THE 2006 FREE PRIMARY EDUCATION POLICY IN BENIN: REAL IMPACT OF THE POLICY ON GIRLS IN RURAL AREAS

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1. INTRODUCTION

The development of a country relies on several factors, one of them being human capital. According to Hussain et al. (2000), human capital development is essential for ensuring sustained economic growth and fighting poverty. One of the crucial components of human capital is education. In fact, according to a new OECD measure of human capital, human capital builds on two components: years of schooling and rates of return to schooling. Some economists assume that countries with a more educated population should have higher productivity since those with more education and experience tend to earn higher salaries. There is also evidence from many countries that points to strong causal links between the average education level of women and increased levels of national economic development. For example, many developing countries reveal a large and generalized educational gender gap and a significantly low literacy rate for women. There are many barriers to girls' education in less developed countries like poverty, child marriage, and gender-based violence, which may vary among countries and communities. For that purpose, UNICEF[1]Works with communities, governments, and partners to remove barriers to girls' education and promote gender equality in education – even in the most challenging settings. As part of the many international efforts to resolve the disparities, the second goal of the Millennium Development Goals (MDG)[2] was set as

[1]***UNICEF***: United Nations Children's Fund is an agency of the United Nations responsible for providing humanitarian and developmental aid to children worldwide.

[2] ***The Millennium Development Goals (MDG):*** are a timebound set of targets, which range from halving extreme poverty to halting the spread of HIV/AIDS and providing universal primary education, all by the target date of 2015. It is a blueprint agreed to by all the world's countries and all the world's leading development institutions. The MDGs focus on reducing income poverty, hunger, disease, lack of adequate shelter, and exclusion — while promoting gender equality, health, education, and environmental sustainability — can be measured. They also embody fundamental human rights — the rights of each person on the planet to health, education, shelter, and security. The Goals are ambitious but feasible and, together with the comprehensive United Nations development agenda, set the course for the world's efforts to alleviate extreme poverty by 2015. "

“Achieve universal primary education” in 2000, to which many countries, including Benin, agreed to work towards and reach by 2015.

In light of that, the Republic of Benin took many decisions and policies from 1990 to 2006 to improve its literacy rate and reduce educational inequalities. Indeed, Benin's effort toward improving its educational system started in the 2000s and before the MDGs. In the Constitution of December 11th, 1990, in its articles 8, 12, and 13, the Government of Benin made provisions to improve education for all children based on the principle that schools must allow everyone accesses to culture, science, knowledge, ability and life skills. From 1993 onwards, Benin consecutively decided and implemented a Free Primary Education (FPE) program targeting girls in rural areas. The policy happened in two phases: the first phase started in 1993 with the announcement of no school fees for girls in rural areas; the second phase began in 2000 with the Government compensating schools for their loss of revenue. The FPE for girls occurred with the recruitment of about 8,000 teachers and the construction of nearly 2,500 schools.

Nonetheless, in 2006, the country still had more than 20 percent of school-aged children not enrolled in school, and eight of Benin’s twelve administrative regions had education indicators below the national average. Therefore, to reduce the dispersion and achieve a higher primary education participation rate, a key strategy adopted in Benin was to reduce education-related costs borne by parents. On October 14th, 2006, the Government of the Republic of Benin announced the abolition of tuition fees for primary and kindergarten education in all public schools for all children, boys, and girls. Subsidies were sent to the schools, and the budget for primary education was increased to support

the decision. The FPE policy aimed to promote access to education for all by increasing enrollment in primary school.

In this paper, we analyze the general impact of the latter policy on school attendance. First, we examine how the policy affected girls in rural areas since they were the target of previous reforms; we also examine whether the policy resolved the existing gender and region-based disparities in access to schooling in Benin. We use raw municipal and household level data from IPUMS??? and analyze it with a quadruple-difference method through OLS regressions based on 2002 and 2013. We found that after the implementation of the FPE, school attendance decreased, even though people stayed in school longer. Also, the gender gap has widened, and girls in rural areas - the target of previously existing policies- attendance rate is lower compared to the other groups, where we see a significant improvement. These results are inconsistent with existing literature that found that FPE reforms increase school attendance. Our results also question whether the policy was genuinely effective or well implemented, especially for the group that needed such policies, which is a question that is worth exploring in future papers.

The rest of the paper is organized as follows, we discuss Benin's education reforms, from its independence to recent years, and we give an overview of the policy, its implementation, and drawbacks. We discuss existing literature on the topic, and, finally, we present the data, explain our methodology, and discuss the results.

2. BENIN'S 2006 EDUCATIONAL REFORM

2.1 PREVIOUS EDUCATIONAL POLICIES AND REFORMS IN BENIN

After decolonization, several types of regimes succeeded, and many African countries experimented with the populist and socialist model advocated by the USSR. From 1972 to 1989, Benin experimented with this type of populist politics under the revolution, and it was in that context of centralism that free schooling had its best hours in Benin. The school was free, and supplies and accessories were also free. Children admitted to high school were educated, housed, and fed at the state's expense and later assigned to their respective positions of responsibility. The state was at the center of the training of its citizens. Indeed, even if state ownership was an additional piece in the legitimizing panoply of power and a source of revenue, this situation of centralization of ownership and non-control gradually led to the deficit and then to the bankruptcy of states. Therefore, after the collapse in 1989 of the Marxist-Leninist-oriented government, the new Beninese democratic Government initiated massive programs to refurbish the educational system, which had collapsed in the previous years. Benin made tremendous progress in its education reform initiatives with financial and technical support from several international organizations. The government consistently prioritized education by allocating more funds toward the school system each fiscal year. In 1990, the budget allocation for education was 14,839 million francs FCA, representing 12.8 percent of the national budget. The 2001 budget allocated 22 percent of its funds to education. From 1990-2000 different reforms and policies were proposed and implemented, especially geared toward reducing the gender gap in education.

The country has had significant gender disparities in education; girls' enrollment and attendance rates have lagged those of their male counterparts. In 1998, the enrollment rate for boys was 91.2%, with a promotion rate.[3] Of 52.2%, while for girls, it was 59.1%, with a promotion rate of 24.8% (INSAE, 2009).

To palliate that problem, the government initiated a free primary education (FPE) policy in the year 1993, which carried on until the year 2000, when girls in rural areas were specifically targeted, involving the elimination of tuition fees and costs of school supplies in public schools in those regions. The central objectives of that reform were to restore efficiency and quality of instruction at the primary and secondary levels. That was done by providing better teacher training and facilities, updating school curricula, increasing access to, and promoting female participation in the school system, and providing instruction that empowers students to function adequately in the Beninese economy. Phase 1 of the FPE was established in 1993 to remove girls' school fees in rural areas. Phase 2 of the FPE was initiated in 2000 when the government started compensating schools for registering girls. However, it was finally in the school year of 2002-2003 that the reform was fully implemented. The World Bank confirmed in 2002 that the subsidies were received by all the schools in the rural areas (Dato, 2021).

Therefore, the free tuition fee policy launched in 2006 is an extension of similar previous decisions and a continuation of the country's interest in making education affordable and available for all children. Though the previous policies were limited to girls in rural areas, this one expanded to the whole country and all genders. The extension complies with the

[3] ***The promotion rate***: per grade is the percentage of children per cohort from a given grade and in a given school year who continued to the next grade in the following year (UNESCO, 2009).

country's Constitution, the Orientation Law of Education, and the international conventions signed by Benin to promote primary education. Descriptive statistics suggest that the reform had some success, as the country has experienced a rapid expansion of primary education enrollment in recent years. According to Somasse (2014), the net enrolment rate went from 77% in 2005 to 91% in 2011. The differences in non-enrollment between poor and rich have significantly narrowed. In 2011, only 35% of the poorest children were out of school, significantly closer to 18% in the top quintile. The catchup was more dramatic for girls; their non-enrollment rate was only 39% in the poorest versus 22% in the wealthiest quintile (Somasse, 2014).

2.2 0VERVIEW AND IMPLEMENTATION OF THE POLICY

In compliance with the 1990 constitutional texts and with primary education as the main target, Benin made its public kindergartens and elementary schools free on October 14th, 2006. The policy's objective was to promote access to education by abolishing the tuition fees for all primary and pre-school public schools. To implement the policy, the country has allocated almost 25% of its 2007 budget (19% in 2006) to the education sector. Subsidies to schools and increased resources for primary education were put in place in the following years to support the decision. The Government granted schools subsidies to cover tuition fees and textbook acquisition depending on their location. Initially, the subsidies were 3,000 FCFA (about $6) per kid, but other measures were implemented because certain schools allegedly manipulated their number to increase their subsidy. In 2008-2009, the Government revised the criteria and started providing subsidies for only a maximum of 50 students per classroom with the following schedule:

• Zone 1 (deprived areas with difficult access) 15,000 FCFA (about $30) per pupil

• Zone 2 (difficult access areas) 10,000 FCFA per pupil

• Zone 3 (deprived areas) 5,000 FCFA per pupil

• Zone 0 (all other zones) no subsidy.

We see in Table 1[4], an estimated 41% of public schools belong to at least one type of disadvantaged area. Six percent are classified in a disadvantaged area only, 11 percent are classified in a difficult-to-access area only, and 24 percent are classified in an area with both difficulties. The departments with the highest proportion of public schools classified as difficult zones are, in descending order, Atacora (65%), Atlantique (59%), Alibori (56%), Donga (52%), and Borgou (44%). Conversely, the departments with the lowest proportion of schools classified as difficult zones are Littoral (3%), Oueme (25%), Couffo (27%), and Mono (27%). Some criteria defining zones are not easy to measure because there is no numerical threshold to categorize schools or communes. That results in the imprecision of the repartition (Brossard, 2003). Therefore, this might not have been the best option for determining the subsidy allocation for the schools to implement the policy.

To keep facilitating the policy and its success, several projects and programs were designed for the construction and equipment of classrooms in various regions of Benin to improve attendance and quality of education. A national strategy to train community teachers was adopted in 2007 to provide schools with more qualified teachers. In addition, the Government directed additional resources towards education to mitigate the increased enrollment. For example, in June 2008, an extensive program to build 6,591

[4] Table 1: Table of the distribution of public schools according to zones

classrooms nationwide was launched. This initiative also included the training and recruitment of 60 inspectors and 85 educational consultants, the continuing education of 35 educational consultants and 25 inspectors, the provision of more than 94,266 tables and benches to schools, the training of 3,000 school principals in school management in the context of decentralization (Somasse, 2014.). These changes are significant because they made the implementation of the FPE program more effective after the decision in 2006; therefore, we would not be able to evaluate the policy without taking those changes as part of the policy.

2.3 DRAWBACKS OF POLICY

A vital factor of the free education policy in Benin is that it was not formalized by legal documents specifying its scope. This situation leaves room for policy change over time. As explained previously, some measures were taken after 2006 to enforce the decision. Therefore, this study of the impact of this policy on school attainment on children starting in 2006 might be incomplete as the policy itself and its scope kept changing over the years and were not formally documented. A better framework and formalization of the policy might be necessary for a more accurate investigation.

Another drawback is that first, it only included public schools when about 15% of the primary and secondary schools in Benin are private schools and were limited to tuition fees, which means that some administrative costs and other additional costs were not included. Indeed, there are two types of education-related costs: direct and indirect. Direct costs are all costs directly associated with teaching, i.e., tuition, examination, and admission fees; the World Bank refers to these as "school fees and other school-related

costs ."The indirect costs include textbook costs, transportation, meals, school supplies, and "incidental costs," which vary according to the school. In the case of the reform under consideration, the policy only involves the first type of cost, the direct costs, as parents would not incur any cost registering their children and will not pay any tuition. Indeed, according to a survey of parents, the primary factor that kept children out of school was the inability of their families to pay school-related fees (INSAE & ILO, 2009). Nevertheless, parents still have to purchase schoolbooks and uniforms for their children, and that can also weigh on families' budgets as this represents more than one half [5] of what households spend on education. Also, if the share of tuition fees in the direct cost of schooling is not large enough, the impact of the free tuition on enrollment may be negligible. Therefore, the effect of the policy should not be interpreted as reducing education costs to 0, as parents still have to pay roughly half of what they used to pay.

3. LITERATURE REVIEW

Following the observation that eliminating or reducing tuition fees could boost school enrollment, many free Primary Education (FPE) policies have been implemented in sub–Saharan African countries since 1994. This came as a conclusion after researchers identified that user fees are a significant obstacle to universal education in developing countries (Kattan & Burnett, 2004).

[5] ***12. UNESCO, Who Pays for What in Education?*** The actual costs revealed through national education accounts, 2016, p.7, http://uis.unesco. org/sites/default/files/documents/who-pays-for-what-in-education-national-revealed-through-accounts-2016-en_0.pdf

Despite the prevalence of policies, only a few recent studies have examined their impact on enrollment, educational attainment, and student achievement in the concerned countries, possibly due to a lack of data. Existing papers on free education have concluded that various programs such as school construction or conditional cash transfers effectively boost enrollments. That is the case, especially for poor children or children in underserved regions (e.g., Duflo 2001 in Indonesia; Schultz 2004 in Mexico; and Barrera Osorio, Linden, and Urquiola 2007 in Colombia). In sub-Saharan Africa, researchers reported that FPE programs increased enrollment, especially among poorer students, and reduced the incidence of delayed primary school entry (Deininger 2003, Grogan 2009; Nishimura, Yamano, and Sasaoka 2008 in Uganda; and Al-Samarrai and Zaman 2007 in Malawi). In Kenya, for example, Mbiti and Lucas (2012) concluded that the Kenyan FPE Program improved welfare, as it led to significantly increased primary school completion with only a modest reduction in test scores among those who would have completed primary school in the absence of the program. Those results are consistent with other researchers and show how eliminating primary school fees leads to higher enrollment and better school attainment. For example, Bentaouet-Kattan (2006) found a 33% increase in enrollment in Tanzania using a phase-in approach, and several countries have experienced significant increases in enrollment after abolishing school tuition fees. Also, access to education by the poor and other vulnerable groups, such as girls and orphans, has increased in some school fee elimination cases (e.g., Grogan, 2009; Nicola, 2010). Other researchers focused on the impact of those policies in reducing educational disparities, whether gender-related or income related. Indeed, as explained previously, before the policy we are studying, the Government of Benin initiated other educational

reforms. As mentioned in the previous session, Dato (Forthcoming) studied one of the previous reforms, a two-phase FPE program focusing on girls in rural areas of Benin and concluded that both phases of the FPE had a differentiated impact on girls. While FPE Phase 1 harmed enrollment and completion for girls in rural areas, FPE Phase 2 increased enrollment and years of education completed for the same group (Dato, 2021).

On another side, in 2020, Somasse analyzed the effect of the 2006 FPE policy in Benin on inequalities. He found that the school fees elimination attenuated the inequality of access to primary school by increasing enrollment of traditionally disadvantaged groups, including girls, low-income, and the northern region populations (Somasse, 2020). it is essential to specify that the northern region of Benin is the poorest compared to the south and center and has stronger religious beliefs, which created gender-based disparities). Somasse (2020) used municipal and household-level data in his study, while we used individual-level data. Also, Somasse (2020) studied the effects of the policy on Benin inequalities while we only focused on school attendance and the effects on girls. Somasse (2014) did a previous study similar to the one we are attempting here on the same policy. While in this paper, we decided to discuss the impact of the FPE on school attendance and the impact on girls in rural areas, using individual-level data and a different model approach; Somasse relied on household-level and municipality data. Somasse evaluated the impact of the FPE program on school attainment and found whether financing education through government intervention reduced the wealth and gender gap as well as prior geographical disparities in educational outcomes. The author also analyzed if the more prominent access to education affected human capital formation as measured by student achievement. Somasse also went steps further in his research as

compared to ours. Even though we also used a difference-in-difference approach, he used the technique to analyze pre-FPE differences in dropout rates across municipalities to explain whether there was an improvement in dropout rates or/and a reduction in the quality of knowledge. The results from Somasse are consistent with those of Lucas and Mbiti, stating that FPE programs increased enrollment, especially among poorer students (Somasse 2014; Lucas & Mbiti 2012).

Somasse, in his paper, also evaluated how the expanded access has affected human capital formation as measured by student achievement. He found that the increased enrollment had no significant adverse effect on student achievement as measured by the probability of passing the primary school exit exam (CEP)[6]. It instead led to a significantly higher primary school completion with no significant reduction in the probability of passing the CEP exam. Moreover, the policy potentially helped low-performing municipalities narrow the achievement gap by retaining better-achieving students who otherwise would have dropped out of the education system. These results suggest that public financing of educational reforms can improve welfare when appropriately implemented. The findings may therefore have important policy implications for Benin and other developing countries with similar strategies. Somasse (2020) focused on other aspects of the impacts of the policy. He assessed the distribution of educational outcomes, focusing on inequalities and disparities and the effects of the policy on the determinants of access to education and student performance (Somasse, 2020). He found that the econometric analysis suggests attenuating the inequality of

[6] ***CEP*** stands for *Certificat d'Etudes Primaires*, the national exam of primary school exit.

access, but the disparities in student performance remain prevalent. There may be a trade-off between broad access and quality improvements in student performance.

Moreover, he evaluated whether a change in school inequalities also created a change in wage inequalities. To do that, he used Mincer-type earnings equations. He assumed that since schooling attainment significantly affects individual earnings in Benin (Kuepie et al. 2009), any reduction in schooling inequality may also drive income inequality and derived his functions from that assumption. Due to the short length of the policy implementation period, which does not allow more precise quantitative estimates, he used simulations to provide some magnitude of the impact of the free primary education policy on future wage differentials as schooling inequalities get smaller. Our present research will also be unable to analyze the effect OF WHAT??? on student performance as we do not have enough data to find whether performances increased.

However, the FPE policies through increasing access to education might put light on other aspects of education, such as the quality of schooling and additional cost to poorer families. Many papers alluded to developing countries' potential trade-off between increasing educational access and quality. Akaguri (2014) claimed that abolishing school fees in public schools could lead to perceptions of declining quality and shift the cost-benefit calculus in favor of low-fee private options if they were affordable.

Concerning the cost to poorer households, in Tanzania, for example, a study found that school fees constituted only a fifth of the total costs of primary schooling (Mason & Khandker, 1997). Thus, in terms of the cost burden, school fees may represent a relatively small element relative to other costs (Colclough et al., 2003). In the case of Ghana, the introduction of fee elimination may have lowered the cost burden. However,

aside from school fees, other factors are likely to influence a household's response to fee-free public and low-fee private education. (Akaguri, 2013).

Other papers have analyzed the impact of FPE policies on other aspects of education. For example, Mbiti and Lucas (2012) found that in Kenya, the implementation of the FPE policy increased the demand for high-quality and that some evidence that the demand for private schooling became higher in districts with greater inequality. Additionally, they find that FPE increased the supply of private schools, perhaps alleviating some pressure on the public school system. Overall, Mbiti's and Lucas' findings suggest that the FPE program was welfare enhancing as it provided primary school access for many children without substantially compromising the quality of the education system in the short run. Another paper focusing on Kenya's FPE program is the one by Bold et al. (2010), which also examined the extent to which the program reduced the perceived public-school quality and led to the movement of more affluent students from public to private schools. However, their analysis relied on many strong assumptions of macroeconomic factors, in the long run, and on general equilibrium, contrary to Lucas and Mbiti's research and our research. In our research, we will be unable to find the general equilibrium effect in Benin because of the data we are using; we will focus on short-term effects on school attendance.

4. DATA AND DESCRIPTIVE STATISTICS

4.1 Data Description

For our analysis of the impact of the 2006 FPE policy on school attendance, we use The General Census of Population and Housing (RGPH) of Benin for the years 2002 and

2013. The census data was collected by the National Institute for statistics and economic analysis INSAE and accessed through IPUMS international. The national census in Benin consists of collecting and publishing demographic, economic, and social data relating, at a given time, to all the inhabitants, all the living quarters, and their occupants. Data collection occurs every ten years and is an excellent source of reference data for policymaking, planification, and administration, but also for political purposes. To estimate the effect of the policy, an ideal dataset would include information on the group that benefited from the reform before and after its implementation. For that reason and to avoid biases in our estimators, we use 2002 as the base year, which is the closest census year before the 2006 policy was implemented, and 2013 which is the next census; therefore, we are analyzing the impact of this policy, seven years after the decision. Our initial dataset is also smaller than the actual population of Benin, which is because the enumeration process eliminates missing and incoherent results; only valuable data is kept for the census. Also, a country's population often fluctuates due to mortality and births. The census only uses the resident population for at least six months, which may not include people accounted for in the Benin total population (for example, people who emigrated).

At the national level, the coverage rate of the 2002 census is 96.2%, and the coverage varies by stratum (rural or urban strata). The highest coverage rates are obtained in the rural strata. Cotonou (the economic capital of Benin) and the other cities had the lowest coverage rates (94% and 95.6%, respectively). The census used a count without omission or repetition of persons or households. The current published data describe the resident

population, i.e., the population that has lived in Benin for at least six months, who intends to live there for at least six months, or who intends to live there for at least six months.

4.2 Variables

Here is a brief description of each variable.

SA: is our outcome variable and stands for school attendance. It is a binary variable equal to 1 for the people of the age of going to school who attended school at the time of the census and 0 if otherwise. We chose school attendance as a measure because our study is looking at whether or not the policy improved accessibility to schooling. ***NP***: the variable New Program is a dummy variable that equals 1 for those between the ages of 16 to 18 and 0 for those between 20 to 22. As explained in the restriction section, we are using this variable to identify those who likely benefited from the 2006 program. We call those who are 16, 17, and 18 each of the years the younger group versus an older group. Those who are 20, 21, and 22 are the ones who would not have benefited from the educational policy in 2006. (See data and restrictions to see how this was done).

Yr2013 is a binary variable that will be used to control for changes in school attendance that occurred between 2002 and 2013. It is equal to 1 for all observations for the year 2013 and 0 for 2002's observations. As explained above, it is essential to have two years for our study: a pre-policy year and a post-policy year, to better assess the differences and isolate the effect of the policy.

Rural: this dummy variable indicates whether the respondent lives in a rural or urban area. Here we did not create the variable based on our categorization but used the pre-existing data collected from the census. It is equal to 1 if the respondent lives in a rural

area and 0 if they live in an urban department. The formal definition of a rural area is provided in Section 4.4. We will use this variable to analyze the differences in school attendance per region.

Female: This is a dummy variable, equal to 1 when the individual is female and 0 if otherwise. We are using this variable to control for the gender of the respondent. In the next session, we will explain further the importance of adding that dimension to the study.

X: is a vector of control variables. First, we generated four mutually exclusive variables that record the respondents' school attainment. We only included a certain age of respondents (>30 years old) to capture parents' age. The first variable is "no school schooling or under primary school," which is equal to 1 if the person had almost no schooling or did not complete primary education; however, that variable is omitted in our descriptive statistics. The second "primary completed" is equal to 1 if the respondent did until primary school and 0 if otherwise. The third variable is "secondary completed," which equals one for individuals who completed high school and 0. Finally, we have the last generated variable, "University completed," which equals 1 for those who went into post-secondary education and 0 if otherwise. We also included other variables from the data, such as family size, number of children, and religion.

4.3 Descriptive statistics

Table 2 presents the basic statistics for our variables, such as mean and standard deviation. We are using individual-level data and exploiting the data from 2 years: 2002

and 2013. Our variables are NP, Female, Rural, Yr2013, NP*Female, NP*Rural, Female*Rural, NP*Female*Rural, "University completed," "Secondary completed," Primary completed," Family size, Number of children, and Religion. We have each variable's mean and standard deviation in parentheses for each year.

We see in table 2 that for the variable NP, the proportion of individuals that are "young in 2002 is lower than the proportion of individuals that is "young" in 2013 (49% vs. 50.5%). Meanwhile, the standard deviation shows that the variable is widely distributed around the mean. For females, we observe a proportion of 54.25% of girls in 2002 while 52.23% in 2013. As for the variable Rural, we find that the proportion of individuals in rural regions is higher than in urban regions. There was 55.12% in 2002 and 53.2% in 2013. We notice that the proportions of the main variables stay around 50%. Meanwhile, the created variables, which are interactions of the main variables, have means between 25-30%. For example, the proportion of "young" individuals in rural areas was 26.82 in 2002 and 27.18% in 2013. In 2013 there were fewer females in rural areas than in 2002(30.78% vs. 27.96%). In addition, for our control variables, we see that, in 2002, there were about 7 people in a family, while in 2013, the average was 8. Also, the mean for the number of children slightly decreased from 2002 to 2013, which means the number of children per family may have decreased throughout the years. All the differences discussed in this paragraph are statistically significant at 1% confidence interval.

4.4 Restrictions and distinctions

A- Urban and Rural

The reform we are studying targeted all primary and kindergarten students nationwide; however, there were previous policies that were implemented only in rural regions. As mentioned previously, Dato (Forthcoming) studied a two-phase FPE program that only targeted girls in rural regions. She found that the FPE Phase 1 has likely??? widened the gender gap in access and completion, while the FPE Phase 2 reduced this gap. She also found that the FPE Phase 2 positively impacted the years of education completed and influenced all levels of income in rural and urban areas. However, the impact was more significant for the wealthiest households. Therefore, it will be interesting to see the impact of our new policy on each area and whether the impact was different per area. Benin is divided into 12 departments, and each department is divided into communes, districts, and then towns. Each district can be either urban or rural. An urban environment is defined as a heterogeneous area that includes all the main towns of a commune with at least 10,000 inhabitants and at least one of the following infrastructures: post and telecommunication office (PTT), treasury collection office, public treasury, water supply system (SONEB), electricity supply system (SBEE), health center, general education college with the second cycle (Junior and Senior high school), a Bank or SFD.[7] Any district with at least 5 infrastructures listed above and above and at least 10,000 inhabitants can also be considered urban. Any district that does not meet those conditions is considered rural.

The population of Benin is unevenly distributed among the departments and is predominantly rural. In 2002, the proportion of the population living in rural areas was

[7] ***SONEB***: Benin National Water Company, ***SBEE***: Beninese Electricity and Water Company ***SFD***: Decentralized Financial systems like PADME, CLCAM, FECECAM

61.1%, compared to 38.9% in urban areas. In 2013, the urban population increased, and the proportion of households in urban areas increased to 49.45%, which could impact other socio-economic factors. In our data, the variable URBAN defines whether the respondent lives in a rural or urban area. Therefore, with the population distribution in the country, we have an additional dimension for our policy analysis.

B- Restrictions

The FPE program was decided in 2006 and abolished all children's pre-school and primary school tuition fees. We had to impose some restrictions on our data to get a suitable sample to evaluate the policy. First, we had to create a variable called New Program that would differentiate groups based on age and whether they would benefit from the policy or not. To get the proper sample, we dropped observations with ages equal to 19, smaller than 16, and larger than 22 years old. Indeed, in Benin, children start kindergarten at 3 years old and primary school at 5 years old. Pre-school lasts 2 years; after that, the child can start primary school at 5; the age is calculated as the year the child is born. For example, if the child were born in January 1995, he would be five years old in 2000 and is eligible to start primary school (kindergarten is not compulsory OK!).

Similarly, if they were born in December 1995, they are still considered five years old and can start school in September 2000. Therefore in 2013, children that would have benefited from the free primary education policy in 2006 would have been between the ages of 10 to 18. However, to make the data more manageable and because we needed an age group that would still be attending school, especially pursuing post-graduate

education, we decided to choose the group from 16 to 18. We call that group the “young” group, and they would have been recipients of the 2006 program. Then those that we named the "old" were those who, in 2013, had already finished primary school and would not have benefited directly from the policy; they would have been between 20 and 22 years old included (see summary table of ages below). After those restrictions are imposed, we obtain a sample size of 200,236 observations over our two census years, as seen in the descriptive statistics below.

5. METHODOLOGY

Our goal is to analyze the impact of the FPE policy on school attendance. Recall that the FPE program was implemented in 2006 and involved eradicating tuition fees for pre-school and primary school children throughout the country. We are using our data to analyze the effect of that policy on school attendance and ensure we capture the real effect by controlling for other factors that may affect school attendance.

We start with the simplest regression model that we could estimate by OLS and later highlight the main drawbacks of this model. We can imagine estimating the effect of the FPE policy using one year of data (e.g., the 2013 Census). Our outcome or dependant variable is school attendance, SA, and it is a binary variable that denotes whether the individual was currently attending school at the time of the census or not. The first variable we introduce is NP for "New Program" and is meant to identify individuals who were part of the FPE policy. Since we do not directly observe who was part of the new program, we construct our NP variable based on the individual's age. NP=1 for the age group of 16-18 years old and NP=0 for those from 19 to 22. The younger group would be

the one that would have benefited from the policy in 2006, and the older would not have. We ran a regression using OLS of SA on NP in 2013 and only in the urban region. We only focus on the urban area first because the program we are studying was preceded by previous similar policies that targeted only girls in the rural regions. Therefore, we think it will be helpful to analyze the new policy's effect on the demographic that was not targeted. Also, we assume here that the effect of the policy was identical for both boys and girls. We have the following equation.

$$\boldsymbol{SA_i = \beta_1 + \beta_2 NP_i + \beta_3 X_i + \varepsilon_i} \quad \textbf{(1)}$$

In this equation, we hope that the NP parameter estimate would capture the FPE policy's effect on school attendance for individuals $\boldsymbol{i}$. In addition to our primary variable, we also have **X**, a vector of control variables. Indeed, we can expect that, among other things, parents' education level can also be a factor in children's schooling. We know that there is a correlation between a parent's level of education and whether or not their children attend school because, first, more educated parents tend to have higher-paying jobs and can therefore afford to send their children to school. Second, since they are also educated, they know the importance of education for their offspring. Therefore, we can assume that parents' educational attainment will impact SA. We also know that people in rural areas are less educated than in urban areas; therefore, we may assume that the disparities in school attendance observed between rural and urban areas may be due to the parents' low educational attainment. For those reasons, the estimator for the variable rural may be biased as there may be an omitted variable problem. To account for that, we add variables for parents' educational attainment. We also included variables for the family size and number of children because a significant number of children combined with a low

income can affect the capacity of their parents to send them to school. We also have religion as it can be a factor that affects the choice of parents to send their children to school, especially girls.

This equation allows us to see the difference in school attendance for the two groups we determined in 2013 in the urban region. However, these two groups of individuals not only differ in terms of the school program they attended but also in terms of age. Individuals may simply stop attending school and start working as they get older. Therefore, in this equation, $\boldsymbol{\beta_2}$ could capture a combination of the FPE policy and an age effect.

One way to disentangle the FPE policy effect from the age effect is to augment our model by introducing another year of observations. For example, we could use a year of observation before the FPE policy (say the 2002 Census) and estimate the following model:

$$\boldsymbol{SA_i = \beta_1 + \beta_2 NP_i + \beta_3 Yr2013_i + \beta_4 (NP * Yr2013)_i + \beta_5 X_i + \varepsilon_i} \quad \textbf{(2)}$$

Yr2013 is a binary variable that will estimate the changes in school attendance between the two years.

The advantage of estimating this model is that $\boldsymbol{\beta_2}$ does not include the combination of the age and the FPE policy effect anymore. Now, it only captures the effect of age by giving us the difference in school attendance between the two age groups in the base year 2002. At the same time, this model shows how school attendance fluctuated in the urban region from 2002 to 2013 with $\boldsymbol{\beta_3}$. It resolved the biased problem encountered in the initial equation because now $\boldsymbol{\beta_2}$ only captures the effect of age, and the interacting variable

would now encompass the effect of the policy. $\boldsymbol{\beta_4}$ captures the change in schooling-attendance difference for the younger group (those who benefited from the policy) between 2002 and 2013, leading to the actual effect of the policy. That would help us deduce whether the program benefited the targeted children.

Recall that in Benin, there were existing policies that only benefited girls. Also, we can expect that gender or sex would affect school attendance as gender disparities in education are a recurring issue in our country of study; therefore, girls may be affected differently by the current policy, and it is essential to capture that in our model. Hence, we relax our previous hypothesis assuming that the effect of the policy is the same for boys and girls. We can construct a more complex equation that would include a variable for gender and make it interact with the other variables. We obtain the following triple difference:

$$\boldsymbol{SA_i = \beta_1 + \beta_2 NP_i + \beta_3 Yr2013_i + \beta_4\,(NP * Yr2013)_i + \beta_5 Female_i + \beta_6 (NP * Female)_i} \; + \\ \boldsymbol{\beta_7 (Female * Yr2013)_i + \beta_8 (NP * Female * Yr2013)_i + \beta_9 X_i + \varepsilon_i} \quad \textbf{(3)}$$

One of the benefits of estimating this augmented model is that we can have a better understanding of the full impact of the policy and have the possibility to isolate specific differences. For example, $\boldsymbol{\beta_5}$ captures the difference in school attendance between boys and girls in 2002, which is a piece of additional information we could not extract from previous equations. $\mathbf{Np * Female}$ gives us the changes in SA for younger girls versus older girls, while $\boldsymbol{\beta_7}$ will inform us whether the difference in education between the two sexes changed from 2002 to 2013. Considering the existing policies for rural girls, those two variables would confirm whether there is a change in that group's education since we

can expect a more significant impact on males throughout the country and on girls in urban areas who were not targeted by the previous reforms. Finally, $\boldsymbol{\beta_8}$, which is a triple difference, denotes how SA changed for younger girls from 2002 to 2013 relative to boys' change. Compared to $\boldsymbol{\beta_4}$, $\boldsymbol{\beta_8}$ captures the gender difference in the program's effect.

To be more throughout, we could go to an additional level of difference in our model, but why would that be useful? Indeed, the area of living affects school attendance; also, from past studies, we know that people living in rural areas have a lower literacy rate due to several factors in developing countries. For that reason, previous policies only targeted the girls living in rural areas. In 1990 and 2002, the Government of Benin implemented reforms making primary school education accessible for girls in rural areas. It happened in two phases; in 1990, lawmakers only decided on the policy, but it was implemented and supported by compensation to schools for each rural girl enrolled in 2002. Dato (Forthcoming) studies that the FPE program discusses the impact it had. Because that previous policy only targeted a specific group in rural regions, it will be helpful in our study to include that dimension.

To do that, we estimate a more complex model which includes an additional variable called rural, which is binary and can help us account for the difference between children living in rural villages and those in cities. We were previously doing all our estimations only on urban areas. Now, we can add the variable rural, allowing us to see the differences in SA between the two regions. We obtain a final equation as follows:

$$\boldsymbol{SA_i = \beta_1 + \beta_2 NP_i + \beta_3 Yr2013_i + \beta_4 (NP * Yr2013)_i + \beta_5 Female_i + \beta_6 (NP * Female)_i +}$$
$$\boldsymbol{\beta_7 (Female * Yr2013)_i + \beta_8 (NP * Female * Yr2013)_i + \beta_9 Rural_i + \beta_{10} (NP * rural)_i +}$$
$$\boldsymbol{\beta_{11} (Female * Rural)_i + \beta_{12} (Rural * Yr2013)_i + \beta_{13} (NP * Female * Rural)_i +}$$

$$\boldsymbol{\beta_{14}(Female * Rural * Yr2013)_i + \beta_{15}(NP * Rural * Yr2013)_i + \beta_{16}(NP * Female * Rural * Yr2013)_i + \beta_{17}X_i + \varepsilon_i} \quad \textbf{(4)}$$

This quadruple difference provides a complete scope analysis of the policy and can help us isolate the impact on each particular group through the interaction. $\boldsymbol{\beta_9}$ captures the difference in SA between rural and urban areas, while $\boldsymbol{\beta_{10}}$ will show how that difference differs between the young groups in each area. With $\boldsymbol{\beta_{11}}$, we can see the difference in education between the girls in rural areas and the girls in urban cities, and $\boldsymbol{\beta_{12}}$ will show us how that disparity in school attendance between regions changed from 2002 to 2013. Finally, the interacting terms capture sufficient information to deduce the full impact of the policy on our target groups. With estimator $\boldsymbol{\beta_{14}}$, we can see the difference in school attendance for girls in rural areas in 2013 compared to 2002. $\boldsymbol{\beta_{16}}$, we can see whether the difference in education between the young females who benefited from the policy and the older individuals who would not have benefited from the policy in rural areas changed from 2002 to 2013. With this more complex model, we can compare one group to the rest and isolate the real impact of the FPE policy.

6. RESULTS AND ANALYSIS

This section presents estimation results of the regression of SA on all our variables. As previously explained, the results of each regression stage are shown in Table 3. Column 1 of the table presents the results of the simple regression model shown with equation **(1)**. Column 2 shows us the results after we did the difference-in-difference presented in equation **(2)**, where we added the variable to capture the time effect. Column 3 of Table 3 gives us the detailed results from our third equation **(3),** where we relaxed the hypothesis

that the effect of the policy was similar across genders to find the estimated effect of the FPE policy on girls. Finally, in Column 4 of Table 3, we have the results of the final model **(4)**. In the previous equations, we only looked at urban regions, but in this equation, we expanded the model to estimate the effect on people living in rural areas.

Table 4 shows the results of our final equation **(4)**; Column 1 of the table is Equation **(4)** without the X_i: parents' educational attainment, Family size, number of children, and Religion. Table 4 should allow us to compare, contrast, and observe whether adding those control variables affected our overall results.

5.1 Impact of the FPE policy

In column 1 of Table 3, we have the results of our simple regression. Here, the coefficient for the variable **NP** is supposed to encompass the effect of the policy when we only consider the census year 2013 and the urban region. The results from Column 1 suggest that the policy increased school attendance by 15 percentage points (p.p). However, as previously mentioned, the coefficient in Equation **(1)** captures not only the time effect, but also the effect of age; thus, we had to add a variable that would account for the time effect. Column 2 of Table 3 shows Equation **(2)**'s results, in which we control for age. Under this specification, our parameter of interest for the effect of the policy is the parameter for **NP*Yr2013**. Recall that **Yr2013**, is a binary variable which equals 1 for year 2013 and 0 for 2002 so, the estimated parameter for **NP*Yr2013** captures the difference in school attendance between 2002 and 2013. Contrarily to the results in

column 1, the results from Column 2 suggest the policy decreased school attendance by 1.6 p.p.

In Column 3 of Table 3, we allow the policy's effect to differ across gender. Our goal is to find the estimated effect of the policy on girls. Under this specification, our parameters of interest are **NP*Yr2013** and **NP*Female*Yr2013**. The estimated parameter for **NP*Yr2013** is the effect on boys, and the estimated parameter for **NP*Female*Yr2013** is the difference in the effect between boys and girls. We find that there is a 17 p.p difference in the effect between boys and girls and that the policy decreased school attendance for boys by 10.9 p.p. Combining those 2 parameters, we deduce that the policy increased the girls' school attendance by 6.1 p.p. We tested for significance and found those results to be statistically significant at 1%; therefore, contrarily to the effect observed for boys, the FPE reform positively impacted girls' school attendance.

In Column 4 of Table 3, we want to find the estimated effect of the reform per place of residence (urban or rural). First, we want to find the effect on boys in rural areas. Under this specification, our variables of interest are **NP*Yr2013** and **NP*Rural*Yr2013.** The estimated parameter for **NP*Yr2013** is the effect on boys living in urban places, and the estimated parameter for **NP*Rural*Yr2013** is the difference in the effect between boys in rural areas and boys in urban regions. Similarly, to the previous results, in column 4 of Table 3, we observe that the policy decreased school attendance by 10.7 p.p for boys in urban regions. In addition, there is a 16 p.p difference in the effect between boys in rural areas and boys in urban regions. From those two results, we conclude that, as opposed to the boys living in cities, the policy increased rural boys' attendance at school by 5.3 p.p. That result is statistically significant at a 1% confidence interval. Therefore, we can

conclude that the overall negative effect of the policy on boys is driven by its negative impact on boys in urban areas. It is possible that since the boys in rural areas were disadvantaged before the policy, more efforts were furnished to implement the policy to benefit them. That could explain the surprising negative results on boys in urban areas.

Secondly, from Column 4 of Table 3, we can deduce the impact on girls in urban regions. Similar to the previous observation in column 3, our variables of interest are **NP*Yr2013** and **NP*Female*Yr2013**. The estimated parameter for **NP*Yr2013** is the effect on boys in urban regions. The estimated parameter for **NP*Female*Yr2013** is the difference in the effect between boys and girls living within urban areas. The results are statistically significant at 1% and suggest that the policy increased school attendance for girls in cities by 6.6 p.p.

Finally, from column 4, we can observe the effect of the FPE policy on girls in rural areas. Our variables of interest are **NP*Yr2013**, **NP*Female*Yr2013, NP*Rural*Yr2013, and NP*Female*Rural*Yr2013.** The estimated parameter for **NP*Female*Rural*Yr2013** is the difference in the effect of the policy between girls and boys living in rural areas. Alternatively, the parameter can also be interpreted as the difference between girls in rural areas and girls in cities. We find that the policy increased school attendance for girls in rural areas by 16 p.p, and the results are significant at 1%.

5.2 Coefficient Estimates of the Control Variables

Our results also allow us to see other dimensions and fluctuations of school attendance outside the scope of the policy. First, the coefficient for **Yr2013** gives us the difference in school attendance between 2002 and 2013. In column 2 of table 3, we find that school

attendance increased by 37.6 p.p in 2013, and this coefficient increases in column 4 of the same table by 48.3 p.p. Therefore, as can be expected, because of the effect of time, school attendance increased in 2013. Also, a study of the variables **NP** and **NP*Yr2013** in all columns of Table 3 suggests that "old" individuals stayed in school longer in 2013. For example, they are 10.7 p.p more likely to be attending school according to Column 4 of Table 3. We chose a range of individuals we expect to be at the university, concluding that more people pursued post-secondary education in 2013.

In addition, we can see a change in the gap in education between girls and boys. Our parameters of interest are **Female, Female*Yr2013** in column 3 and column 4 of Table 3. The estimated parameter for **females** is the difference in school attendance between boys and girls in 2002, **and Female*Yr2013** is the difference between 2002 and 2013 in the gaps in school attendance between boys and girls. We find that the difference decreased by 21 p.p., which suggests that although the gap is still prevalent, it decreased in 2013.

Finally, when we include the place of residence in the analysis, when there are no reforms or programs, we expect a gap in access to education between the two regions. For example, we would expect a smaller attendance from rural kids because of many reasons such as distance from school, the culture, religious indoctrination, parents' education level and income level, and low-income, leading children to work early instead of going to school. To study that, our variables of interest are **Rural and Rural*Yr2013** in column 4 of Table 3. The estimated parameter for **Rural** is the difference in school attendance in rural and urban regions in 2002, **and Rural*Yr2013** is the difference between 2002 and 2013 of the difference in school attendance in rural and urban regions.

The result of the parameter for rural suggests that the people in rural areas are 1.5 p.p more likely to attend school in 2002. That may be due to previous policies targeting girls in rural areas.

Table 4 shows the results of equation (5) with and without the vector X of controls. The latter includes parents' educational attainment, family size, number of children, and Religion. We were expecting that, among other things, parents' education level can also be a factor in children's schooling, especially in rural regions. When we compare the parameter for the variable **Rural** in columns 1 and 2 of Table 4, we observe that without controlling for parents' education, individuals in rural regions were 4.4 p.p less likely to attend schools than those in urban regions. However, in column 2, individuals in rural regions were 1.5 p.p more likely to attend school than those in urban regions, suggesting that parents' education affects school attendance in rural regions.

6. CONCLUSION

At the beginning of 2000, many developing countries implemented free primary education (FPE) policies. The republic of Benin has already engaged in various efforts to increase its literacy rate and decrease gender gaps in education with previous policies. In 2006, the Government of Benin eliminated parent-paid fees for primary and kindergarten students in all public schools. The analysis of results suggests that the policy decreased school attendance when we assume the effect is the same for all genders and only focuses on urban regions.

The results also show that the FPE only negatively impacted boys as girls' school attendance increased instead. Whether they live in a rural or urban area, girls were

positively affected by the policy, which is consistent with the idea that girls' demand for education is responsive to the price of education (Glick, 2008). On the other hand, as opposed to the boys in urban regions, boys in rural regions were positively affected by the policy, which is consistent with Dato (Forthcoming), who found that a previous FPE program increased school enrollment for boys and girls in rural areas. How

We may argue that the 2006 program was ineffective in increasing school attendance for everyone in urban regions; nevertheless, it was effective in increasing school attendance for minority groups like girls and people with low access to education (those in rural regions). Furthermore, this paper's main limitation is Benin's specific gender and inequality context, which could weaken the generalizability of the findings to other countries.

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8. TABLES

Table 1: Distribution of public schools according to zone

	Zone 0	Zone 1 'accès difficile et déshéritées'	Zone 2 'accès difficile'	Zone 3 'déshéritées'
ATACORA	35%	56%	5%	3%
ATLANTIQUE	41%	40%	2%	17%
ALIBORI	44%	12%	29%	15%
DONGA	48%	39%	6%	8%
BORGOU	56%	8%	27%	9%
PLATEAU	57%	39%	3%	1%
ZOU	63%	19%	14%	5%
COLLINES	65%	17%	15%	4%
MONO	73%	16%	7%	4%
COUFFO	73%	14%	12%	2%
OUEME	75%	16%	5%	3%
LITTORAL	97%	3%	0%	0%
Bénin	**59%**	**24%**	**11%**	**6%**

Table 2: Table of Descriptive Statistics

Variable	2002	2013
NP	.4922	.5048
	(.4999)	(.5)
Rural	.5512	.5325
	(.4974)	(.4989)
Female	.5425	.5223
	(.4982)	(.4995)
NP*Rural	.2682	.2718
	(.443)	(.4449)
NP*Female	.2528	.2506
	(.4346)	(.4334)
Rural*Female	.3078	.2796
	(.4616)	(.4488)
NP*Rural*Female	.1379	.1337
	(.3448)	(.3403)
NP*Yr2013	0	.5048
	(0)	(.5)
Rural*Yr2013	0	.5325
	(0)	(.4989)
Female*Yr2013	0	.5223
	(0)	(.4995)
NP*Rural*Yr2013	0	.2718
	(0)	(.4449)
NP*Female*Yr2013	0	.2506
	(0)	(.4334)
Rural*Female*Yr2013	0	.2796
	(0)	(.4488)
NP*Female*Rural*Yr2013	0	.1337
	(0)	(.3403)
Family Size	7.6381	8.3212
	(6.1886)	(6.5758)
Number of Children	0.336	0.3162
	(0.7928)	(0.8281)
Religion	5.6584	5.6105
	(1.3431)	(1.2612)
Primary Completed	.176	.1834
	(.3809)	(.387)
Secondary Completed	.0396	.0533
	(.1951)	(.2246)
University Completed	.0207	.0229
	(.1424)	(.1496)
Observations	80364	119872
Standard deviations in parentheses		

Table 3: Regression results 1	(1)	(2)	(3)	(4)
VARIABLES				
NP	0.150***	0.185***	0.264***	0.265***
	(0.00415)	(0.00357)	(0.00545)	(0.00545)
Yr2013		0.376***	0.487***	0.483***
		(0.00322)	(0.00494)	(0.00489)
NP*Yr2013		-0.0166***	-0.109***	-0.107***
		(0.00533)	(0.00788)	(0.00783)
Female			0.0181***	0.00267
			(0.00327)	(0.00314)
NP*Female			-0.143***	-0.132***
			(0.00710)	(0.00707)
Female*Yr2013			-0.210***	-0.210***
			(0.00635)	(0.00626)
NP*Female*Yr2013			0.170***	0.173***
			(0.0105)	(0.0105)
Rural				0.0151***
				(0.00278)
NP*Rural				-0.143***
				(0.00649)
Female*Rural				0.0456***
				(0.00344)
Rural*Yr2013				-0.165***
				(0.00633)
NP*Female*Rural				0.00764
				(0.00821)
Female*Rural*Yr2013				0.0155**
				(0.00787)
NP*Rural*Yr2013				0.160***
				(0.0101)
NP*Female*Rural*Yr2013				-0.0615***
				(0.0132)
Primary Completed	0.188***	0.144***	0.150***	0.163***
	(0.00475)	(0.00334)	(0.00329)	(0.00254)
Secondary Completed	0.248***	0.211***	0.223***	0.247***
	(0.00691)	(0.00538)	(0.00526)	(0.00462)
University Completed	0.256***	0.226***	0.241***	0.254***
	(0.00998)	(0.00759)	(0.00739)	(0.00676)
Family size	-0.00419***	-0.00289***	-0.00321***	-0.00310***
	(0.000333)	(0.000238)	(0.000234)	(0.000133)
Number of Children	-0.166***	-0.121***	-0.0962***	-0.0646***
	(0.00274)	(0.00181)	(0.00177)	(0.000838)
Religion	0.0243***	0.0187***	0.0198***	0.0172***
	(0.00169)	(0.00112)	(0.00110)	(0.000618)
Constant	0.291***	-0.0671***	-0.0919***	-0.0854***
	(0.0104)	(0.00671)	(0.00683)	(0.00440)
Observations	54,739	90,810	90,810	200,236
R-squared	0.164	0.256	0.279	0.281

Notes: Standard errors in parentheses are heteroskedasticity robust; we use a 95% confidence interval. The dependent variable is school attendance, a binary variable that is =1 if the individual attended any school and 0 if otherwise. The control variables are the different levels of parents' education attainment. *** p<0.01, ** p<0.05, * p<0.1

Table 4: Regression results 2 VARIABLES	(1)	(2)
NP	0.279***	0.265***
	(0.00554)	(0.00545)
Yr2013	0.480***	0.483***
	(0.00497)	(0.00489)
NP*Yr2013	-0.108***	-0.107***
	(0.00806)	(0.00783)
Female	-0.0264***	0.00267
	(0.00282)	(0.00314)
NP*Female	-0.0949***	-0.132***
	(0.00713)	(0.00707)
Female*Yr2013	-0.218***	-0.210***
	(0.00637)	(0.00626)
NP*Female*Yr2013	0.177***	0.173***
	(0.0108)	(0.0105)
Rural	-0.0440***	0.0151***
	(0.00249)	(0.00278)
NP*Rural	-0.142***	-0.143***
	(0.00656)	(0.00649)
Female*Rural	0.0231***	0.0456***
	(0.00295)	(0.00344)
Rural*Yr2013	-0.155***	-0.165***
	(0.00643)	(0.00633)
NP*Female*Rural	0.00463	0.00764
	(0.00821)	(0.00821)
Female*Rural*Yr2013	0.0190**	0.0155**
	(0.00799)	(0.00787)
NP*Rural*Yr2013	0.163***	0.160***
	(0.0104)	(0.0101)
NP*Female*Rural*Yr2013	-0.0583***	-0.0615***
	(0.0136)	(0.0132)
Primary Completed		0.163***
		(0.00254)
Secondary Completed		0.247***
		(0.00462)
University Completed		0.254***
		(0.00676)
Family Size		-0.00310***
		(0.000133)
Number of Children		-0.0646***
		(0.000838)
Religion		0.0172***
		(0.000618)
Constant	0.0496***	-0.0854***
	(0.00236)	(0.00440)
Observations	200,236	200,236
R-squared	0.230	0.281

Notes: Standard errors in parentheses are heteroskedasticity robust; we use a 95% confidence interval. The dependent variable is school attendance, a binary variable that is =1 if the individual attended any school and 0 if otherwise. The control variables are the different levels of parents' education attainment. p<0.01, ** p<0.05, * p<0.1