences of academic failure. This can affect dropout through a retention channel, because students who would previously have been dismissed can remain enrolled, and through an incentive channel, because the expected consequences of poor performance change. The net effect is shaped by age, socioeconomic conditions, subsidy receipt, learning conditions, school characteristics and gender-specific constraints. Persistent school differences are especially important in Benin because schools vary in location, resources, management, teacher availability and student composition.

3. Methodology

3.1 Study setting and policy context

The study is situated in Benin's junior-secondary education system and examines a reform introduced in 2013 that changed the consequences of academic underperformance for students of junior public schools in the research design. Students in the private schools constitute the untreated group. The empirical data cover annual observations before and after the intervention. Junior public secondary school students experienced institutional dropping out of school. When students fall two times the same grade, then the dropout becomes compulsory for them. This decision is elaborated by the government of Benin. Later, the government decided to abolish that law and the retention becomes compulsory. Moreover, the public schooling was formally free at some levels and generated in all the public junior secondary school, but households continue to face school supplies, transport, uniforms and opportunity costs. Students may also experience learning difficulties, repetition and delayed progression. For girls, social norms and household responsibilities

can add further constraints. These conditions make it plausible that abolishing dismissal alone may not produce a large or uniform effect on dropout.

3.2 Data sources and variables

Analysis uses 3ie data containing study's school/cohort panel information covering the pre- and post-2013 periods. The main outcome is the dropout rate for the relevant cohort. It is computed as total dropout divided by total students in a cohort per year. For example, a value of 0.63 therefore represents a 63 percent annual dropout rate. The treatment indicator identifies public secondary schools exposure to the reform and the post indicator identifies the post-policy period. Gender distinguishes girls and boys. Subsidy receipt represents the junior secondary girls free fees. Additional covariates include age, subsidy receipt and socioeconomic characteristics and age is determined as follow: $\text{age} = \text{total age} - 6$. To obtain 6, we subtract 2019 minus 2013 where 2019 is the year of data collection and 2013 is the year of reform implementation.

School identifiers permit standard errors to be clustered at the school level and permit school fixed-effects models. The latter are particularly important because permanent differences across schools may be correlated with both treatment exposure and dropout.

3.3 Difference-in-Differences specification

The baseline model is:

$$Y_{st} = \alpha + \rho \text{Publicschool}_s + \omega \text{Post}_{-1t} + \beta(\text{DiD}) + \gamma X_{st} + \mu_s + \varepsilon_{st}. \quad (1)$$

Y_{st} is the annual dropout rate for school/cohort s in period t ; Publicschool identifies exposure to the reform; Post_1 identifies the post-2013 period; X contains observed covariates; μ_s represents school fixed effects when included; and ε_{st} is the error term. The coefficient β is the DiD = $(\text{Publicschool}_s \times \text{Post}_{-1t})$ represents the interaction terms. Its causal interpretation requires that, absent the reform, treated and comparison groups outcome would have followed parallel trends. Dropout rate contains decimal number comprised between 0 and 1. Then, the coefficients are interpreted in percentage points after multiplying the decimal coefficient by 100. This avoids interpreting the outcome as an individual binary probability.

3.4 Gender heterogeneity and triple difference

Gender heterogeneity is first examined through separate models for girls and boys. The formal test uses the interaction $(\text{Treatment} \times \text{Post} \times \text{Gender})$. The coefficient on this triple interaction equals the difference between the DiD estimate for girls and the DiD estimate for boys. A statistically significant coefficient would establish gender heterogeneity. A positive but statistically insignificant coefficient indicates only that the point estimate is larger for girls.

The triple-difference specification is therefore particularly important because separate regressions cannot establish that two coefficients are statistically different from each other. The equation is as followed:

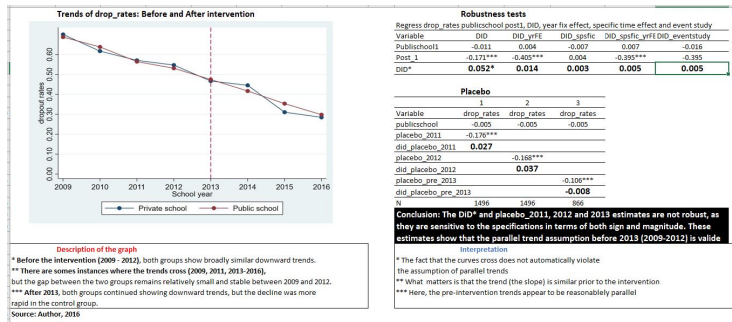
$$Y_{st} = \alpha_1 + \rho_1 \text{Publicschool}_s + \omega_1 \text{Post}_{-1t} + \rho \text{gender} + \beta_1(\text{DiD}) + \lambda(\text{DDD}) + \mu_{1s} + \gamma_1 X_{st} + \varepsilon_{1st}. \quad (2)$$

and Y_{st} is the dropout rate for school/cohort s in period t ; Treatment identifies exposure to the reform; Post identifies the post-2013 period; X contains observed covariates; μ_s represents school fixed effects when included; λ represents the coefficient of gender heterogeneity coefficient; and ε_{st} is the error term. The coefficient β is the DiD parameter of interest; DDD represents $(Publicschool_s \times Post_{-1t} \times gender)$;

3.5 Statistical procedures and robustness

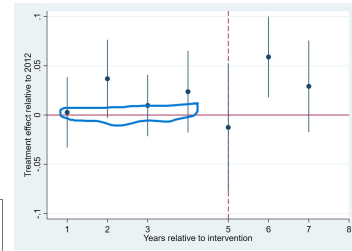
Standard errors are clustered at the school level. The empirical strategy proceeds from a baseline specification to models incorporating individual and household characteristics and then school fixed effects. This sequence tests whether the baseline estimate survives adjustment for observable characteristics and persistent school heterogeneity. The school fixed-effects estimates receive particular attention because they absorb time-invariant school characteristics that could otherwise confound the comparison.

3.6 Formal tests of Parallel trend robustness



(a) Source: Author, 2026

(b) Tests of parallel trend before 2013



(c) Source: Author, 2026

(d) Graph testing parallel trend before 2013

4. Results and Discussion

4.1 Overall effect

Table 1 reports the estimated effect of the dismissal-abolition policy on the dropout rate. The interaction DiD specification in column (1) yields a positive and statistically significant coefficient of 0.052 (SE = 0.023), indicating that the dropout rate of public junior secondary school increased by approximately 5.2 percentage point relative to the private junior secondary school following the policy. This estimate remains similar when student characteristics and household wealth index are included in column (2), with a coefficient of 0.056. However, the estimated effect decreases to 0.030 in column (3) and becomes statistically insignificant once additional controls, including subsidy, are introduced in column (4). Most importantly, after accounting for school fixed effects in column (5), the estimated coefficient falls to 0.014 (SE = 0.032) and is no longer statistically significant.

These results suggest that the positive association between dismissal abolition and dropout ob-

Table 1: Effect of dismissal abolition policy on dropout rate for junior students

	(1)	(2)	(3)	(4)	(5)
Regression on dropout rate					
Variable					school-FE
post	-0.171*** (0.022)	-0.171*** (0.021)	-0.088*** (0.016)	-0.004 (0.015)	-0.008 (0.031)
publicschool	-0.011 (0.009)	0.009 (0.010)	-0.022** (0.010)	-0.009 (0.009)	-0.010 (0.017)
DiD	0.052** (0.023)	0.056** (0.023)	0.030* (0.017)	0.011 (0.015)	0.0137 (0.032)
Age			0.029*** (0.001)	0.0170*** (0.001)	0.016*** (0.001)
Subsidy				-0.160*** (0.006)	-0.157*** (0.010)
Students factors		Yes	Yes	Yes	Yes
HH wealth index		Yes	Yes	No	Yes
Observations	1,496	1,496	1,496	1,496	1,496
R-squared	0.200	0.226	0.545	0.688	0.673
Group of School					746

Source: Author, 2026

Note: Robust standard errors in parentheses

Signif. codes: *** p<0.01, ** p<0.05, * p<0.1

served in the baseline specifications is not robust to controlling for observable student characteristics, and household conditions. Consequently, the evidence does not provide strong support for a causal increase in dropout rate following the policy. Rather, the baseline estimates suggests a possible unintended adverse effect that is substantially attenuated when school-level heterogeneity is taken into account. The attenuation of the estimated treatment effect after the inclusion of school fixed effects suggests that part of the baseline association may reflect persistent differences across schools rather than the independent effect of the 2013 policy.

This attenuation is substantively meaningful in Benin. Schools may differ systematically in their available resources, location, management practices, teacher characteristics and students composition, and socioeconomic environment. Such persistent differences can generate variation in educational outcomes across schools and may confound estimates of policy effects if they are correlated with treatment exposure, (Holzberger & Schiepe-Tiska, 2021; OECD, 2018; Willms, 2010).

4.2 Dismissal abolition and dropout rate among Girls

Table 2 examines whether the effect of the dismissal-abolition policy differs for female students. The baseline estimates indicate a positive and statistically significant increase in dropout rate of public junior secondary school relative to private junior secondary school after the reform. The estimated DiD coefficient is 0.061 in the baseline specification, implying an increase of approximately 6.1 percentage points in the dropout rate of public junior secondary school relative to the private junior secondary school. The estimate remains similar after controlling for household wealth (0.063), but decreases to 0.025 after incorporating student characteristics. Once additional controls, including subsidy, are introduced, the coefficient falls to 0.007 and is no longer statistically significant. With school fixed effects, the coefficient becomes slightly negative (-0.009) and remains statistically insignificant.

The result is consistent with the possibility that girls' dropout is particularly sensitive to school

and socioeconomic environments. UNICEF and the World Bank identify schooling costs, learning difficulties and gender norms as important constraints in Benin. A reform that changes academic dismissal without addressing these mechanisms may have limited effects on actual persistence.

The results suggest that the relatively large positive association observed for girls in the baseline

Table 2: Effect of dismissal abolition policy on dropout rate for Girls

	(1)	(2)	(3)	(4)	(5)
Regression on dropout rate for girls					
Variable					school-FE
post	-0.301*** (0.016)	-0.299*** (0.016)	-0.156*** (0.013)	-0.031*** (0.011)	-0.016 (0.023)
publicschool	-0.007 (0.011)	0.011 (0.012)	-0.022** (0.011)	-0.008 (0.008)	0.0052 (0.018)
DiD	0.061*** (0.018)	0.063*** (0.018)	0.025* (0.0134)	0.007 (0.011)	-0.009 (0.024)
Age			0.035*** (0.001)	0.020*** (0.001)	0.018*** (0.001)
Subsidy				-0.226*** (0.007)	-0.225*** (0.011)
Students factors		No	Yes	No	No
HH wealth index		Yes	Yes	Yes	Yes
Observations	1,371	1,371	1,371	1,371	1,371
R-squared	0.457	0.470	0.710	0.839	0.819
Group of School					757

Source: Author, 2026

Note: Robust standard errors in parentheses

Signif. codes: *** p<0.01, ** p<0.05, * p<0.1

specifications is not robust to increasingly demanding specifications. In particular, the disappearance of the effect after accounting for school fixed effects indicates that persistent differences across schools may account for an important part of the baseline association. Thus, the evidence does not support a robust causal increase in girls' dropout attributable to the dismissal-abolition policy.

Nevertheless, the baseline finding is consistent with a potential incentive mechanism identified in the literature. By eliminating the threat of retention or dismissal, the intervention may reduce the perceived consequences of poor academic performance and thereby weaken incentives for effort. Evidence from Brazil, for example, finds that automatic promotion reduced mathematics achievement and provides evidence consistent with a disincentive effect. At the same time, other studies show that grade retention itself can increase subsequent dropout, indicating that the consequences of promotion and retention policies are context-dependent. The finding for age and subsidy are also noteworthy. Older girls exhibit significantly higher dropout rates, while receipt of a subsidy is strongly negatively associated with dropout. The age pattern is consistent with the importance of age-grade mismatch and educational trajectories in the Beninese secondary-school context, while the subsidy association highlights the potential importance of economic constraints in girls' educational persistence. However, these coefficients should be interpreted as conditional associations rather than causal effects unless the corresponding variables are exogenous.

Table 3: Effect of dismissal abolition policy on dropout rate for boys

	(1)	(2)	(3)	(4)	(5)
Regression on dropout rate for boys					
Variable					school-FE
post	-0.169*** (0.013)	-0.168*** (0.013)	-0.056*** (0.011)	0.013 (0.011)	0.001 (0.020)
publicschool	0.021** (0.01)	0.035*** (0.010)	-0.010 (0.009)	-0.001 (0.009)	0.023 (0.018)
DiD	0.027* (0.015)	0.029* (0.015)	0.003 (0.011)	-0.008 (0.011)	-0.007 (0.021)
Age			0.031*** (0.001)	0.021*** (0.001)	0.019*** (0.001)
Subsidy				-0.128*** (0.008)	-0.128*** (0.011)
Students factors		Yes	Yes	No	No
HH wealth index		Yes	Yes	Yes	No
Observations	1,533	1,533	1,533	1,533	1,533
R-squared	0.294	0.308	0.615	0.690	0.644
Group of School					

Source: Author, 2026

Note: Robust standard errors in parentheses

Signif. codes: *** p<0.01, ** p<0.05, * p<0.1

4.3 Dismissal abolition and dropout rate for Boys

Table 3 reports the estimated effect of the dismissal-abolition policy on dropout rate. The baseline DiD estimates are positive but relatively small, with coefficients of 0.027 and 0.029 in columns (1) and (2), respectively. These estimates imply a differential increase of approximately 2.7-2.9 percentage points in the dropout rate of public junior secondary school relative to the private junior secondary school and are statistically significant only at the 10% level. However, the estimated effect falls sharply to 0.003 after controlling for student characteristics and becomes statistically insignificant. It remains negative and statistically insignificant in the specification including subsidy and in the school-fixed-effects specification, where the coefficient is -0.007. These results indicate that there is no robust evidence of a causal effect of dismissal abolition on boys' dropout once observable characteristics and persistent school heterogeneity are taken into account.

The pattern is broadly consistent with the results for girls, although the baseline coefficient is considerably smaller for boys. For girls, the baseline DiD estimates range from 0.061 to 0.063, compare with 0.027 to 0.029 for boys. Nevertheless, the school-fixed-effects estimates are close to zero for both groups (-0.009 for girls and -0.007 for boys), suggesting that gender difference in the baseline estimates is substantially attenuated after accounting for persistent differences across schools. A formal test based on a publicschool*post*gender interaction is therefore required before concluding that the policy has a statistically different effect or not by gender.

The positive and highly significant association between age and dropout among boys is also noteworthy. The age coefficients range from 0.019 to 0.031, indicating that older boys have systematically higher dropout rates conditional on the other covariates. This pattern is consistent with the literature emphasizing delayed progression and age-for-grade mismatch as important correlates of the school dropout. The strong negative association between subsidy receipt and dropout further suggests that financial constraints may be an important determinant of boys' school per-

sistence, although this coefficient should be interpreted as an association rather than a causal effect.

4.4 Gender disparity in Dismissal abolition distribution

Table 4: Does dismissal abolition affects students of junior public secondary school whether they are girl/boy?

	(1)	(2)
	Regression on dropout rate	
Variable		
publicschool	-0.003 (0.013)	-0.005 (0.011)
post_1	-0.148*** (0.030)	0.015 (0.019)
1.publicschool.1.post_1	0.036 (0.032)	-0.008 (0.020)
1.gender	-0.003 (0.019)	-0.005 (0.017)
1.publicschool.1.gender	-0.014 (0.020)	-0.007 (0.018)
1.publicschool.1.post_1.1.gender	0.037 (0.045)	0.042 (0.028)
Age		0.017*** (0.001)
Subsidy		-0.158*** (0.006)
Students factors		Yes
HH wealth index		No
Observations	1,496	1,496
Source: Author, 2026		
Note: Robust standard errors in parentheses		
Signif. codes: *** p<0.01, ** p<0.05, * p<0.1		

Table 4 examines whether the effect of the dismissal-abolition policy differs by gender using triple-specification (DDD) interaction terms. The coefficient on the publicschool*post*gender interaction terms is positive in both specification, increasing from 0.037 in column (1) to 0.042 in column (2). These estimates suggest that the differential change in dropout associated with the policy is approximately 3.7 - 4.2 percentage points larger among girls than among boys. However, neither estimate is statistically significant at conventional levels. Consequently, although the point estimates are consistent with a potentially larger response among girls, the results do not provide sufficient statistical evidence to conclude that the policy effect differs by gender. This finding is important because the larger point estimate observed for girls in the gender-specific regressions should not be interpreted as evidence of statistically significant gender heterogeneity without a formal interaction test.

The results for age and subsidy provide further evidence that factors other than dismissal status are important correlates of dropout. Age is positively associated with dropout, with an estimated coefficient of 0.017 in column (2), equivalent to approximately a 1.7 percentage point increase in the dropout rate for each additional year of age. Subsidy receipt is strongly negatively associated with dropout rate, with a coefficient of -0.158, or approximately 15.8 percentage points. This finding is consistent with experimental evidence from Malawi and Kenya showing that financial

transfers and education subsidies can improve school retention among adolescent girls.

The evidence does not support a robust effect of dismissal abolition on dropout, nor does it provide statistically significant evidence that the policy effect differs between girls and boys. Although the baseline estimates are larger for girls, this apparent gender difference is not statistically confirmed by triple-difference (DDD) specification.

4.5 Age and subsidy

In the richer specification, age has a coefficient of approximately 0.017 and is statistically significant. This corresponds to roughly a 1.7-percentage-point higher dropout rate associated with one additional year of age, conditional on the included variables. The result is consistent with the idea that delayed progression and age-for-grade mismatch may be associated with disengagement.

Subsidy receipt has a coefficient of approximately 0.158 and is strongly statistically significant. This corresponds to an association of roughly 15.8 percentage points lower dropout. The coefficient should be interpreted as an association unless subsidy receipt is exogenous. Nevertheless, its direction is consistent with experimental evidence from Malawi and Kenya showing that reducing financial barriers can improve school persistence.

4.6 Comparison with previous studies

Some differences in our result compared to other research show that, whereas evidence from Uganda suggests that automatic promotion can reduce dropout among younger pupils (Okurut, 2018), our baseline estimates indicate a positive differential change in progression policies may depend on the educational level, institutional context and complementary support available to students. For other, the positive baseline coefficient for girls should not be interpreted as evidence that dismissal itself was beneficial. Evidence from Senegal indicates that grade repetition can reduce subsequent school enrollment, suggesting that policies preventing exclusion may have the potential to improve retention. The positive baseline estimate in the present study may therefore reflect a different mechanism, such as reduced academic incentives or differences in school and student characteristics, rather than the intrinsic benefits of dismissal.

The findings are consistent with Glick and Sahn (2010) and André (2009) in emphasizing that academic progression mechanisms can influence school attainment. However, the present study differs by examining a policy that removes an exclusion mechanism rather than imposing repetition. The lack of a robust fixed-effect suggests that changing the institutional rule alone may not be sufficient to change dropout when school environments and household constraints remain unchanged. The strong negative association between subsidy receipt and dropout is consistent with Baird et al. (2011) and Duflo et al. (2015), who find that financial interventions can reduce dropout among girls. The present results therefore reinforce the importance of economic constraints in the Beninese context. The gender findings also fit the conclusions of Psaki et al. (2022), who emphasize that gender-related barriers vary substantially by context and that rigorous evidence on gender-differential effects remains limited. The non-significant DDD suggests that the dismissal reform itself is not sufficient to establish a distinct gender pathway.

5. Discussion

Overall, the positive baseline coefficients are consistent with one mechanism emphasized in the literature on grade promotion policies. Removing the threat of repetition or dismissal may weaken students' incentives to exert effort, potentially reducing academic engagement and increasing the risk of disengagement from school. Evidence from Brazil suggests that policies restricting grade repetition can generate negative effects on educational achievement through reduced incentives to study. At the same time, the literature also documents adverse consequences of grade retention itself, including increased dropout in some contexts. The contrasting findings indicate that the effect of promotion and retention policies is context-dependent and depends critically on whether students receive adequate academic support.

The results therefore suggest that abolishing dismissal should not be considered a stand-alone dropout-reduction strategy. If students are allowed to remain enrolled despite inadequate academic performance, complementary interventions such as remedial instruction, tutoring, individualized monitoring, early-warning systems and targeted financial support may be necessary to prevent either girls or boys students disengagement and ensure that increased enrollment translates into meaningful learning. The findings therefore provide limited evidence that the policy causally increased dropout rate, while highlighting the possibility of an unintended incentive effect associated with the removal of academic sanctions.

The findings are consistent with literature evidence showing that the effects of grade progression policies are context-and grade-specific. Evidence from Uganda, for example, finds that automatic promotion reduced dropout at primary 3 but had no significant effect at primary 6, with effects observed for both boys and girls at former level. Evidence from Senegal, meanwhile, indicates that grade repetition can itself reduce subsequent school enrollment, highlighting the potential adverse consequences of retention. Munich personal.... Taken together, these studies suggest that eliminating dismissal may involve a trade-off between preventing the dropout associated with grade repetition and potentially weakening academic incentives.

The results for age and subsidy provide additional evidence consistent with this interpretation. The positive association between age and girls' dropout is consistent with longitudinal evidence from Malawi showing that over-age status is associated with dropout, particularly at later stages of schooling. PubMed Central.... Meanwhile, the large negative association between subsidy receipt and girls' dropout is consistent with experimental evidence from Malawi and Kenya demonstrating that financial support can substantially improve girls' school retention. Baird, McIntosh and Özler (2011) find that cash transfers reduced dropout among adolescent girls in Malawi, while Duflo, Dupas and Kremer (2015) find that education subsidies reduced dropout among adolescent girls in Kenya.

Overall, the evidence suggests that the effect of dismissal abolition on girls' dropout cannot be interpreted independently of the broader socioeconomic and institutional environment. Rather than indicating a robust causal increase in girls' dropout, the baseline results may reflect an interaction between academic incentives, household constraints and school-level heterogeneity. The disappearance of the effect after school fixed effects further cautions against attributing the initial

positive association solely to the policy.

5.1 Implications for Dismissal abolition policy

First, abolishing dismissal should be accompanied by remedial instruction, academic monitoring and targeted support for students who are struggling. Retaining students without improving learning may postpone rather than eliminate dropout risk.

Second, financial support deserves continued attention. The subsidy coefficient indicates a strong negative association with dropout, and Beninese evidence identifies direct and opportunity costs as major barriers to progression. Financial support can therefore complement institutional reforms.

Third, policymakers should address delayed progression and age-for-grade mismatch. Older students may face increasing opportunity costs and social pressures, making targeted academic and psychosocial support important.

Finally, gender-sensitive policy remains necessary, but the DDD result cautions against assuming that dismissal abolition itself has a different effect for girls and boys. Gender interventions should address the wider economic, social and academic barriers that shape persistence.

6. Conclusion

This study evaluates the 2013 abolition of academic dismissal in Benin and examines its relationship with school dropout, including potential gender heterogeneity. Using Difference-in-Differences, gender-decomposition models and a triple-difference specification, the analysis provides a more complete assessment of the reform than a single baseline regression. The principal result is that the positive baseline DiD estimate of approximately 0.052 is not robust to school fixed effects. The gender-specific/decomposition estimates are approximately 0.061 for girls and 0.027 for boys, but these differences are not robust. The triple interaction is positive, at approximately 0.037 and 0.042, but statistically insignificant. Consequently, there is no robust evidence that the reform caused a change in dropout or that its effect differed significantly between girls and boys.

The study nevertheless identifies important correlates of dropout. Age is positively associated with dropout, while subsidy receipt is strongly negatively associated with it. These results suggest that the institutional consequences of academic failure are only one component of a broader dropout process shaped by economic resources, progression, school characteristics and gender-related constraints.

The theoretical contribution is to distinguish institutional retention from successful educational progression. Allowing students to remain enrolled does not necessarily resolve the learning and economic mechanisms that lead to dropout. The practical contribution is to suggest that dismissal reform should be combined with remedial education, monitoring, financial support and targeted interventions for students experiencing delayed progression.

The study has several limitations. The DiD interpretation depends on the parallel-trends assumption. The dropout measure is a cohort-level rate rather than an individual outcome, limiting behavioral interpretation. Finally, school fixed effects remove time-invariant heterogeneity but do

not eliminate all time-varying confounding.

Future research should collect an appropriate baseline data and examine clearly schools, household and students characteristics and immatriculate private and public schools so that facilitating studies. Future research should use longer administrative panels and individual student trajectories to distinguish temporary absence, repetition, transfer and permanent dropout. Future studies should also examine learning outcomes and progression mechanisms directly, and investigate whether the reform affected different grades, regions or socioeconomic groups differently. Qualitative evidence could complement the econometric analysis by explaining why students who are permitted to remain in school may nevertheless leave later.

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7. Appendices

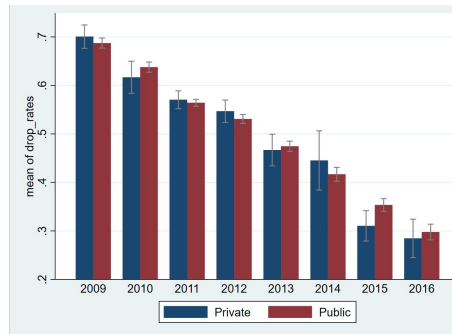


Figure 2: Dropout rate distribution by time and publicschoool

Table 5: Dependent, regressors and covariates used for regression

Descriptive statistics					
Variables	Obs	Mean	Std.Dev	Min	Max
	(1)	(2)	(3)	(4)	(5)
Outcome Variable					
Dropout of school rate	1496	0.557	0.138	0.264	0.745
Exogenous Variables					
Time period status (Post2013)	1496	0.428	0.495	0	1
Treatmentstatus (1=Public)	1496	0.852	0.355	0	1
1.Publicschoolx1.post_1	1496	0.221	0.415	0	1
School and teachers Variables					
Location (1= Rural)	1496	0.401	0.490	0	1
Class missing	1496	0.380	0.486	0	1
Demotivation of teachers	1496	0.330	0.470	0	1
Student and Household Variables					
Gender (1= Male)	1496	0.472	0.499	0	1
Age in Years	1496	15.29	3.073	6	27
Grade retetition	1496	0.911	0.283	0	1
Distance home to town (Km)	1496	3.120	1.585	1	5
household wealth index	1496	-0.5.63e-10	1.32	-7.798	3.690
Treatment	1496	(0.494)	0.500	0	1

Source: Author, 2026

Note:This table describes Socio-Demographics Composition statistics.

Column (1) shows individual observations in the all sample. Column (2) Shows average of each variables in the sample. Column (3) contains standard deviations of the distribution.Column (4) shows minimum values for each variable. Column (5) shows maximum values for each variable

Table 6: Mean difference between Control and Treatment groups' characteristics

N = 1449		(2009 - 2012)			
Variable	Treatment		Control		Mean-diff
	Mean	SD	Mean	SD	
	(1)	(2)	(3)	(4)	(5)
School factors					
Gender	0.46	(0.5)	0.49	(0.5)	-0.03**
Return_to_school	0.195	(0.014)	0.289	(0.050)	-0.094**
Age (year)	17.003	(0.062)	15.870	(0.151)	1.133***
Miss_clas	0.41	(0.49)	0.44	(0.5)	-0.03**
School_shift	0.562	(0.014)	0.864	(0.026)	-0.302***
School.Fee_subsidy	0.06	(0.24)	0.18	(0.39)	-0.12***
Distance to town	3.32	(1.51)	3.33	(1.59)	-0.01**
Teacher demotivation	0.282	(0.013)	0.213	(0.032)	0.069*
Location	0.388	(0.014)	0.373	(0.037)	0.015**
Household factors					
hh television	0.494	(0.014)	0.746	(0.034)	-0.252***
Hh bicycle	0.208	(0.011)	0.148	(0.027)	0.060*
Hh car	0.077	(0.007)	0.124	(0.025)	-0.048**
Hh computer	0.166	(0.010)	0.314	(0.036)	-0.147***
Hh farm	0.410	(0.014)	0.154	(0.028)	0.256***
Hh no cultivable land	0.185	(0.011)	0.101	(0.023)	0.085***
Hh fruits orchard	0.228	(0.012)	0.053	(0.017)	0.175***
Hh poultry	0.318	(0.013)	0.249	(0.033)	0.069**
Hh small livestock	0.265	(0.012)	0.172	(0.029)	0.093***
Hh large livestock	0.093	(0.008)	0.006	(0.006)	0.087***
Main source of water	0.398	(0.014)	0.621	(0.037)	-0.223***
Toilet	0.690	(0.013)	0.893	(0.024)	-0.204***
Energy	1.029	(0.024)	1.148	(0.067)	-0.119*
Internet connexion	0.706	(0.013)	0.849	(0.028)	-0.143***

Source: Created by Author using 3ie data, 2026

Note: Robust standard errors in parentheses

Signif. codes: *** p<0.01, ** p<0.05, * p<0.1