



Financial Literacy
and Personal Finance
Research Network

G53 Network Working Paper Series

Working Paper 2021-1

Is school-based financial education effective? Immediate and long-lasting impacts on students and teachers

Veronica Frisancho

DECEMBER 2021

IS SCHOOL-BASED FINANCIAL EDUCATION EFFECTIVE? IMMEDIATE AND LONG-LASTING IMPACTS ON STUDENTS AND TEACHERS

VERONICA FRISANCHO*[†]

December 2021

Abstract

This paper shows that school-based financial education programs lead to significant improvements on financial skills and, when intensive enough, they translate into long-lasting effects on downstream financial behavior. Relying on a large-scale experiment in Peru, this study evaluates the effects of an in-class intervention on high school students and their teachers. As soon as the program is over, treated students record significant financial literacy gains that do not hinder their academic performance. Depending on the targeted grade, the program also leads to modest immediate changes in financial behavior. Credit bureau records gathered up to three years after the launch of the pilot show significant changes in treated students' credit behavior, particularly among those with greater levels of exposure to the program and those who start off at a disadvantage. Treated teachers obtain financial literacy gains, improve their levels of financial autonomy, and increase their likelihood to save, particularly through formal channels. The treatment leads to short-lived impacts on teachers' delinquency outcomes.

Keywords: Financial Education, Youth, Teachers, Financial Literacy, Credit records, Treatment Effects, Long-lasting impacts

JEL Codes: C93, D14, G53, O16

*Research Department, Inter-American Development Bank. 1300 New York Ave NW, Washington, DC 20577. Tel: (202) 623-3374. E-mail: vfrisancho@iadb.org.

[†]I am grateful to Maria del Pilar Biggio, Hans Landolt, Juan Carlos Chong, and Elizabeth Caverio for their support during the implementation and fieldwork phases. I thank the editor and three anonymous referees for very detailed and constructive comments as well Miriam Bruhn, Alejandro Ganimian, Tim Kaiser, Laura Hospido, Lukas Menkhoff, Silvia Prina, Diego Rivetti, Carly Urban, Diego Vera, Bruce Wydick, and audiences at various conferences, workshops, and seminars for very helpful discussions and suggestions. I also thank Nelson Oviedo and Alejandro Herrera for excellent research assistance. Financial support from the Inter-American Development Bank (IDB) is gratefully acknowledged. This study is registered in the AEA RCT Registry and the unique identifying number is: AEARCTR-0004719.

1 Introduction

Financial education tends to trigger heated debates in academic and policy forums. Despite the evidence supporting a link between financial literacy and economic outcomes [Behrman et al., 2012; Lusardi and Mitchell, 2014; Lusardi et al., 2017; Bianchi, 2018; van Rooij et al., 2012], many are skeptical that financial education programs can effectively improve financial skills, let alone lead to sustained changes in financial choices and behavior. The increased availability of experimental studies targeting children and youth supports significant immediate impacts of school-based financial education on financial literacy,¹ but the ability of these programs to yield robust and long-lasting effects on financial behavior is still under scrutiny.

This paper exploits experimental variation in the delivery of mandatory personal finance lessons in Peru to study the immediate and sustained impacts of school-based financial education on students and teachers delivering the content. On one hand, this study goes beyond previous work by relying on credit bureau records, which alleviates concerns about self-reporting biases present in survey data and allows to look at actual behavior up to three years after the intervention. On the other hand, this paper extends the focus beyond the direct beneficiaries of the program and measures changes in financial literacy and behavior among the instructors that deliver the content.

This study relies on data from a large-scale randomized controlled trial implemented in 300 public high schools in six regions in Peru, targeting grades nine through eleven. The treatment was randomized at the school level and consisted of the delivery of financial education lessons during the school day, between August and December 2016. The curricula imparted varied across grades: while 9th graders received lessons on the differences between needs and resources and budgeting, 10th graders learnt about financial products and services and forward-looking choices, and 11th graders received material on responsible financial consumers and access to information in financial markets. The instructors in charge of the lessons were school teachers who were trained in the materials. Therefore, teachers are treated both directly through the training they receive as well as indirectly when delivering the lessons in the classroom.

Even though the treatment was only fully implemented in all grades and regions during 2016, teachers in treatment schools may have continued to teach the material in the following years. Moreover, one of the regions in the experimental sample revamped the full intervention in 2018. This variation in the level of exposure to the treatment across cohorts and regions provides an opportunity to test if greater intensity of the program leads to more robust and sustained changes in financial behavior.

Measurement of the impact of the treatment relies on both survey and administrative data sources. Students in the treatment and control groups were tested on their financial knowledge and surveyed both before and after the delivery of the lessons. The content of the financial literacy exam varied by grade, depending on the curricula. Survey data in both rounds included questions on financial behavior such as financial autonomy and shopping and saving habits. Teachers in treated

¹See [Kaiser and Menkhoff, 2019] for a meta-analysis and Frisncho [2019] for a survey on experimental studies.

and control schools completed an financial knowledge exam and an exit survey. Access to school administrative records provides information on students' cumulative grade point averages (GPAs) in three consecutive academic years, 2015 through 2017. Furthermore, credit bureau data gathered at two points in time, June 2018 and June 2019, provide information on access to credit and delinquency rates for students and teachers up to three years after the intervention was launched.

The program led to significant financial literacy gains among treated students: relative to the control group, their scores in the financial literacy exit exam increased by 0.16 SD. This effect is large when compared to voluntary after-school programs [Berry et al., 2018; Jamison et al., 2014] and in line with similar school-based interventions [Bruhn et al., 2016; Bover et al., 2018]. The introduction of financial education lessons did not hinder performance in other courses and had no effect on grade progression, which shows that the time diverted away from other courses and into personal finances did not jeopardize academic achievement. Depending on the targeted grade, the provision of financial education led to modest immediate changes in financial behavior. The treatment effectively increased the financial autonomy of older youth, led to a higher probability to save among 9th and 11th graders, and generated modest positive changes in students' shopping habits.

Early improvements in financial literacy seem to translate into positive long-lasting changes in financial behavior among high schools students, particularly among those with higher levels of exposure to the program and those who start off at a disadvantage. Sustained and intense exposure to financial education during high school is effective to keep their debt levels controlled, which may have important implications on their future access to credit and borrowing conditions. Three years after the launch of the intervention, the treatment reduces the probability that students have a credit record in the bureau. This effect is explained by a reduced probability to hold outstanding debt, which is also reflected in improved debt-to-income ratios. This effect is magnified in the subsample of 9th graders, which are those more likely to experience greater exposure to the lessons while in high school. Focusing on the subsample in the region that implemented two rounds of the program reveals greater changes in credit behavior. This effect is particularly marked among 9th graders, who were exposed to two official rounds of the pilot (2016 and 2018): while the likelihood to have a credit record in the bureau is reduced by 6 percentage points in the global sample, the drop is equivalent to 15 percentage points in the youngest cohort.

Additional analysis of heterogeneous treatment effects reveals that the program has stronger and more robust effects on credit behavior among those who start off at a disadvantage. The drop in the probability to have a credit record and the improvement in debt-to-income ratios survives only in the bottom terciles of baseline financial literacy and in the female and poorer subsamples, who also start off with lower scores in the exam. In fact, poorer students and female students exhibit significant reductions in their delinquency rates.

Getting trained and imparting the financial education lessons improved teachers' financial skills by 0.32 SD, an impact twice as large as that identified among students. Teachers in the treatment group experienced immediate improvements in their levels of financial autonomy and an important

increase in their likelihood to save. They recorded a 10% increase in their probability to save, with a marked preference for formal over informal mechanisms: while the probability to save formally increases by 22%, the likelihood to save informally increases by 10%. The treatment also led to modest impacts on teachers' credit and delinquency outcomes, but the latter are short-lived.

At a cost per student of US\$4.8, the program yields a very low cost-effectiveness ratio in terms of students' financial literacy: the cost per student to improve average financial skills by one standard deviation amounts to US\$30.7. These estimates are quite robust, even when taking into account the 90% confidence intervals of the estimated effect on students' financial literacy.

All in all, this paper shows that high intensity school-based financial education programs can be effective, have low delivery and opportunity costs (in terms of academic outcomes), and that sustained and intense exposure may trigger long-lasting effects on youth's financial choices. It also provides novel evidence on how teaching a particular subject can affect instructors' own behavior.

This paper contributes to the literature on the effectiveness of financial literacy programs for youth in at least three ways. First, it relies on high-stakes data to measure the long-lasting effects of financial education on financial behavior. This paper poses an advantage over closely related studies such as Bruhn et al. [2016], Bover et al. [2018], Jamison et al. [2014], and Luhrmann et al. [2018] by complementing survey self-reported data with individual-level credit bureau records. Recent studies in the United States take advantage of non-experimental changes in graduation requirements to complete financial education courses and/or variation across states in the enactment of these requirements to evaluate the impact of financial education on credit behavior and asset accumulation after graduating from high school. Most of these studies identify a positive and long-lasting impact of financial education on financial behavior,² but no experimental study has tracked students over time nor measured the effects of school-based financial education on actual financial outcomes.³ Second, this paper tackles a recurring argument against the introduction of financial education lessons in the school setting: the substitution of time and resources away from other courses. Access to administrative academic records provides an opportunity to measure the program's opportunity cost in terms of grades and passing rates.⁴ Finally, this paper also focuses on the impact of financial education on the instructors delivering the training. These results contribute to answer a more general and often over-looked question in the education and human capital accumulation literature: can someone learn a skill or change their own behavior by teaching? While some papers have looked at the evolution of teaching skills while teaching, far fewer studies have focused on the hypothesis that instructors can become more knowledgeable on a specific subject while delivering the content to their students.

²See Bernheim et al. [2001]; Brown et al. [2016]; Cole et al. [2016]; Urban et al. [2018]; Urban and Stoddard [forthcoming]. Only Cole et al. [2016] fails to find any impact of personal finance courses, but they find that additional mathematics lessons leads to greater financial market participation, investment income, and better credit management.

³Alan and Ertac [2018] evaluate the impact of a financial education program specifically designed to foster patience both in the short-run as well three years after its delivery. While they rely on incentivized time preference elicitation tasks and move beyond survey data, the authors are not able to look at actual financial behavior as their sample corresponds to elementary school children.

⁴Bruhn et al. [2016] collect passing rates from school records but only aggregated at the grade-level.

2 Experimental Design

2.1 The Intervention

In 2015, the Peruvian government launched the National Financial Inclusion Strategy, which included, as a high-priority goal, the provision of school-based financial education to all primary and secondary students by 2021. In this context, the Ministry of Education (MINEDU), the Superintendency of Banks and Insurance (SBS), and the Center of Studies (CEFI) of the Peruvian Association of Banks jointly developed a pilot to provide financial education to high school students. The implementation partners developed student workbooks for each of the last three high school grades (equivalent to 9th, 10th, and 11th grades in the United States) as well as a teacher’s guide. The partners safeguarded that the lessons were aligned both with the basic education curriculum and the 2015 Peruvian national strategy of financial education (PLANEF, for its name in Spanish, *Plan Nacional de Educacion Financiera*).⁵ The lessons developed for the pilot were adapted to the specific content of the national curriculum for each grade but, in general, they focused on two main goals: fostering economic citizenship and providing knowledge about individual rights and duties to fully exercise citizenship.

The implementation partners also designed and implemented a 20-hour teacher training plan divided into five sessions, which included a training component on the financial literacy contents (four sessions) as well as a pedagogical one (one session).⁶ MINEDU encouraged teachers to attend the training sessions and school principals were requested to facilitate teacher participation in the sessions. Participants received both a transport subsidy (mostly in kind) and a full meal during the workshop. Teachers were also provided with a completion certificate that counted towards the evaluation of their performance as an investment in professional development.

The content of the workbooks varies by grade and it is fully detailed in Table A.1. The lessons provided to 9th graders focused on the differences between needs and resources as well as on budgeting. The lessons imparted to 10th graders focused on financial products and services and forward-looking choices. The curriculum for 11th graders covered topics on becoming a responsible financial consumer as well as access to, and use of, personal information in financial markets.

The sessions were delivered during the regular classes of the course “History, Geography, and Economics” (HGE). The workbooks and teachers’ guide supported the teacher in the delivery of the lessons through a mixture of case analysis, exercises, group activities, and homework. The MINEDU instructed HGE teachers to incorporate the material in the Economics portion of the course and monitored their engagement with the program. Even though teachers were left to decide

⁵Relative to its neighbors, Peru has been a pioneer in promoting the development of financial skills in school. It was the first country in the Latin American and Caribbean region to include financial education in the national curriculum as early as 2009. Under the curriculum, financial skills are to be developed to fulfill one of the 29 competencies that basic education seeks to provide: “responsibly manages economic resources”. These efforts were further consolidated with the PLANEF, which was developed by the SBS and the MINEDU. The strategy focused on 5 basic action areas: payments, savings, borrowing, insurance, and consumer protection.

⁶The content of the pedagogical session included a review of the background of the program as well as the use of teaching tools such as charts, figures, and case studies.

how to implement the sessions during the HGE course, they were provided some guidelines about the duration of the sessions covered in each workbook. The suggested number of hours required to cover all the lessons in the workbooks varied by grade, ranging from 16 (9th grade) to 24 (8th grade) to 32 (7th grade).⁷ Since the content of the lessons was not incorporated as a stand-alone course in the official curriculum, MINEDU could not enforce full compliance of the teachers in the classroom. Nevertheless, once a teacher delivered the personal finance lessons within the HGE regular course, the content became subject to performance evaluation and was considered high-stakes from the students' point of view.

The treatment was only fully implemented in all grades and regions during 2016. During 2017, the implementation partners had no resources to fund all activities, but the workbooks were still printed and distributed to the treatment schools. The MINEDU did not provide specific instructions to continue with the delivery of the lessons nor did it continue to offer teacher training sessions. Still, teachers in treatment schools may have continued to teach the material during the HGE classes even if no specific guidelines, monitoring, nor incentives were provided. Unfortunately, there are no administrative or evaluation records available to check teachers' engagement with the personal finance material after 2016. In 2018, the implementation partners secured limited funds to print workbooks for all grades in one of the intervention regions, Piura. The MINEDU sponsored the implementation of the treatment in this region by explicitly asking teachers to deliver the content during the HGE classes, providing them with online training resources, and rewarding them with completion certificates valid for the evaluation of their performance.

2.2 Study Timeline

Figure 1 organizes the intervention activities that took place during the 2016 calendar year (in bold) as well as the evaluation activities that were carried out between 2016 and 2019.⁸ Teachers' training workshops were conducted by the SBS and the MINEDU between mid-February and March, before the beginning of the school year. Additional replica sessions conducted by trained teachers were organized during the first month of classes to extend coverage of the training. The distribution of students' workbooks to schools started in May and was completed successfully in all treated schools by July. The delivery of the sessions in class began during the second half of the 2016 school year; August through December. To ensure that compliance levels were high, regular monitoring phone calls took place September through November.

Treated and control schools were visited twice in 2016 to collect survey data and measure

⁷See Table A.2 in the Appendix. Compared to other school-based interventions targeting youth, the pilot in Peru provides a very high intensity treatment in terms of hours of exposure, surpassed only by the program studied in [Bruhn et al., 2016] which is a clear outlier with an average of 108 hours of teaching required to deliver all the material included in the program's textbooks. In comparison, the Peruvian program was more compact, but the number of hours of exposure surpassed most of the other programs targeting youth that have been experimentally evaluated. See Table A.3 in the Appendix.

⁸All intervention activities were fully funded by the implementation partners, MINEDU, SBS, and CEFI. All evaluation activities (i.e., survey data collection, exam application, or obtaining access to administrative records) were jointly funded by the MINEDU and the Inter-American Development Bank.

the financial skills of both students and teachers. Self-administered baseline surveys and financial literacy entry exams for students were simultaneously collected during May. Exit surveys and exams for students and teachers were conducted toward the end of the 2016 academic year.⁹ Individual-level data on grades and passing rates for three consecutive academic years, 2015 through 2017, were provided by the MINEDU for all the schools in our sample. Credit bureau data on students and teachers were obtained from EQUIFAX, the leading private credit bureau in Peru. Students and teachers in our survey sample were searched in the bureau’s records at two points in time: June 2018 and June 2019.

2.3 Sample Selection and Randomization

The implementation partners decided to focus on full-day public high schools in urban areas in six regions of the country: Lima and Callao, Arequipa, Piura, Junin, Puno, and San Martin. Due to logistic and implementation constraints, the sampling frame was limited depending on schools’ proximity to cities and a few additional restrictions (directly managed by the MINEDU, single-grade schools, and number of students by grade above the fifth percentile and below the 95th percentile), yielding a restricted universe of 308 eligible schools.¹⁰

The sample of eligible schools was stratified by region. Following Bruhn and McKenzie [2009] and Bruhn et al. [2016], schools were paired by their similarity within each of the six strata.¹¹ This procedure returned 150 matched pairs, yielding a final experimental sample of 300 schools. Within each pair, schools were randomly assigned to either the control or the treatment group. The spatial distribution of control and treatment schools is plotted in Figure 2.

Tables A.4-A.6 provide basic descriptive statistics at the student and teacher level, as well as balancing tests of the randomization (both at endline and baseline, in the case of students). Consistent with the random treatment assignment, very few significant differences are detected across groups. In any case, the estimation of treatment impacts considers the effect of background controls and, whenever available, initial levels of the dependent variable.

2.4 Data and Measurement

(a) *Survey and Exam Data.* Survey and exam data were collected for students and teachers in the 300 schools of the experimental sample. Within each school, one classroom from each targeted

⁹All data collection efforts were conducted once the Chesapeake Institutional Review Board (IRB) determined that the evaluation activities were exempt from IRB oversight (protocol number Pro00016325). The fieldwork in both survey and exam application rounds was conducted by a local firm, USKAY, which has ample experience in large scale projects.

¹⁰To establish the number of schools required for the evaluation, power calculations were performed with the following parameters: significance level of 0.05, statistical power of 0.8, minimum detectable effect of 0.1SD, R^2 of the outcome equation of 0.1, intra-cluster correlation of 0.1, and a sample size of 40 students per grade. Under these assumptions, 300 schools were required, 150 in each treatment arm.

¹¹The Mahalanobis’ distance is minimized for 10 selected characteristics: electricity connection; water and drainage services availability; presence of a principal; number of desks in good condition; number of teachers; number of students in 9th, 10th, and 11th grades; dropout rate; passing rate; and whether the school belongs to the experimental sample of any other ongoing pilot.

grade was chosen at random to conduct the surveys and apply the exams. The main study sample comprises about 20,000 students (from 900 classrooms) and 453 teachers.

Students' baseline survey collects basic information on socioeconomic characteristics of the household, students' future aspirations, parental supervision, truancy, and the number of hours the student works per week. The survey also measures students' school engagement¹² and collects data on previous exposure to financial education programs. Financial behavior is measured in the survey through several constructs: holding savings, budgeting, consumption and saving habits, and financial autonomy.¹³ The survey also measured monthly cash flows derived from different income sources including allowances, gifts from family and friends, and labor.¹⁴ Despite their young age, Table A.5 shows that 40% of the students at baseline performed paid work activities. These students record an average (median) monthly income of US\$102.6 (US\$33.2), with a third of their earnings coming from labor. Even among those who do not claim to work, average (median) monthly income amounts to US\$88.6 (US\$29.9). The instrument used at endline was exactly the same as the one used at baseline, with the exclusion of the questions related to socioeconomic characteristics.

The survey questionnaire applied to teachers at endline was very similar to the students' instrument, but additional questions were added to capture their professional background and experience, as well as their formal and informal savings holdings. To make room for these additional questions, questions on income sources and levels were dropped. Teachers in the treatment group also completed an additional survey module that inquired about their progress with the financial education material in the classroom.

Students' financial literacy exams were grade-specific and consisted of 15 questions. Four questions on the topics of risk, return and liquidity, intertemporal spending choices, budgeting to save, and the importance of investing in skills and education were drawn from the 2008 National Jump\$tart Coalition Survey of High School Seniors and College Students.¹⁵ The remaining questions tested students on the topics covered in each grade-specific workbook. Most questions were drawn from a teacher entry exam designed by the the implementation partners,¹⁶ but a few were

¹²The scale to measure student engagement comes from the Student Engagement in Schools Questionnaire and measures behavioral engagement: effort and persistence [Hart et al., 2011].

¹³The financial autonomy scale was borrowed from Bruhn et al. [2016].

¹⁴Additionally, the questionnaire gathers information on five personality constructs and preferences that may influence financial choices: conscientiousness, self-control, intertemporal preferences, impulsiveness, and risk aversion. Conscientiousness, which is closely related to deliberative thinking, was measured using the Big Five Scale for this attribute [Pervin and John, 1999]. Self-control is measured by Tangney et al. [2004]'s scale, which attempts to measure people's ability to control their impulses in general, not only those related to financial behavior. Impulsiveness is measured by the Barratt Impulsiveness Scale [Orozco-Cabal et al., 2010], which reflects six correlated first-order constructs (attention, motor, self-control, planfulness, cognitive complexity, perseverance, and cognitive instability), which in turn, form three second-order factors (attention, motor, and non-planning). The survey focuses on the attention and non-planning factors only. Time inconsistency is defined as in Ashraf et al. [2006]. These preferences and personality traits are measured relying on extensively tested scales that are specifically designed to be self-rated.

¹⁵See Mandell [2009]. The Jump\$tart Coalition for Personal Financial Literacy is a U.S. nonprofit coalition of 150 organizations that works to promote financial literacy among students. Its target population includes students between pre-kindergarten and college. Jump\$tart publishes the National Standards in K-12 Personal Finance Education, which delineate the personal finance knowledge and ability that young people should acquire during their schooling years between kindergarten and 12th grade. Since 2000, Jump\$tart has administered the Survey of Personal Financial Literacy among high school students.

¹⁶SBS and CEFI developed an entry exam but it was only taken by teachers in the treatment group who attended

developed by the author to cover all topics included in the workbooks. The same grade-specific exam was administered at baseline and endline. The exit exam taken by teachers was developed by the author and included the four questions from the Jump\$start questionnaire as well as questions from the students' exams for 9th grade (4), 10th grade (4), and 11th grade (3). Teachers had no access to the students' exam questionnaires at baseline and the exit exam was applied to teachers and students during the same school visit. This ensures that teachers could not teach to the exam during the school year. The psychometric properties of the exam based on students' baseline data are presented in Table B.1 while the Online Appendix B.2 presents the exam instruments applied to students and teachers.

Provided that non-compliance and non-response are orthogonal to the magnitude of the treatment impact, the experimental design is robust to the exclusion of pairs in which at least one school does not comply with the treatment assignment and/or has incomplete survey records. Indeed, two pairs of schools from the original experimental sample are excluded from the analysis due to non-response either in the baseline or the endline exam and survey. The main analysis sample thus consists of 296 schools, with a total population of approximately 60,000 students. Baseline survey records are available for 20,641 students (7,008; 6,845; and 6,788 in 9th, 10th, and 11th grade, respectively), roughly a third of the targeted population. The exit survey and exam were applied to 19,487 students (6,634; 6,496; and 6,357 in 9th, 10th, and 11th grade, respectively) and 453 teachers. The attrition rate between baseline and endline among students is 17%, but it is not differential by treatment status (see Table A.7 in the Appendix). The sample of interest to evaluate the impact of the intervention includes all students with records in the follow-up survey and exam, as they have data on the outcome variables after exposure to the intervention.¹⁷

(b) School Academic Records. MINEDU's academic records provide data for all high school students enrolled in any of the 300 schools of the experimental sample. These data contain individual-level information on cumulative grades by course and grade progression for three consecutive academic years, 2015 through 2017. Access to these records offers the possibility to estimate treatment effects on academic outcomes among students in the survey sample as well as among the total targeted population of students in the experimental sample of schools (~60,000 at baseline). The success rate when matching the exit survey and exam data with performance records from 2015 and 2016 is extremely high at 91% and 98%, respectively. Focusing on 9th and 10th graders who were still in school in 2017, the match rate is 87%.

(c) Credit Bureau Records. Credit outcomes up to three years after the intervention were provided by EQUIFAX, a private credit bureau that concentrates credit data from almost all lenders in the Peruvian credit market as well as non-credit information that may be relevant to

at least one of the training sessions.

¹⁷Table A.4 presents the balance check for the endline sample. Since the survey questionnaires were self-rated, higher levels of missing data are expected relative to face-to-face application through a surveyor. As shown in Table A.8, the share of missing records varies depending on the construct and the survey round; however, it is not significantly different by treatment arm (with the exception of one in 20 variables).

determine a person’s ability to repay a loan. EQUIFAX collects credit information from all banks and most microfinance institutions in the Peruvian market.¹⁸ These records are very similar to those obtained by Urban et al. [2018], who relied on credit report data from the Federal Reserve Bank of New York/Equifax Consumer Credit Panel (CCP) to track young individuals.

A person can enter the credit bureau’s database if (i) she currently holds or has held a loan balance with a financial institution (in good standing or in arrears), (ii) she has or has had a negative record due to a delinquent non-credit related bill or credit card statement, (iii) she has a taxpayer ID (active or inactive), or (iv) has been searched in the bureau by a prospective lender. While virtually none of the kids enter the database due to (iii), they can certainly enter due to current or past positive/negative records or recent searches requested by potential lenders.

Young adults in the 18-25 age bracket have very limited access to credit from financial institutions. This responds to their low levels of income and asset accumulation patterns at early stages of their life cycle. In Peru, youth try to cover their financial needs with credit card debt, accessible with laxer requirements, especially when issued by large department stores. While there are no official statistics about credit card ownership, records from private credit bureaus in the market indicate that more than 150,000 young adults between 18 and 25 (12%) in the country had a credit card in 2014 (this national average may be even higher when focusing in urban areas). Between 2014 and 2015, this age group experienced a 33% increase in the ownership rate of credit cards, the largest increase relative to all other age groups.¹⁹

EQUIFAX’s data captures an individual’s credit standing at the time in which she is searched, both in terms of her positive and negative records. Positive records correspond to loan balances by default status and source of the funds. Loan balances with financial institutions also reflect credit card debt, mostly provided by banks. In addition to loan balances, the credit bureau’s data also capture negative records corresponding to delinquency on non-credit related bills (e.g. cellphone, water, electricity, gas, etc.), taxes, or credit cards balances. A negative signal stays active in the bureau’s database until the pending balance has been paid off or until five years have passed since the service provider has reported a late or missed payment. By law, EQUIFAX has to stop disclosing negative records after this exposure period expires, even if the debt has not been collected.²⁰

¹⁸EQUIFAX gathers credit records from regulated financial institutions (banks and microfinance lenders such as Municipal Savings and Loans Associations, Rural Savings and Loans Associations, and other entities that promote the development of small businesses) and most of the non-regulated lenders in the market (NGOs and cooperatives). The main difference between regulated and non-regulated institutions is that the latter cannot hold deposits and are not mandated to send a credit report for each of their borrowers. However, EQUIFAX is the only firm in Peru that has been able to include over 90% of non-regulated lenders in its records. These lenders, mostly microfinance NGOs and cooperatives, are not informal lenders; due to their scale of operations and their social goals to reach traditionally excluded populations, they tend to relax the minimum requirements to get a loan, but at the cost of higher interest rates when compared to banks [Campion et al., 2010]. These lenders may also provide consumption or business loans without requiring that individual earnings are derived from formal sources.

¹⁹See <https://pqs.pe/actualidad/economia/el-50-de-los-jovenes-de-hasta-25-anos-tienen-deudas-con-sus-tarjetas-de-credito/>.

²⁰The implications of having negative records in non credit-related bills in the credit bureau are quite important. Banks and other lenders directly observe this signal when they search potential borrowers in the database. They directly incorporate this information and the records on late/missed payments of loans in their own risk assessment

The search in EQUIFAX’s records relied on an algorithm that matched students and teachers based on their names and national identification documents. EQUIFAX’s records corresponding to students and teachers in the survey sample are collected at two points in time: June 2018 and June 2019. These snapshots expose the credit history of each individual over an extended follow up period covering up to three years after the launch of the intervention. Notice that these snapshots may reflect past delinquent obligations for up to 5 years, while outstanding balances of current obligations are removed from the data as soon as they are paid out.

Since only a third of adults borrow from formal credit sources in Peru,²¹ the match rate between survey and EQUIFAX records is expected to be low among students, as they face tight borrowing constraints and only become legal adults at age 18.²² By June 2018, only 9,028 students in the experimental sample were at age 18 or above and the match rate for this subsample in the control group was 23%. By June 2019, 15,424 students had reached legal adulthood and the match rate for this subsample in the control group was 21%. These numbers are below those recorded in Urban et al. [2018], where 35% of 18-to 19-year-olds had a credit history. The match rate with EQUIFAX records was naturally higher among teachers who, in addition to being older, are also more experienced with the financial system (as formal public employees, their wages are deposited in a national bank account). Indeed, virtually all teachers in our sample are matched with EQUIFAX records (98% by June 2018 and 96% by June 2019).

By June 2019, 4.5% of the students at or above age 18 in the control group had an outstanding loan. Virtually all of these loans were contracted with a banking institution. Even though the records do not allow decomposition of bank debt between credit card balances and regular loans, secondary data indicates that most of youth’s credit records are due to the former. Similarly, while 53% of the teachers in the control group had an outstanding loan by June 2019, only 0.9% of them had debts with microfinance NGOs and cooperatives.

2.5 Financial Literacy and Financial Behavior at Baseline

Figure 3 presents the distribution of baseline financial literacy scores for the global sample as well as for each grade. Baseline levels of financial literacy are low: only half of the students in the experimental sample are able to correctly answer half of the questions in the exam. Tenth grade students outperform students from other grades: the cumulative distribution for this grade dominates the distributions for both 9th and 11th grades.

Table A.9 presents both financial literacy exam scores and credit behavior as a function of

models. In fact, several financial institutions, particularly microcredit institutions, require lack of negative records to be eligible as a client. Additionally, negative signals originating from credit card debt, non credit-related bills, and arrears/default in loans are all directly incorporated in the credit scoring model developed by EQUIFAX. This score is designed to aid lenders in their borrowing decisions and it is provided with an individual’s credit history when she is searched by a potential lender.

²¹See official statistics here <https://intranet2.sbs.gob.pe/estadistica/financiera/2019/Junio/CIIF-0001-jn2019.PDF>.

²²In 2017, only 8% of people in the age bracket 15 to 24 borrowed money from a financial institution in Peru [Demirguc-Kunt et al., 2015]

several individual and household characteristics. This analysis is conducted only with records from the control group at endline, in the case of the exam score, and three years after the pilot launch, in the case of credit bureau data. Financial literacy increases as students progress through secondary (see column 1). Interestingly, once students' grades are controlled for, the relationship between age and financial literacy scores becomes negative. Financial literacy is relatively higher among men and it is positively correlated with higher levels of self control and patience, both measured at baseline. Moreover, students with higher pre-treatment GPAs are also more likely to get higher financial literacy scores: a 1 SD increase in GPA is associated with a 0.29 SD increase in exam scores. As expected, those students without previous exposure to financial literacy have lower financial literacy levels. Working status of the student does not seem to be linked to exam scores, but students who come from richer households, as measured by an asset index, are more likely to score higher in the endline financial literacy exam.

Credit behavior is, in general, mostly driven by students' age, grade, and sex (see columns 2-6). Clearly, older students, as measured by either the grade or calendar age, are more likely to hold a record in the credit bureau. Males are less likely to have a loan and students with higher levels of self-control are slightly less likely to have delinquent non credit-related bills. Conditional on household's SES, working status is negatively correlated with entering the credit bureau's database, suggesting that individuals who earn labor income are less likely to need access to loans. Higher performing students, as measured by the pre-treatment cumulative GPA in 2015, are in turn more likely to have a credit history in the bureau.

Focusing on the baseline data, Figure 4 portrays the link between financial knowledge and two key indicators of financial behavior from the survey: saving and keeping a budget. Irrespective of the grade, there is a clear positive relationship between a higher financial literacy score at baseline and the likelihood to save (Panel A) and to keep a budget (Panel B).

2.6 Teachers' Compliance with the Treatment

Teachers were encouraged to attend the training sessions and to deliver the material in the classroom. Even though the MINEDU could not impose either of these activities as mandatory, teachers' engagement with the pilot was high. About 73% of the teachers in the treatment group attended at least one training session and 43% had perfect attendance. Most teachers also complied with teaching the financial education material in the classroom. Teachers' self-report of their progress in the endline survey shows that 48% of the HGE teachers in the treatment group reported that they had taught all the lessons and 21% had covered part of the material by the end of the school year. Only a third of the teachers reported not teaching the workbook lessons at all.

Several factors explain the relatively high compliance levels of teachers with the treatment. On one hand, these were teachers who were already teaching Economics as part of the content of the HGE course. It is thus very likely that they had greater interest in these topics relative to the rest of the school staff. Second, the MINEDU designed an incentive scheme that motivated teachers' participation in the training by providing a completion certificate. This was valuable for the teachers

as the educational system in Peru promotes them based on merit and one of the criteria to evaluate their performance relates to their investments in professional development through refresher courses, training, certifications, and graduate studies. Third, the teacher training’s content was in itself attractive for the participants. Professional facilitators knowledgeable on personal finances and with several years of experience in delivering trainings led the sessions and delivered the content in a very interactive and clear format. Teachers received lessons on the content of the three grades all together, which allowed them to benefit from the progressive building of financial knowledge while covering the three curricula. Finally, the materials developed to deliver the classroom lessons were kept simple in the exposition of concepts and provided several opportunities to promote active learning both during the teacher training and the delivery of the lessons to students.

Teachers were instructed to include the financial education material in the Economics portion of the HGE class. However, they were not offered additional guidelines to adjust the time allocation to other topics covered in the course. Survey data reveals that, on average, teachers chose to incorporate the new material by significantly reducing the time allocated to teach history, politics, and world news, while leaving the time allotted to economics unchanged. This may respond to potential synergies between the economics portion of the course and the financial education material recognized by the teachers.²³

3 Expected Behavioral Changes and Estimation Strategy

3.1 The Link Between Financial Literacy and Financial Behavior

A growing body of research shows that financial knowledge is positively associated with financial outcomes. Using data from the Netherlands, van Rooij et al. [2012] provide evidence of a strong positive association between financial literacy and net worth, even after controlling for other determinants of wealth. Along the same lines, Bianchi [2018] uses data on portfolio choices from a large French financial institution and shows that the most financially literate households experience approximately 0.4% higher yearly returns than the least literate households, relative to an average return of 4.3%.

Lusardi et al. [2017] build a model of endogenous accumulation of financial knowledge over the life cycle and are able to generate wealth inequality above and beyond what traditional models of saving have delivered. The authors introduce a sophisticated investment technology that enables consumers to receive higher expected returns that are increasing in (costly) financial knowledge. By introducing the sensible assumption that individuals do not start their economic lives with full financial knowledge but rather decide to acquire these skills over the life cycle, the study attributes 30-40 percent of U.S. wealth inequality to differences in financial knowledge.

The main channel put forward to rationalize these findings is that financial knowledge reduces the costs of gathering and processing information, improving financial choices, and expanding

²³Unfortunately, teachers allocate a single grade for the HGE course at the end of each academic year. Performance in the different topics covered within the course is thus not observed in the administrative records.

potential investment portfolio choices. In fact, van Rooij et al. [2012] claim that, in their setting, financial knowledge reduces information gaps, decreasing barriers to invest in the stock market. They also argue that more financially literate individuals experience large reductions of retirement planning costs.

Investment in financial literacy bears both costs and benefits that are differentially distributed over time. On one hand, consumers with a high stock of financial skills have access to investment opportunities with higher returns. On the other hand, acquiring financial skills is a costly investment, not only in terms of the pecuniary costs it imposes, but also due to the time diverted away from other productive activities [Jappelli and Padula, 2013; Lusardi et al., 2017].

Financial education is expected to be effective in increasing the level of financial literacy. A recent meta-analysis looking at 76 randomized controlled trials shows that financial education has a causal effect on financial knowledge and downstream financial behaviors [Kaiser et al., 2020]. The unweighted average effect of financial education programs on financial behaviors is 0.09 SD, with saving and budgeting behavior reacting the most. The authors claim that the effect sizes of financial education on financial behaviors are comparable to those derived from behavior-change interventions in the health domain or interventions aimed at fostering energy conserving behavior.

In addition to the reduction of the pecuniary costs required to acquire knowledge, the provision of school-based financial education also decreases the opportunity cost to attend personal finance lessons outside regular school hours. Indeed, several papers have shown that school-based financial education programs have robust effects on children and youth’s financial literacy [Frisancho, 2019; Kaiser and Menkhoff, 2019], particularly when they have a mandatory nature and incorporate the content during regular classes.²⁴

Financial education is thus expected to increase financial literacy by reducing the costs of gathering and processing information when making financial choices, which can then translate into actual changes in financial behavior. But, can financial education programs targeting youth yield long-lasting effects on financial behavior? Learning depreciates and financial systems quickly change, which may render the effects of school-based financial education irrelevant once youth reach adulthood and expand the space of action of their financial choices and manage larger budgets [Willis, 2011]. This paper contributes to answering this question by providing evidence on the impact of early investments in financial education on immediate and long-lasting changes in financial behavior among youth.

(a) Expected Effects among Students, by Intensity of Exposure. It can be argued that the ability of these programs to foster sustained changes in behavior may depend on the intensity of the exposure to financial education. Students who receive more lessons and cover a longer curriculum may have greater opportunity to process the concepts, internalize them, and put them to practice.

A recent meta-analysis of experimental studies of financial education in schools suggests that the

²⁴The delivery of similar content through voluntary programs implemented after or outside the school setting has a very modest or null impact on financial knowledge [Jamison et al., 2014; Berry et al., 2018], which is greatly explained by low participation rates.

beneficial effect of these programs on financial literacy is increasing in the intensity of the treatment (measured as the number of hours of instruction), albeit with decreasing marginal returns [Kaiser and Menkhoff, 2019]. In turn, the authors do not find significant variation in the impact of financial education programs on financial behavior by the level of intensity of the treatment. However, the comparison made across studies is unable to take into account variation in the context, the materials used, and other characteristics of the treatment design and delivery.

The Peruvian setting provides an opportunity to dig deeper into the role of intensity on the magnitude of the estimated treatment effects on both financial knowledge and behavior. The experimental sample in this study consists of three cohorts of students that vary in terms of their level of exposure to the lessons. As mentioned in Subsection 2.1, the treatment was only fully implemented in all grades and regions during 2016. While the MINEDU did not provide specific instructions to continue with the delivery of the lessons in 2017-2018, the workbooks were still printed in 2017 and teachers in treatment schools may have continued to teach the material during the HGE classes. Consequently, 9th grade students are expected to see more sustained and significant changes in their financial behavior relative to their older peers.

The scattered continuity of the program after 2016 offers a second opportunity to test if greater exposure does in fact lead to more sustained changes in behavior. Since the implementation partners fully ran the pilot in the Piura region during 2018, the behavioral effects in this subsample are likely to surpass those identified in the full sample due to greater enforced exposure, particularly in the case of 9th grade students (who were in their last high school year by 2018).

(b) Expected Effects among Teachers. Teachers in the treatment group receive more than a traditional lecture-format training on personal finances. They can also become more knowledgeable on a specific subject while delivering the content to their students. Some specialized papers study learning about teaching during the initial formation period of an educator and later on while teaching, showing that instructors' teaching skills tend to improve through teaching [Grudnoff and Tuck, 2003].²⁵ However, far fewer studies focus on the hypothesis that teachers can become more knowledgeable on a specific subject while delivering the content to their students. The results on teachers in this study thus contribute to answer a more general and often over-looked question in the education and human capital accumulation literature: can someone learn a skill or change their own behavior by teaching?

However, changes in teachers' financial behavior may be more limited than those observed among students. On one hand, teachers are likely to face smaller information gaps relative to students. As adults, teachers have had more time to invest in financial literacy during their life cycle. Exposure to financial education offers them the opportunity to access additional knowledge

²⁵For instance, Barber and Turner [2007] shows that newly-qualified teachers working in primary schools experience an increase in confidence in relation to special educational needs and report feeling more skilled in this area by the end of their first year of teaching. Moreover, Perkins et al. [2015] study the effects that teaching other adults can have on instructors' skills in the context of a beginner program delivering music lessons in the UK. The authors show that the teachers reformulated the ways in which they thought about teaching music to adult learners and developed teaching skills relevant to a wide-range of teaching contexts.

and information, but it will only be effective to change their financial behavior along the dimensions in which teachers’ face the largest pre-treatment knowledge gaps.

On the other hand, teachers are more settled in their ways and their behavior is harder to change relative to students. Students are in the process of developing and acquiring shopping and other financial habits. Their brains are still malleable and they have not yet settled into comfortable and/or default behavioral patterns. In fact, two recent studies shows that financial education aimed at young children is able to significantly affect intertemporal choices and that these effects persist over time [Luhmann et al., 2018; Alan and Ertac, 2018]. In turn, adults have far more experience in the market and have already developed a set of skills and habits. By age 45, the adult brain has developed “most used” pathways that reinforce old habits and make them hard to break [Duhigg, 2012].²⁶ Relative to students, the intervention is less likely to change teachers’ behavior. For instance, Carpena et al. [2019] found that adult financial education led to substantial changes in financial behavior in India, but only when paired with more targeted actions such as non-binding goals or personalized financial counseling.

3.2 Outcome Variables

(a) *Students.* The study focuses on two main families of outcomes: financial literacy, as measured by the baseline and endline tests, and financial behavior, as measured by the survey and credit records. The treatment is intended to improve financial literacy levels and these gains are in turn expected to translate into downstream financial behaviors. While the effects of financial education programs on financial literacy are well established in the literature, their ability to yield long-lasting changes in financial behavior is still understudied.

Scores in the financial literacy exams are measured at endline and standardized at the grade level, using the distribution of the control group in the baseline exam as a benchmark. Immediate changes in financial behavior are also captured through the endline survey, which limits the range of self-reported behaviors that can be measured as students are still underage and have limited financial services available to them. The impact of the treatment is thus measured through six outcomes: financial autonomy; the probability to save (either formally or informally); the probability to keep a budget; and three dimensions of students’ shopping habits, including saving before buying something that cannot be afforded, comparing prices, and bargaining before shopping. The financial autonomy index, taken from Bruhn et al. [2016], captures individual responses to questions aiming to measure whether students felt empowered, confident, and capable of making independent financial choices and influencing their households’ financial decisions.

The choice of the shopping habits outcomes is worth discussing a bit further. Both “comparing prices” and “bargaining before shopping” are indicators of potential improved consumer welfare due to a greater likelihood to pay better final prices. In turn, “saving before buying something that cannot be afforded”, may not always improve financial well-being, particularly if there are investment opportunities that can be missed. However, given the young age of the students in the

²⁶Recall that average age in the sample of teachers is 47 (see Table A.6).

study, it is not very likely that they face such situations. Baseline data indicates that students' expenditures are mostly allocated to clothing, school supplies, and household staples.

Several concerns arise in relation to survey-based outcomes. First, they are measured early during the students' life cycle as economic agents. Even though youth in the experimental sample actively engage in financial transactions while at school, the volume and diversity of these is still limited. Second, survey outcomes are self-reported and subject to misreporting biases, particularly social-desirability biases in the treatment group. Third, survey-based outcomes are measured as soon as the intervention concludes and are thus unable to capture long-lasting effects of the financial education program on financial behavior.

These potential issues are overcome with administrative records on students' *actual* credit behavior. These data reflect credit and repayment choices that the students made up to three years after the launch of the intervention, giving a more accurate measure of their financial behavior over time. Relying on these data, five outcomes are constructed: the probability to have a credit history in the bureau's database, the probability to hold outstanding debt, debt-to-income ratio (where income is measured at baseline), the probability of default/arrears with a banking institution, and the probability of default/arrears in a non-credit bill or a credit card statement. All these variables are constructed two and three years after the launch of the intervention, with the snapshots provided by the data obtained for June 2018 and June 2019.

The treatment is expected to improve repayment outcomes as well as students' debt-to-income ratios. However, the expected effects on having a credit history and access to credit depend on the information gap that students were facing and the credit sources they were tapping into during the pre-treatment stage. If students were becoming indebted without taking into account their repayment capacity or fully understanding the conditions that they were being offered, the provision of financial education can actually reduce their demand for credit. Moreover, as mentioned in Subsection 2.4, youth loan balances are often driven by credit card debt, which can easily spiral. The personal finance lessons may thus discourage students to keep using this source of credit, which will be directly reflected in a reduced probability to hold outstanding debt.

Finally, school records are used to measure the program's opportunity cost in terms of academic performance. One recurring argument against the introduction of financial education lessons in the school setting is that these programs take time and resources away from other courses, potentially sacrificing student learning in other areas. To assess the effect of the intervention on academic performance, two main sets of outcomes are constructed: grades and probability to pass a grade (or graduate, in the case of 11th graders). Cumulative grades and grades by course (math, verbal, and HGE) are observed at the end of the intervention year as well as at the end of the following academic year. Grades are standardized at the grade/course level, using the distribution of the control group in 2015 as a benchmark. Grades are also normalized by school quality to make them comparable across schools (see Appendix B.3). Relying on survey records, aspirations to get tertiary education are also measured as a dichotomous variable that is equal to one if the highest expected education degree is university.

(b) *Teachers.* Financial literacy is measured using exit exam scores, which are standardized using the distribution of the control group as a benchmark. Teachers’ financial behavior is measured relying on both survey and credit bureau data. Survey-based behavior outcomes coincide with those used for students: financial autonomy; the probability to save; the probability to keep a budget; and three dimensions of students’ shopping habits. Moreover, the probability to save among teachers is measured separately for formal and informal channels.

Teachers’ credit behavior is measured at two points in time, June 2018 and June 2019. In this sample, five outcomes are constructed: the probability to have a credit history in the bureau’s database, the probability to hold outstanding debt with a bank and other regulated financial institutions, the probability to hold outstanding debt with an NGO or cooperative, the probability of default/arrears with a banking institution, and the probability of default/arrears in a non-credit bill or a credit card statement. Unfortunately, the debt-to-income ratio cannot be measured in this sample as the teacher survey did not capture income levels.

The breakdown of access to loans by type of lender is appropriate as the treatment could lead to a recomposition effect of teachers’ borrowing portfolios. For instance, the program may have provided teachers with better skills to choose among funding sources, potentially pushing them away from more expensive microfinance loans.

3.3 Estimation Strategy

The impact of the financial education program on different outcomes is measured as the difference across treatment arms, captured from an intention-to-treat (ITT), OLS regression:

$$y_{ijp} = \alpha + \beta T_{jp} + \gamma y_{ijp}^{\text{pre}} + \delta X_{ijp} + \sum_p \theta_p d_{jp} + \epsilon_{ijp}$$

where y_{ijp} could be financial knowledge or financial behavior of student/teacher i in school j from pair p . The regressor y_{ijp}^{pre} , the baseline value of y_{ijp} , is included when evaluating students’ financial literacy, academic performance, and self-reported outcomes gathered from the survey data. Implementation of an analysis of covariance (ANCOVA) to estimate the treatment effects leads to large improvements in power compared to a difference-in-difference specification [McKenzie, 2012].

The impact of the treatment is measured by β , the coefficient on the indicator of treatment status, T_{jp} , which is equal to one whenever the school was randomized into the treatment group and zero otherwise. All regressions include additional individual and background characteristics as controls, X_{ijp} , and a set of dummies, d_{jp} , identifying the pair of schools matched. To check that students’ results are not sensitive to the exclusion of controls, Tables B.6-B.14 in the Online Appendix will present an alternative specification without any controls and, whenever applicable, a second specification adding only the pre-treatment levels of the outcome variable as a control. A similar sensitivity check is reported for teachers in Tables B.15-B.18, comparing the preferred model to one without controls.

Following Anderson [2008], sharpened False Discovery Rate (FDR) q-values are computed for

each family of outcomes to deal with the potential issue of simultaneous inference.²⁷ The FDR is the expected proportion of rejections that are type I errors (false rejections). The families of outcomes for which this correction is implemented are: academic outcomes in 2016 and 2017 (GPAs); financial habits (financial autonomy and probability to save); shopping habits (probability to prepare a budget, saving before buying something that cannot be afforded, comparing prices, and bargaining before shopping); and credit behavior. The multiple hypothesis testing correction is separately implemented for the full sample and for each cohort.

The main specification corresponds to ITT effects to keep the results for the Peruvian pilot comparable to those presented in similar studies [Bover et al., 2018; Berry et al., 2018; Bruhn et al., 2016; Batty et al., 2020; Jamison et al., 2014; Luhrmann et al., 2015]. Moreover, ITT effects also provide a more conservative estimate of the effects on the beneficiaries, while taking into account issues of non-compliance in the field. This becomes particularly important in the estimation of the treatment effects on outcomes measured after the endline. As mentioned in Subsection 3.2, there are two main families of outcomes: financial literacy and financial behavior. While financial literacy gains can only be measured in the short run, at the end of the 2016 academic year, changes in financial behavior are measured at endline (survey records) and up to three years after the launch of the intervention (credit bureau records). When looking at financial literacy and behavior at endline, there are no differences in exposure across grades. However, when assessing the effects of the treatment on credit behavior, potential variation in the years of exposure to the program arises. Since neither teacher nor school-level records of compliance are available due to lack of administrative or survey records between 2017 and 2018, ITT effects are more suitable to measure the impact on financial behavior outcomes measured after 2016. This approach is feasible as the treatment assignment at the school level was respected throughout the analysis period (between 2016 and 2019). In addition to the treatment effects for the full sample, all tables corresponding to students' outcomes present the results by grade.

The intervention did not have perfect compliance levels within the treatment group (see subsection 2.6). Non-compliance was one-sided as teachers in the control group did not attend the training workshops and students from the control group did not receive the lessons or the workbooks. Despite the potential variation in the intensity of exposure after 2016, average treatment on the treated (ATT) effects can still be estimated relying on teacher training's attendance records as a measure of effective treatment. This level of compliance is more appropriate than compliance at the student/classroom level as it provides a primary measure of compliance: teachers need to be trained in order to deliver the content in class.²⁸ Compliance is defined at the school level by Z_{jp} , which equals one if at least one of the teachers attended one or more of the training sessions. ATT effects can then be obtained from estimating β^{TOT} by instrumenting Z_{jp} with the random assignment of the treatment:

²⁷The code to compute the sharpened FDR q-values can be found at https://are.berkeley.edu/~mlanderson/downloads/fdr_sharpened_qvalues.do.zip.

²⁸Measuring compliance at the student level demands access to records on students' lesson attendance and these were not collected.

$$y_{ijp} = \alpha + \beta^{\text{TOT}} Z_{jp} + \gamma y_{ijp}^{\text{pre}} + \delta X_{ijp} + \sum_p \theta_p d_{jp} + \epsilon_{ijp}$$

Unfortunately, it is impossible to link teacher training attendance records to grades or classes as these administrative data do not include such identifiers. It is still possible to define effective treatment at the school-grade level in an alternative way, focusing on teachers' compliance with the delivery of the lessons in the classroom. This can be done relying on self-reported survey data on teachers' coverage of the lessons. Thus, alternatively, Z_{jp} is defined as being equal to one if at least one teacher in the grade declares to have partially or fully covered the curriculum in the classroom.

Note that both variables capturing effective treatment among students will face the shortcoming of measuring teacher attendance or delivery of the classroom lessons only during the first year of the intervention. Therefore, ATT effects will only be presented for outcomes measured during that same year, 2016.

4 Results

4.1 Treatment Impacts on Students

(a) *Immediate Effects on Financial Literacy and Financial Behavior (by Endline, 2016)*. As discussed on Subsection 3.1, the provision of school-based financial education is expected to have a causal effect on financial literacy, which then becomes the main channel of impact on financial behavior. Table 1 presents the effects of the treatment on financial literacy at endline, both for the full sample (column 1) and by grade (columns 2-4). Overall, the program improved high school students' scores in the exit financial literacy exam by an average of 0.16 SD. These average gains are closely aligned with the experimental evidence available to date on school-based programs. Figure 5 presents the results from a meta-analysis conducted with 10 experimental studies targeting children and youth and confirms that the impact of the Peruvian high school program on financial knowledge is very close to the average effect size in the literature, estimated at 0.18 SD, significant at the 95% confidence interval. The results are particularly comparable to those reported by similar programs targeting high school students in Brazil [Bruhn et al., 2016] and Spain [Bover et al., 2018].²⁹

The largest financial literacy gains are accrued by students from the oldest cohort, but it cannot

²⁹The studies in Figure 5 come from diverse countries, five of them included in the 2015 PISA financial literacy test (Brazil, Italy, Peru, Spain, and USA). This makes it possible to correlate effect sizes with PISA performance for this limited subsample and provide suggestive evidence on the link between measured impacts and financial literacy baseline levels. Even though all countries perform below the OECD average (489 points), the US, Italy, and Spain perform relatively better than Brazil and Peru (the US leads the pack with 487 points, followed by Italy and Spain, each with 483 and 469. At the bottom of the table, we find Peru with 403 and Brazil with 393). Effect sizes for top performers such as the US and Italy are all above the average effect size estimated by the meta-analysis (i.e., to the right of the red vertical line in the Figure 5), while those for Brazil, Peru, and Spain are very close to the average. This suggests that students that start off at an advantaged position are also able to extract greater gains from financial education programs. However, this will of course depend on the quality of the materials and the instruction provided, which should be tailored to the specific context and the baseline skills of the beneficiaries.

be rejected that these are similar to those obtained by the youngest cohort. Tenth graders experience half the gains of their older counterparts in 11th grade, and this difference is statistically significant. Notice that by the end of the 2016 academic year there are not yet differences in the intensity of exposure across cohorts. Any differences in treatment impacts by grades can be attributed to the different curriculum covered (see Table A.1) and/or baseline financial literacy levels (see Figure 3).

Some may worry that the financial knowledge results are driven by teachers teaching to the test, especially since some of the questions on the students' exam were based on the entry exam that teachers in treatment schools took at the beginning of their training workshops (see Sub-Section 2.4). Table A.10 in the Appendix rules out these concerns: average treatment effects are quite robust even when financial skills at baseline and endline are only measured using the questions developed either by Jump\$Start or by the author.

One recurring argument against the introduction of financial education lessons in the school setting is the substitution of time and resources away from other courses, potentially sacrificing student learning in other areas. Tables 2 and 3 suggest that the opportunity cost of introducing personal finance content is not high enough to hinder academic performance in terms of grades. At the end of the 2016 academic year, the treatment has no significant effect neither on cumulative grades nor on specific course grades. Table 3 shows that, if anything, the personal finance lessons slightly boost language performance during the 2017 academic year, without any deterioration of HGE grades or math grades.³⁰ The positive impact on verbal grades is also present when using the full population of students in the experimental sample of schools (see Tables B.4 and B.5).

A few studies with youth have shown that financial education may influence adolescents' intertemporal choices. For instance, Luhrmann et al. [2018] show that the provision of school-based financial education in German high schools led treated students to make more time-consistent choices, increasing the quality of intertemporal decision-making. This effect can then trigger responses in behavior outside the financial arena. Exposure to financial education may even foster young people's investment in future schooling, as the financial education program can impact students' perceptions and valuations of alternative future trajectories. The intervention in Peru covered material on intertemporal choices and the value of postponing immediate satisfaction, which could have led to increases in the perceived value of graduating from high school and attending a tertiary education institution relative to the returns of entering the labor market early. However, Panel A in Table 4 shows that the treatment does not yield any significant effects on grade promotion. Panel B shows that students' aspirations to pursue tertiary education also remain unchanged, which could respond to already high baseline levels (83% of the students in the control group expect to obtain a university degree).

Since the endline survey takes place at the end of the 2016 academic year, there is a limited

³⁰Since teachers decide to significantly reduce the time allocated to teach history, politics, and world news (see Subsection 2.6), one could expect a negative effect in the grades for the portion of the HGE course related these topics. Since the new material, i.e., financial literacy, was not officially evaluated, the lack of a treatment impact on the HGE grade suggests that performance in the rest of the course content was unaffected. This average treatment impact, however, may hide opposing effects across specific topics. Unfortunately, there is no way to check this since the school administrative records only report the final grade for each course at the end of each academic year.

range of students’ self-reported financial behavior that can be measured by then as they are still underage and have limited financial services available to them. However, students still manage a budget and make shopping decisions that can be shaped by the treatment.³¹ The immediate impacts of the treatment on financial behavior are measured through six survey outcomes that aim at capturing changes in students’ daily habits and financial behavior at their young age. Table 5 focuses on financial autonomy and the probability to save while Table 6 looks at different dimensions of students’ shopping habits.

In sum, the gains measured in terms of students’ financial literacy have modest trickle down effects on short-run financial behavior. Table 5 shows that the treatment is effective in increasing the financial autonomy of older youth; 11th graders experience a significant increase of 0.08 SD in the index measuring individual levels of financial empowerment (see column 4). This result is aligned with the content of the workbooks for this grade, which focused on related topics such as responsible financial consumer and the use of consumer information in financial markets. Moreover, the provision of financial education also leads to a 3.5 and a 2.3 percentage point increase in the probability to save among 9th and 11th graders, respectively. These effects are once more aligned with the corresponding curricula for these cohorts: 9th graders focused on needs and resources and budgeting and 11th graders were more saliently exposed to the benefits of saving, while 10th graders only tangentially covered this topic while studying the workings of the financial system.

Table 6 shows that the treatment had modest impacts on students’ budgeting and shopping habits. Even though budgeting was a specific unit in 9th grade materials, no impacts are identified in students’ likelihood to keep a budget by endline. However, a couple of shopping habits seem to be affected, even after adjusting for multiple hypothesis testing. Relative to the control group, all cohorts in the treatment group experience a slight increase in their probability to save before buying something that cannot be afforded. Moreover, 11th graders in the treatment group become more likely to take on shopping habits that are expected to improve the prices they pay for goods and services (i.e., compare prices and bargain before shopping).

Appendix A presents ATT effects for students’ outcomes measured during 2016 when effective treatment is defined at the school level, based on teachers’ attendance to the training. As expected, these are even larger than the estimated ITT effects, but the general patterns and significance levels do not change dramatically (see Tables A.11-A.15). Results measuring effective compliance at the grade-school level based on teachers’ self-reporting of the coverage of lessons are presented in the Online Appendix (see Tables B.25-B.29).

³¹As mentioned in Subsection 2.4, students’ average (median) monthly income amounts to US\$102.6 (US\$33.2) and even among those who do not declare to work (60% of the sample), average (median) monthly income amounts to US\$88.6 (US\$29.9) at baseline. Detailed high frequency data from a financial diaries study with a sub-sample of the experimental sample in Piura shows that youth have active and modestly sophisticated financial lives. Over a period of 6 months, the average youth records an average of 14 monthly financial transactions. While transactions related to expenses represent over half of the total recorded transactions, income flows and financial tools (savings and loans operations) represent 38.1 and 9.7 percent of the recorded transactions, respectively. In terms of magnitude, income flows represent the largest share of youth’s budget, with 46.2 percent of the total transactional value recorded over the entire six-month period [Frisancho et al., 2021].

(b) *Medium-Term Effects on Financial Behavior (2018-2019)*. Tables 7 and 8 test if the positive impact on students’ financial literacy passes through and influences financial behavior up to three years after the launch of the financial education pilot. Access to EQUIFAX’s credit registry provides information on high school graduates’ credit standing at the time in which they are searched, both in terms of their loan outstanding balances and their delinquent behavior.

Since teachers in treatment schools may have continued to teach the financial education material after 2016 (see Subsection 2.1), there is potential variation in the degree of exposure across cohorts, with the youngest one being more likely to receive more hours of training and cover the three curricula. Consequently, 9th grade students are expected to see more sustained and significant changes in their financial behavior once they get out of school.

Tables 7 and 8 present the estimated treatment impacts on credit bureau outcomes by June 2018 and June 2019, respectively. The relevant samples are those students who are legal adults by each date, since they are the ones “at risk” of having a credit history.³² This subsample corresponds to 42% (N=9,028) and 72% of the total survey sample by 2018 and 2019, respectively.

Overall, credit histories of students in the treatment group remain unchanged when compared to those of the control group by June 2018 (see column 1 in Table 7). Even though a few small effects are detected in the results by grade (see columns 2-4), these do not survive the multiple hypothesis testing adjustment.

Three years after the launch of the intervention, there is a higher share of the graduates who become legal adults and some significant and long-lasting effects start to manifest in terms of credit behavior. Column 1 in Table 8 shows that the treatment reduces the probability to have a credit history in the bureau. This effect is magnified in the subsample of 9th graders (see column 2): they experience a 6.5 percentage point drop in their likelihood to have credit records, which is mainly driven by a reduced probability to obtain a loan.³³

It is worth checking if the effects obtained on credit outcomes three years after the beginning of the intervention are due to students’ aging or rather new students entering the analysis sample. Table A.22 presents the results for the outcomes derived from credit bureau data from June 2019, but restricting the analysis sample to those who were 18 years old or older by June 2018. In general, most of the treatment effects (both in terms of magnitude and significance) remain similar to those estimated in the sample of legal adults by June 2019 (see Table 8). This suggests that the emergence of these effects over time are better explained by students’ aging.

Table 9 focuses on the subsample in Piura, where two official rounds of the pilot were deployed in 2016 and 2018. This increased exposure led to substantial and significant changes in credit behavior by June 2019, particularly among the youngest cohort. The likelihood to have a credit record in the bureau is reduced by 6 percentage points in the global sample (see column 1), while

³²Tables B.2 and B.3 in the Appendix present the corresponding balance tables for the sample of students who are legal adults by June 2018 and June 2019, respectively.

³³The results on credit outcomes refer to a subpopulation of individuals, those aged 18 or above at the time in which they are searched. Tables B.19-B.24 repeat the analysis of all survey outcomes (i.e., financial literacy and behavior) when restricting the analysis to this subsample. In general, the magnitude and significance of the effect sizes hold. The only significant impact that goes away is that on the probability to save (see Table B.23).

this drop is equivalent to 15 percentage points among 9th graders. This effect is explained by a reduced probability to hold outstanding debt (panel B), which is also reflected in improved students' debt-to-income ratios (panel C).

These findings show that early improvements in financial literacy do seem to translate into positive but limited changes in financial behavior among high schools students. Since interactions of young adults within the financial system begin late, youth's needs may end up being met by inadequate products and services. Lack of access to tailored financial services as well as their inexperience and low financial literacy levels can lead to high levels of over-indebtedness. High exposure to financial education during high school proves to be effective in reducing their debt-to-income ratios, which may have important implications on youth's future access to credit and borrowing conditions. The ability of financial education to deliver long-lasting effects on behavior, however, seems to be conditioned by the intensity of exposure to the program, which is evident from the larger treatment impacts estimated for the youngest cohort (9th graders) and the Piura subsample.

(c) Heterogeneous Treatment Effects.

Several studies have documented large differences in financial literacy between women and men and also across socioeconomic status [Lusardi and Mitchell, 2014; Bucher-Koenen et al., 2017]. These differences in baseline levels, as well as others related to initial financial literacy, can potentially mediate the treatment impacts estimated above. On one hand, students who start off behind may benefit more from the provision of financial education as there is more room for them to catch up. On the other hand, students with higher baseline levels of financial literacy may be in better shape to grasp the concepts delivered through the lessons and thus extract greater gains from these programs.

The last row in Table A.16 confirms that female and poorer students in the sample start off at a disadvantage in terms of their baseline financial literacy scores. However, the estimated treatment impacts do not seem to vary by sex (see columns 4-5). Moreover, the effect of the treatment on financial literacy seems to be increasing in socioeconomic status (as measured by terciles of the asset index, see columns 6-8). Similarly, the impact of the treatment by baseline levels of financial literacy is slightly greater among students in the bottom two terciles, but the gap relative to the top tercile is not significant. All in all, the treatment does not seem to lead to important *immediate* heterogeneous differences in financial literacy gains by sex, asset index, nor initial levels of literacy. If anything, students from better-off households seem to be learning more by endline.

Table A.17 presents the heterogeneity analysis for students' credit outcomes by June 2019. Interestingly, these results show that the treatment does lead to differential treatment impacts on financial behavior that seem to benefit those who start off at a disadvantage. For instance, the drop in the probability to have a credit record and the improvement in debt-to-income ratios survives only in the bottom terciles of baseline financial literacy (see columns 1-2) and in the female and poorer subsamples (see columns 4 and 6). In fact, poorer students exhibit significant

reductions in their delinquency probabilities, both in terms of their loan contracts and other non-credit related obligations or credit card bills. Similarly, young women in the treatment group experience reductions in their delinquency rates related to non-credit related bills or credit card bills.

4.2 Treatment Impacts on Teachers

(a) *Immediate Effects on Financial Literacy and Financial Behavior (by Endline, 2016).*

Table 10 presents initial evidence on the first-hand effect of the financial education program on teachers' financial literacy. On average, the treatment generates knowledge gains of 0.32SD. This is a sizeable effect, both when compared to previous meta-analysis on the effects of financial education on adults [Fernandes et al., 2014; Miller et al., 2014] as well as more recent and favorable ones [Kaiser and Menkhoff, 2017].

The financial literacy gains accrued by teachers translate into important changes in their savings behavior. Column 2 in Table 11 shows that teachers in the treatment group become 8.7 percentage points more likely to save. Behind this aggregate effect, there is a 14 percentage point increase in the share of those who save through formal channels; almost twice as large as the impact identified on the share of informal savers. All these effects on savings survive multiple hypothesis testing corrections. The treatment also translates into significant changes in financial autonomy (see column 1 in Table 11), but it does not lead to changes neither in budgeting nor shopping habits (see Table 12). This evidence suggests that teachers faced larger information gaps in relation to the benefits of saving and available channels, while they were less in need of help to deal with their regular budgeting and shopping activities.

The estimated impact on the probability to save formally is quite large when compared to studies that measure the impact of financial education for adults on savings. For instance, Seshan and Yang [2012] find that exposure to a financial literacy workshop does not affect the probability to save among Indian migrants in Qatar while Cole et al. [2011] identify no effect of a financial education program on the probability to open a savings account among unbanked urban households in Indonesia. The results on the likelihood to save identified among teachers are more in line with those obtained by Drexler et al. [2014], who report that the delivery of a heuristic financial training program led to an 8 percentage point increase in the probability to save among microfinance clients in the Dominican Republic. The sizable increase in teachers' probability to save formally is particularly impressive when compared to recent effect sizes obtained in successful interventions *explicitly and exclusively* promoting higher levels of formal savings [Karlan et al., 2014; Dupas and Robinson, 2013; Flory, 2018; Breza and Chandrasekhar, 2019]. In particular, the increase in teachers' formal saving rate due to the treatment almost doubles the 7.5 percentage point increase identified by Carpena et al. [2019] among poor urban households in India exposed to classroom-based financial education.

Savings behavior is a self-reported measure which may be influenced by social desirability bias, especially after being exposed to the financial education material. Unfortunately, this cannot be

directly tested as administrative records on savings behavior do not exist. However, given the large estimated impact, it would be hard to explain it all through this channel.

As mentioned before, teachers are treated both directly through the training they receive as well as indirectly when delivering the lessons. Intensity of the treatment they experience will thus depend on their own choice to teach the lessons. A crucial difference between a teacher and another adult receiving financial education is that the former has to continuously teach the content. The exercise of simplifying the concepts and repeating them to their students in different ways may enhance learning. Thus, it is worth exploring the ATT effects on teachers' outcomes by the degree of repetition of the content.

Relying on self-reported records on coverage of the lessons from the exit survey, effective treatment is defined as an indicator variable that is equal to one whenever the teacher reports partial or total coverage of the lessons in the classroom and it is instrumented with the school random assignment into the treatment. Table A.18 confirms that repetition of the content in the classroom leads to even greater improvements in financial literacy, which also materializes into larger impacts on financial autonomy and the likelihood to save, as shown in Table A.19.³⁴

Since the number of sessions taught is not exogenous and instead may depend on the motivation of the teachers and their initial levels of financial knowledge, this exercise is only informative and should not be regarded as one yielding causal effects. Although selection into teaching based on unobservables or initial levels of financial literacy cannot be ruled out, no important pattern emerges when checking how *ex ante* teachers' and students' observables affect the probability to teach the lessons in the classroom (see Table A.21).

(b) Medium-Term Effects on Financial Behavior (2018-2019). Table 13 presents the treatment impacts on teachers' credit behavior two and three years after the launch of the intervention. By 2018, loan delinquency rates among teachers in the treatment group decrease by 7.7 percentage points (see column 4 in Panel A). Relative to the control group, this effect amounts to a 40% improvement in repayment. However, it disappears by the third year after the intervention (see column 4 in Panel B). By June 2019, the only significant effect found among teachers is an increased probability to hold a credit history in the bureau.³⁵ The treatment does not lead to a recomposition of teachers' credit portfolio. All in all, the treatment led to significant changes in teachers' savings and delinquency outcomes, but it seems that the latter effect dies out over time.

4.3 Cost Analysis

Existing evidence on financial education interventions does not provide much information on implementation costs. These data are extremely important, especially since these programs have

³⁴Table A.20 shows that teachers with greater exposure levels through repetition also exhibit significant effects in their probability to compare prices before shopping, but this effect does not survive multiple hypothesis testing.

³⁵Notice that teachers have far more access to credit than the average Peruvian: more than half of them have access to bank loans. This high level of bancarization among teachers may be explained by the quality and formality of their jobs. As contract teachers, public servants receive their wages into a bank account in the national bank, which may enable them to access credit from other lenders in the market.

become a common tool in financial inclusion efforts supported by national governments. Moreover, as an increasing number of countries are running school-based pilots with the hopes of scaling up these interventions, it becomes even more critical to collect and share information on their cost-effectiveness.

Among studies focusing on financial education for youth, Berry et al. [2018] is the only one that provides cost estimates that incorporate the marginal costs of training, monitoring, and materials for an after-school financial education program. The program, with a duration of eight weeks, had very low costs of US\$0.62 per student enrolled in the experimental sample of schools. However, since attendance was voluntary, the actual cost amounted to US\$4.15 per student.

In the Peruvian case, excluding the fixed cost of developing the workbooks, which amounted to US\$56,100, marginal implementation costs of the school-based financial education program in 150 schools (31,000 high school students) amounted to US\$4.8 per student.³⁶ Even though these costs are slightly higher than the ones reported by Berry et al. [2018], the significant impact of the Peruvian intervention on financial skills yields a very low cost-to-effectiveness ratio: the cost per student to improve average financial skills by one standard deviation amounts to US\$30.7.

Figure 6 performs a sensitivity analysis of the cost-effectiveness analysis of improving financial literacy through school-based financial education, taking into account the 90% confidence intervals of the estimated effect [Evans and Popova, 2016]. Results are presented for the full sample as well as by cohort. The original cost-effectiveness estimate for the intervention is quite robust, with lower and upper bounds well above zero. However, the imprecision in the estimation of treatment impacts on financial literacy by grade does not deliver a clear ranking of the cost-effectiveness of the program across cohorts (i.e., the hypothesis that cost-effectiveness is the same across grades cannot be rejected).

The returns to the financial education intervention are particularly high when compared to cost-effective interventions that seek to improve academic performance. For instance, Busso et al. [2017] identify a sample of 21 cost-effective interventions aimed at improving learning in primary school. In this sample, all but one intervention greatly surpass the ratio of cost to effect size calculated for the financial literacy program.

5 Conclusion

In the last decade, numerous countries have given financial education a central role in their efforts to promote financial inclusion. National financial inclusion strategies often have a strong financial education component, with an emphasis on children and youth. As an increasing number of governments debate the inclusion of financial education in the official school curriculum and as more resources are allocated to the development and implementation of school-based financial education programs, it is critical to evaluate the effectiveness of such efforts.

³⁶Fixed costs are excluded as they should not be considered for scaling up efforts. The cost of the intervention is estimated as the “incremental cost”, which reflects the additional monetary resources used by the treatment group relative to those assigned to the control group, and following the ingredients method proposed by McEwan [2015].

Relying on a large-scale experiment implemented in 300 public schools in Peru, this study measures the effects of a school-based financial education program for high school students. This study relies on a rigorous design, large sample size, and rich survey and administrative data that allow for the measurement of changes in financial behavior up to three years after the launch of the intervention. Access to school administrative records also permit to test if the provision of financial education in the school setting has pervasive effects on academic performance. This study thus contributes to the literature on the effect of school-based financial education on at least three fronts. First, it relies on high-stakes data to test if financial education leads to sustained behavioral changes among youth. Second, it measures the program’s opportunity cost in terms of grades and passing rates. Finally, this paper also focuses on the impact of financial education on the instructors delivering the training. This is a novel feature of the paper that contributes to answer a more general question about teachers’ ability to become more knowledgeable on a specific subject while delivering the content to their students.

Treated students record immediate improvements in financial literacy that do not hinder their academic performance. Depending on the targeted grade, the program also leads to modest immediate changes in financial behavior, including improved financial autonomy and shopping habits, and a higher probability to save. Credit bureau records gathered up to three years after the beginning of the pilot show significant changes in treated students’ credit behavior, but these effects are conditioned by the intensity of exposure to the program. Treated teachers accrue financial literacy gains doubling those identified among students and they experience improvements in their levels of financial autonomy and an increase in their likelihood to save, favoring formal channels. Teachers’ delinquency outcomes are also improved by the treatment, but this is a short-lived effect.

One of the strengths of the pilot implemented in Peru is teachers’ compliance with the training and engagement. However, there is still room for improvement as compliance was voluntary and imperfect, with 43% of the treated teachers attending all training sessions and two thirds of them partially or fully covering all lessons in the classroom. The ITT effects thus constitute a lower bound of the effect that these programs could have if they were to be included as a mandatory course or course portion, subject to regular evaluation. The formal inclusion of the content has the potential to improve compliance levels as teachers’ attendance to the training workshops and delivery of the lessons could be better enforced. It would also solve coordination problems between teachers and principals to incorporate the materials and would help teachers plan ahead to introduce this content.

References

- Alan, S. and Ertac, S. [2018], ‘Fostering Patience in the Classroom: Results from a Randomized Educational Intervention’, *Journal of Political Economy* **126**(5), 1865–1911.
- Anderson, M. [2008], ‘Multiple inference and gender differences in the effects of early intervention: A reevaluation of the abecedarian, perry preschool, and early training projects’, *Journal of the American Statistical Association* **103**(484), 1481–1495.
- Ashraf, N., Karlan, D. and Yin, W. [2006], ‘Tying odysseus to the mast: Evidence from a commitment savings product in the philippines’, *The Quarterly Journal of Economics* **121**(2), 635–672.
- Barber, N. and Turner, M. [2007], ‘Even while they teach, newly-qualified teachers learn’, *British Journal of Special Education* **34**(1), 33–39.
- Batty, M., Collins, M. and Odders-White, E. [2015], ‘Experimental evidence on the effects of financial education on elementary school students’ knowledge, behavior, and attitudes’, *The Journal of Consumer Affairs* **49**(1), 69–96.
- Batty, M., Collins, M., O’Rourke, C. and Elizabeth, O. [2020], ‘Experiential financial education: A field study of my classroom economy in elementary schools’, *Economics of Education Review* **78**.
- Becchetti, L. and Pisani, F. [2012], Financial Education on Secondary School Students: The Randomized Experiment Revisited. Facolta di Economia di Forli, Working Paper No. 98.
- Behrman, J., Mitchell, O., Soo, C. and Bravo, D. [2012], ‘How financial literacy affects household wealth accumulation’, *American Economic Review* **102**(3), 300–304.
- Bernheim, D., Garrett, D. and Maki, D. [2001], ‘Education and saving:: The long-term effects of high school financial curriculum mandates’, *Journal of Public Economics* **80**(3), 435 – 465.
- Berry, J., Karlan, D. and Pradhan, M. [2018], ‘The Impact of Financial Education for Youth in Ghana’, *World Development* **102**, 71–89.
- Bianchi, M. [2018], ‘Financial literacy and portfolio dynamics’, *The Journal of Finance* **73**(2), 831–859.
- Bover, O., Hospido, L. and Villanueva, E. [2018], The Impact of High School Financial Education on Financial Knowledge and Choices: Evidence from a Randomized Trial in Spain, Technical report, Documento de Trabajo N. 1801, Banco de España.
- Breza, E. and Chandrasekhar, A. [2019], ‘Social networks, reputation, and commitment: Evidence from a savings monitors experiment’, *Econometrica* **87**(1), 175–216.
- Brown, M., Grigsby, J., van der Klaauw, W., Wen, J. and Zafar, B. [2016], ‘Financial Education and the Debt Behavior of the Young’, *The Review of Financial Studies* **29**(9), 2490–2522.
- Bruhn, M., de Souza Leão, L., Legovini, A., Marchetti, R. and Zia, B. [2016], ‘The Impact of High School Financial Education: Evidence from a Large-Scale Evaluation in Brazil’, *American Economic Journal: Applied Economics* **8**(4), 256–295.
- Bruhn, M. and McKenzie, D. [2009], ‘In pursuit of balance: Randomization in practice in development field experiments’, *American Economic Journal: Applied Economics* **1**(4), 200–232.

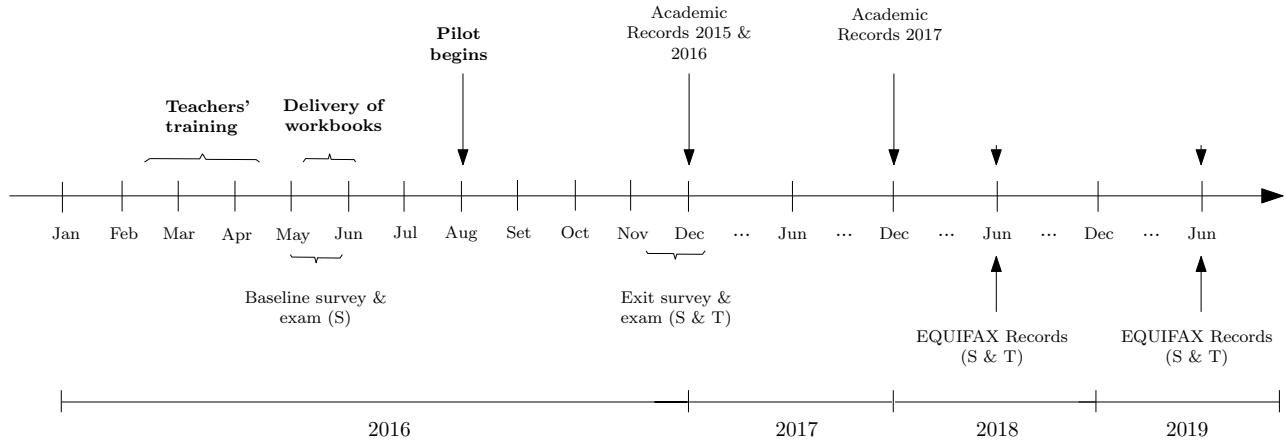
- Bucher-Koenen, T., Lusardi, A., Alessie, R. and van Rooij, M. [2017], ‘How financially literate are women? an overview and new insights’, *Journal of Consumer Affairs* **51**(2), 255–283.
- Busso, M., Cristia, J., Hincapie, D., Messina, J. and Ripani, L. [2017], Learning Better: Public Policy for Skills Development, Technical report, Inter-American Development Bank.
- Campion, A., Kiran Ekka, R. and Wenner, M. [2010], Interest Rates and Implications for Microfinance in Latin America and the Caribbean. Inter-American Development Bank, Working paper series No. 177.
- Carpena, F., Cole, S., Shapiro, J. and Zia, B. [2019], ‘The abcs of financial education: Experimental evidence on attitudes, behavior, and cognitive biases’, *Management Science* **65**(1), 346–369.
- Cole, S., Paulson, A. and Kartini Shastry, G. [2016], ‘High School Curriculum and Financial Outcomes: The Impact of Mandated Personal Finance and Mathematics Courses’, *The Journal of Human Resources* **51**(3), 657–698.
- Cole, S., Sampson, T. and Zia, B. [2011], ‘Prices or knowledge? what drives demand for financial services in emerging markets?’, *Journal of Finance* **66**(6), 1933–1967.
- Demirguc-Kunt, A., Klapper, L., Singer, D. and Van Oudheusden, P. [2015], The Global Findex Database 2014: Measuring Financial Inclusion around the World. World Bank, Policy Research Working Paper 7255.
- Drexler, A., Fischer, G. and Schoar, A. [2014], ‘Keeping it simple: Financial literacy and rules of thumb’, *American Economic Journal: Applied Economics* **6**(2), 1–31.
- Duhigg, C. [2012], *The Power of Habit: Why We Do What We Do in Life and Business*, Random House.
- Dupas, P. and Robinson, J. [2013], ‘Why don’t the poor save more? evidence from health savings experiments’, *American Economic Review* **103**(4), 1138 – 1171.
- Evans, D. K. and Popova, A. [2016], ‘Cost-effectiveness analysis in development: Accounting for local costs and noisy impacts’, *World Development* **77**, 262–276.
- Fernandes, D., Lynch, J. and Netemeyer, R. [2014], ‘Financial literacy, financial education, and downstream financial behaviors’, *Management Science* **60**(8), 1861–1883.
- Flory, J. [2018], ‘Formal finance and informal safety nets of the poor: Evidence from a savings field experiment’, *Journal of Development Economics* **135**, 517 – 533.
- Frisancho, V. [2019], ‘The impact of financial education for youth’, *Economics of Education Review* p. 101918.
- Frisancho, V., Herrera, A. and Prina, S. [2021], Can a budget recording tool teach financial skills to youth? experimental evidence from a financial diaries study. Unpublished manuscript.
- Frisancho, V., Krishna, K., Lychagin, S. and Yavas, C. [2016], ‘Better luck next time: Learning through retaking’, *Journal of Economic Behavior & Organization* **125**, 120–135.
- Furtado, I., Legovini, A. and Piza, C. [2017], How Early One Should Start Financial Education: Evidence from a Large Scale Experiment. World Bank, DIME Financial and PSD Program in Brief.

- Grudnoff, L. and Tuck, B. [2003], ‘Learning about teaching, learning while teaching, and becoming a teacher’, *English Teaching: Practice and Critique* **2**(1), 33–42.
- Hart, S., Stewart, K. and Jimerson, S. [2011], ‘The student engagement in schools questionnaire (sesq) and the teacher engagement report form-new (terf-n): Examining the preliminary evidence’, *Contemporary School Psychology* **15**, 67–79.
- Hinojosa, T., Miller, S., Swanlund, A., Hallberg, K., Brown, M. and O’Brien, B. [2009], The Stock Market Game Study Final Report. Learning Point Associates.
- Jamison, J., Karlan, D. and Zinman, J. [2014], Financial Education and Access to Savings Accounts: Complements or Substitutes? Evidence from Ugandan Youth Clubs. NBER Working Paper No. 20135.
- Jappelli, T. and Padula, M. [2013], ‘Investment in financial literacy and saving decisions’, *Journal of Banking and Finance* **37**, 2779–2792.
- Kaiser, T. and Menkhoff, L. [2017], ‘Does financial education impact financial literacy and financial behavior, and if so, when?’, *The World Bank Economic Review* **31**(3), 611–630.
- Kaiser, T. and Menkhoff, L. [2019], ‘Financial education in schools: A meta-analysis of experimental studies’, *Economics of Education Review* .
- Kaiser, T., Menkhoff, L., Lusardi, A. and Urban, C. [2020], Financial education affects financial knowledge and downstream behaviors. NBER Working Paper n. 27057.
- Karlan, D., Ratan, A. L. and Zinman, J. [2014], ‘Savings by and for the poor: A research review and agenda’, *Review of Income and Wealth* **60**(1), 36–78.
- Luhrmann, M., Serra-Garcia, M. and Winter, J. [2015], ‘Teaching teenagers in finance: Does it work?’, *Journal of Banking and Finance* **54**, 160–174.
- Luhrmann, M., Serra-Garcia, M. and Winter, J. [2018], ‘The Impact of Financial Education on Adolescents’ Intertemporal Choices’, *American Economic Journal: Economic Policy* **10**(3), 309–332.
- Lusardi, A., Michaud, P.-C. and Mitchell, O. [2017], ‘Optimal financial knowledge and wealth inequality’, *Journal of Political Economy* **125**(2), 431–477.
- Lusardi, A. and Mitchell, O. [2014], ‘The economic importance of financial literacy: Theory and evidence’, *Journal of Economic Literature* **52**(1), 5–44.
- Mandell, L. [2009], The Financial Literacy of Young American Adults: Results of the 2008 National Jump\$tart Coalition Survey of High School Seniors and College Students., Technical report, Jump\$tart Coalition.
- McEwan, P. [2015], ‘Improving learning in primary schools of developing countries: A meta-analysis of randomized experiments’, *Review of Educational Research* **85**(3), 353–394.
- McKenzie, D. [2012], ‘Beyond baseline and follow-up: The case for more t in experiments’, *Journal of Development Economics* **99**(2), 210 – 221.
- Miller, M., Reichelstein, J., Salas, C. and Zia, B. [2014], ‘Can you help someone become financially capable? a meta-analysis of the literature’, *World Bank Research Observer* **30**(2), 220–246.

- Orozco-Cabal, L., Rodríguez, M., Herin, D., Gempeler, J. and Uribe, M. [2010], ‘Validity and reliability of the abbreviated barratt impulsiveness scale in spanish (bis-15s)’, *Revista Colombiana de Psiquiatría* **39**(1), 93–109.
- Perkins, R., Aufegger, L. and Williamon, A. [2015], ‘Learning through teaching: Exploring what conservatoire students learn from teaching beginner older adults’, *International Journal of Music Education* **33**(1), 80–90.
- Pervin, L. A. and John, P. [1999], The big-five trait taxonomy: History, measurement, and theoretical perspectives, in O. P. John and S. Srivastava, eds, ‘Handbook of personality: Theory and research’, New York: Guilford Press.
- Seshan, G. and Yang, D. [2012], Transnational Household Finance: A Field Experiment on the Cross-Border Impacts of Financial Education for Migrant Workers. Working Paper.
- Tangney, J., Baumeister, R. and Boone, A. [2004], ‘High self-control predicts good adjustment, less pathology, better grades, and interpersonal success’, *Journal of Personality* pp. 271–324.
- Urban, C., Schmeiser, M., Collins, M. and Brown, A. [2018], ‘The Effects of High School Personal Financial Education Policies on Financial Behavior’, *Economics of Education Review* .
- Urban, C. and Stoddard, C. [forthcoming], ‘The Effects of Financial Education Graduation Requirements on Postsecondary Financing Decisions’, *Journal of Money, Credit, and Banking* .
- van Rooij, M. C., Lusardi, A. and Alessie, R. J. [2012], ‘Financial Literacy, Retirement Planning and Household Wealth’, *The Economic Journal* **122**(560), 449–478.
- Willis, L. [2011], ‘The financial education fallacy’, *American Economic Review Papers and Proceedings* **101**(3), 429–434.

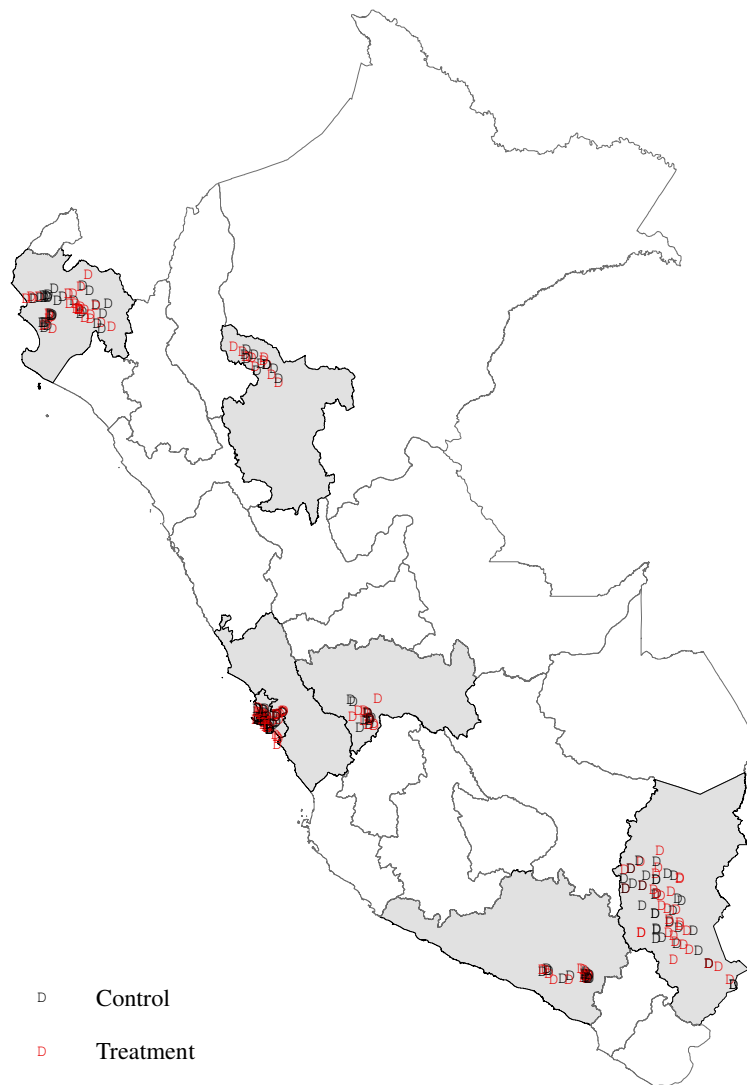
Figures and Tables

Figure 1: Study Timeline



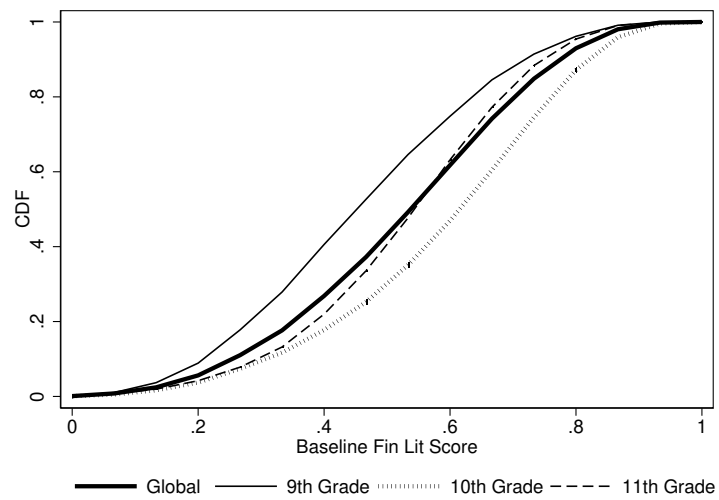
NOTE: Data collection activities may refer to the sample of students (S) and/or teachers (T).

Figure 2: Spatial Distribution of Control and Treatment Schools



NOTE: Intervention regions are highlighted grey.

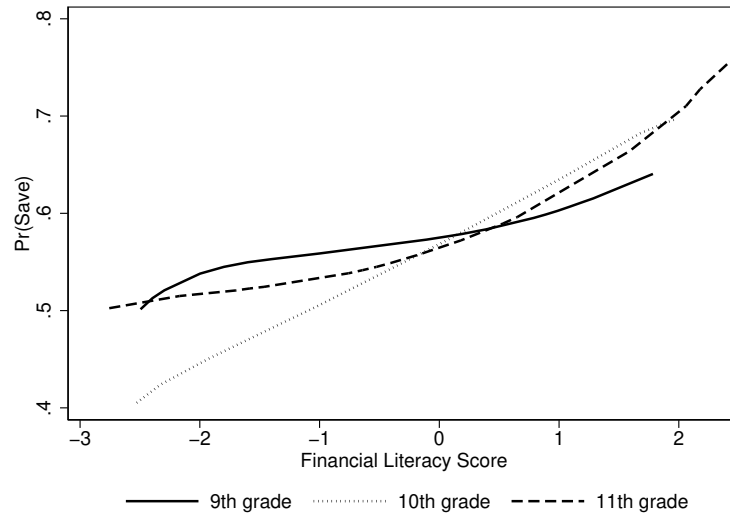
Figure 3: Baseline Distribution of Financial Literacy Exam Scores



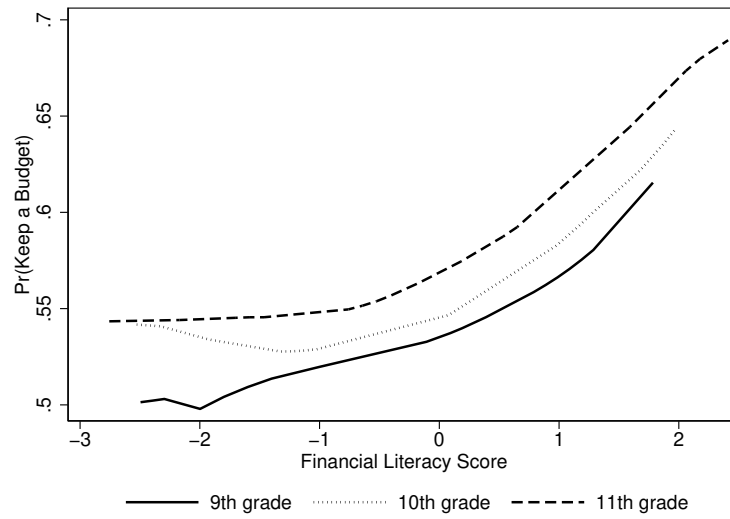
NOTE: Baseline raw scores are normalized to move between 0 and 1.

Figure 4: The Link Between Financial Literacy and Financial Behavior at Baseline

(A) Saves

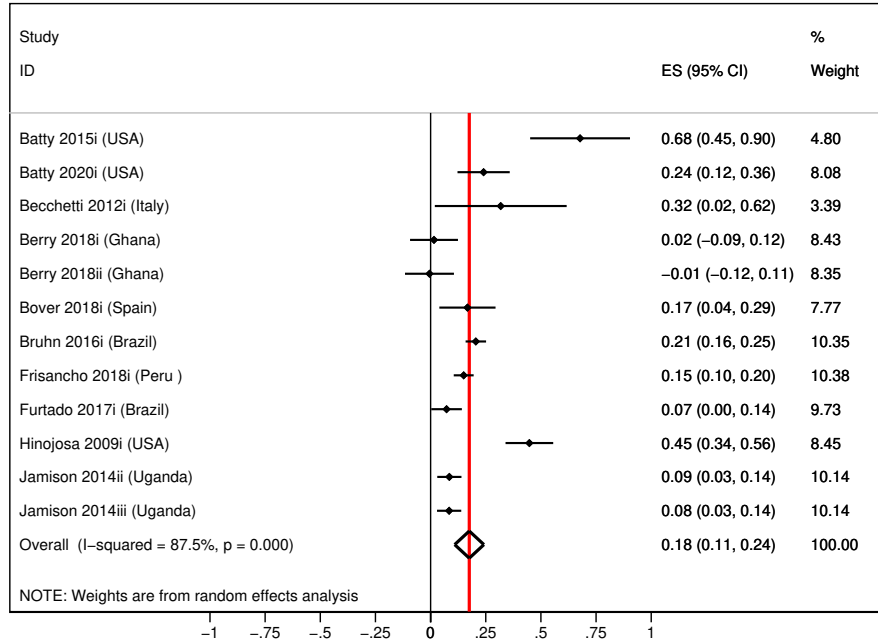


(B) Keeps a Budget



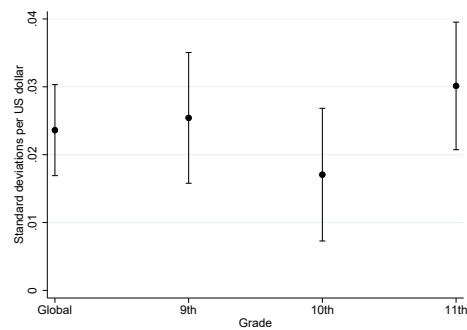
Note: Locally weighted regressions estimated separately for each grade using control and treatment survey and exam data at baseline.

Figure 5: Experimental Evidence for Financial Education Programs Targeting Youth:
Effect Sizes on Financial Knowledge by Nature of the Requirement



NOTE: Own elaboration based on meta-analysis including the following studies: Batty et al. [2015, 2020]; Becchetti and Pisani [2012]; Bover et al. [2018]; Bruhn et al. [2016]; Furtado et al. [2017]; Hinojosa et al. [2009]; Berry et al. [2018]; Jamison et al. [2014].

Figure 6: Cost Effectiveness of Improving Financial Literacy through School-Based
Financial Education



NOTE: Own calculations based on Evans and Popova [2016].

Table 1: Effect on Students' Financial Literacy

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
Treatment	0.157*** (0.023)	0.169*** (0.032)	0.113*** (0.033)	0.200*** (0.032)
Number of Observations	19487	6634	6496	6357
Number of Schools	296	296	296	296
R-squared	0.230	0.304	0.281	0.230
Mean in Control	-0.005	-0.007	-0.010	0.001

NOTE: Students' financial literacy exam score measured at the end of the 2016 academic year. Scores are standardized by grade relative to the control group in the original experimental sample of 300 schools. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%). OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control.

Table 2: Effects on Students' GPAs by Subject, 2016 Academic Year

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Global</i>				
Treatment	-0.014 (0.014)	-0.025 (0.018)	-0.032* (0.017)	0.025 (0.019)
Number of Observations	21335	7134	7080	7121
Number of Schools	296	296	296	296
R-squared	0.854	0.855	0.861	0.874
Mean in Control	-0.026	-0.010	-0.044	-0.023
<i>B. Math</i>				
Treatment	-0.009 (0.019)	-0.026 (0.024)	-0.045* (0.026)	0.054* (0.030)
Number of Observations	21335	7134	7080	7121
Number of Schools	296	296	296	296
R-squared	0.669	0.703	0.698	0.694
Mean in Control	-0.022	-0.009	-0.038	-0.020
<i>C. Verbal</i>				
Treatment	0.031* (0.018)	-0.016 (0.027)	0.057* (0.030)	0.060** (0.027)
Number of Observations	21335	7134	7080	7121
Number of Schools	296	296	296	296
R-squared	0.693	0.728	0.721	0.731
Mean in Control	-0.024	-0.010	-0.042	-0.020
<i>D. History, Geography, and Economics</i>				
Treatment	0.005 (0.020)	0.007 (0.029)	0.007 (0.028)	0.006 (0.034)
Number of Observations	21335	7134	7080	7121
Number of Schools	296	296	296	296
R-squared	0.670	0.712	0.706	0.702
Mean in Control	-0.023	-0.010	-0.039	-0.022

NOTE: Students' grades measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%; †† 5%; ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at the end of the 2015 academic year is also included as a control.

Table 3: Effects on Students' GPAs by Subject, 2017 Academic Year

	Global (1)	9th Grade (2)	10th Grade (3)
<i>A. Global</i>			
Treatment	0.007 (0.015)	0.015 (0.019)	0.003 (0.019)
Number of Observations	12582	6112	6422
Number of Schools	296	296	296
R-squared	0.827	0.837	0.842
Mean in Control	-0.029	-0.012	-0.045
<i>B. Math</i>			
Treatment	0.031 (0.021)	0.042 (0.027)	0.025 (0.028)
Number of Observations	12582	6112	6422
Number of Schools	296	296	296
R-squared	0.671	0.695	0.703
Mean in Control	-0.025	-0.008	-0.041
<i>C. Verbal</i>			
Treatment	0.043** (0.022)	0.003 (0.026)	0.086***†† (0.030)
Number of Observations	12582	6112	6422
Number of Schools	296	296	296
R-squared	0.692	0.733	0.724
Mean in Control	-0.037	-0.018	-0.056
<i>D. History, Geography, and Economics</i>			
Treatment	0.005 (0.027)	-0.023 (0.034)	0.035 (0.035)
Number of Observations	12582	6112	6422
Number of Schools	296	296	296
R-squared	0.679	0.714	0.698
Mean in Control	-0.026	-0.010	-0.041

NOTE: Students' grades measured at the end of the 2017 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%; †† 5%; ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at the end of the 2015 academic year is also included as a control.

Table 4: Effects on Students' Aspirations and Grade Progression

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Promoted to the next grade, 2016</i>				
Treatment	0.005 (0.009)	0.012 (0.012)	−0.013 (0.012)	0.019* (0.010)
Number of Observations	20648	6806	6854	6988
Number of Schools	296	296	296	296
R-squared	0.077	0.096	0.098	0.100
Mean in Control	0.805	0.772	0.801	0.842
<i>B. Highest expected education degree: University</i>				
Treatment	−0.002 (0.005)	0.006 (0.008)	−0.009 (0.009)	−0.003 (0.009)
Number of Observations	19057	6475	6383	6199
Number of Schools	296	296	296	296
R-squared	0.135	0.147	0.141	0.163
Mean in Control	0.833	0.852	0.840	0.807

NOTE: Students' grade progression and college aspirations measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%; †† 5%; ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control in the case of students' aspirations.

Table 5: Effects on Students' Financial Autonomy and Savings Behavior

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Financial Autonomy</i>				
Treatment	0.016 (0.015)	-0.023 (0.027)	-0.003 (0.024)	0.083***† † † (0.026)
Number of Observations	16696	5541	5606	5511
Number of Schools	296	296	292	296
R-squared	0.156	0.172	0.180	0.195
Mean in Control	-0.007	-0.007	-0.001	-0.008
<i>B. Saves</i>				
Treatment	0.011 (0.010)	0.035**†† (0.015)	-0.021 (0.014)	0.023*† (0.014)
Number of Observations	22913	7724	7643	7546
Number of Schools	296	296	296	296
R-squared	0.075	0.097	0.115	0.092
Mean in Control	0.361	0.353	0.377	0.355

NOTE: Students' financial autonomy and savings behavior measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%; †† 5%; ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control.

Table 6: Effects on Students' Budgeting and Shopping Habits

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Keeps a Budget</i>				
Treatment	0.005 (0.007)	0.016 (0.012)	-0.007 (0.011)	0.002 (0.012)
Number of Observations	15672	5122	5275	5225
Number of Schools	296	294	294	296
R-squared	0.063	0.093	0.075	0.096
Mean in Control	0.642	0.634	0.639	0.652
<i>B. Saves before buying something that cannot be afforded</i>				
Treatment	0.013***†† (0.005)	0.012* (0.007)	0.019***†† (0.007)	0.014*† (0.007)
Number of Observations	16537	5499	5531	5469
Number of Schools	296	296	292	296
R-squared	0.049	0.079	0.079	0.065
Mean in Control	0.928	0.926	0.920	0.937
<i>C. Compares prices before shopping</i>				
Treatment	0.012* (0.007)	0.013 (0.012)	0.002 (0.012)	0.023**† (0.011)
Number of Observations	16053	5297	5384	5337
Number of Schools	296	296	292	296
R-squared	0.046	0.064	0.076	0.068
Mean in Control	0.452	0.456	0.463	0.439
<i>D. Bargains before shopping</i>				
Treatment	0.006 (0.007)	-0.007 (0.011)	0.007 (0.012)	0.026**† (0.011)
Number of Observations	16053	5297	5384	5337
Number of Schools	296	296	292	296
R-squared	0.056	0.073	0.091	0.073
Mean in Control	0.560	0.540	0.565	0.574

NOTE: Students' budgeting and shopping habits measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%; †† 5%; ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control.

Table 7: Effects on Students' Credit and Delinquency Outcomes by June 2018

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Probability to have credit records</i>				
Treatment	-0.008 (0.010)	-0.049* (0.029)	-0.031** (0.015)	0.003 (0.011)
Number of Observations	9028	543	2035	6117
Number of Schools	296	176	270	296
R-squared	0.063	0.241	0.091	0.062
Mean in Control	0.227	0.155	0.190	0.249
<i>B. Probability to have a loan</i>				
Treatment	-0.001 (0.003)	-0.018** (0.009)	-0.009 (0.005)	0.005 (0.004)
Number of Observations	9028	543	2035	6117
Number of Schools	296	176	270	296
R-squared	0.030	0.207	0.080	0.038
Mean in Control	0.031	0.022	0.032	0.032
<i>C. Debt-to-income ratio</i>				
Treatment	-0.264 (0.242)	-0.020 (0.371)	-0.079 (0.144)	-0.132 (0.358)
Number of Observations	6482	303	1295	4506
Number of Schools	294	130	244	290
R-squared	0.028	0.163	0.096	0.041
Mean in Control	1.260	0.406	0.434	1.505
<i>D. Probability to have a loan in arrears</i>				
Treatment	0.001 (0.001)		0.001 (0.002)	0.001 (0.002)
Number of Observations	9028		2035	6117
Number of Schools	296		270	296
R-squared	0.025		0.106	0.035
Mean in Control	0.005		0.004	0.006
<i>E. Probability to have a non-credit bill in arrears</i>				
Treatment	0.006** (0.002)	-0.005 (0.007)	0.008* (0.004)	0.007** (0.003)
Number of Observations	9028	543	2035	6117
Number of Schools	296	176	270	296
R-squared	0.020	0.160	0.062	0.026
Mean in Control	0.019	0.011	0.013	0.021

NOTE: Students' credit and default outcomes measured in June 2018. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%; †† 5%; ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week.

Table 8: Effects on Students' Credit and Delinquency Outcomes by June 2019

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Probability to have credit records</i>				
Treatment	-0.021***† (0.008)	-0.065***† † † (0.016)	-0.006 (0.009)	-0.021** (0.010)
Number of Observations	15424	2024	6199	7120
Number of Schools	296	272	296	296
R-squared	0.043	0.091	0.044	0.047
Mean in Control	0.209	0.157	0.164	0.263
<i>B. Probability to have a loan</i>				
Treatment	-0.004 (0.003)	-0.016** (0.008)	0.001 (0.003)	-0.005 (0.005)
Number of Observations	15424	2024	6199	7120
Number of Schools	296	272	296	296
R-squared	0.026	0.079	0.033	0.039
Mean in Control	0.045	0.039	0.029	0.061
<i>C. Debt-to-income ratio</i>				
Treatment	-1.230** (0.566)	-2.293 (1.511)	-0.018 (0.739)	-2.267** (0.972)
Number of Observations	11264	1367	4436	5304
Number of Schools	294	244	290	292
R-squared	0.015	0.097	0.038	0.032
Mean in Control	3.474	3.843	2.255	4.486
<i>D. Probability to have a loan in arrears</i>				
Treatment	0.000 (0.001)	-0.002 (0.004)	0.004* (0.002)	-0.001 (0.002)
Number of Observations	15424	2024	6199	7120
Number of Schools	296	272	296	296
R-squared	0.010	0.059	0.024	0.020
Mean in Control	0.013	0.012	0.007	0.019
<i>E. Probability to have a non-credit bill in arrears</i>				
Treatment	-0.001 (0.002)	-0.009 (0.006)	0.003 (0.003)	-0.002 (0.004)
Number of Observations	15424	2024	6199	7120
Number of Schools	296	272	296	296
R-squared	0.021	0.057	0.029	0.029
Mean in Control	0.036	0.024	0.020	0.053

NOTE: Students' credit and default outcomes measured in June 2019. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%; †† 5%; ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week.

Table 9: Effects on Students' Credit and Delinquency Outcomes by June 2019, Piura

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Probability to have credit records</i>				
Treatment	-0.059**†† (0.022)	-0.149***††† (0.036)	-0.054*†† (0.028)	-0.037 (0.025)
Number of Observations	3486	494	1405	1587
Number of Schools	56	56	56	56
R-squared	0.070	0.132	0.066	0.067
Mean in Control	0.254	0.236	0.197	0.311
<i>B. Probability to have a loan</i>				
Treatment	-0.020**†† (0.008)	-0.056**†† (0.022)	-0.023***††† (0.007)	-0.012 (0.013)
Number of Observations	3486	494	1405	1587
Number of Schools	56	56	56	56
R-squared	0.028	0.079	0.035	0.044
Mean in Control	0.071	0.074	0.051	0.089
<i>C. Debt-to-income ratio</i>				
Treatment	-2.975***†† (0.934)	-6.783***†† (2.265)	-3.122***††† (1.141)	-2.573 (1.821)
Number of Observations	2481	312	935	1204
Number of Schools	56	50	54	56
R-squared	0.019	0.123	0.070	0.027
Mean in Control	5.107	6.596	3.359	6.235
<i>D. Probability to have a loan in arrears</i>				
Treatment	0.001 (0.004)	-0.007 (0.009)	-0.005 (0.005)	0.006 (0.007)
Number of Observations	3486	494	1405	1587
Number of Schools	56	56	56	56
R-squared	0.012	0.068	0.018	0.030
Mean in Control	0.018	0.023	0.012	0.021
<i>E. Probability to have a non-credit bill in arrears</i>				
Treatment	0.001 (0.006)	-0.009 (0.015)	-0.007 (0.009)	0.012 (0.008)
Number of Observations	3486	494	1405	1587
Number of Schools	56	56	56	56
R-squared	0.019	0.062	0.023	0.027
Mean in Control	0.040	0.027	0.027	0.056

NOTE: Subsample of students in Piura. Students' credit and default outcomes measured in June 2019. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%; †† 5%; ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week.

Table 10: Effect on Teachers' Financial Literacy

	Financial Literacy (1)
Treatment	0.320*** (0.100)
Number of Observations	417
Number of Schools	250
R-squared	0.367
Mean in Control	0.025

NOTE: Teachers' financial literacy exam score is measured at the end of the 2016 academic year. Scores are standardized relative to the control group in the original experimental sample with 282 schools with teacher exit survey and exam records. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%). OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include sex, type of contract, total hours teaching, experience, degree in social sciences, and postgraduate studies.

Table 11: Effects on Teachers' Financial Autonomy and Savings Behavior

	Financial Autonomy (1)	Total (2)	Savings Formal (3)	Informal (4)
Treatment	0.130† (0.095)	0.087***†† (0.035)	0.140***†† (0.048)	0.080*†† (0.042)
Number of Observations	347	334	376	334
Number of Schools	214	214	232	214
R-squared	0.330	0.410	0.313	0.422
Mean in Control	0.017	0.839	0.638	0.770

NOTE: Teachers' financial autonomy and savings behavior measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%; †† 5%; ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include sex, type of contract, total hours teaching, experience, degree in social sciences, and postgraduate studies.

Table 12: Effects on Teachers' Budgeting and Shopping Habits

	Pr(Budgeting) (1)	Saves before buying (2)	Compare (3)	Bargain (4)
Treatment	-0.013 (0.025)	0.053 (0.050)	0.081 (0.051)	-0.064 (0.052)
Number of Observations	331	290	315	315
Number of Schools	212	190	204	204
R-squared	0.426	0.383	0.439	0.432
Mean in Control	0.920	0.740	0.551	0.564

NOTE: Teachers' budgeting and shopping habits measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%; †† 5%; ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include sex, type of contract, total hours teaching, experience, degree in social sciences, and postgraduate studies.

Table 13: Effects on Teachers' Credit and Delinquency Outcomes

	Pr(Records) (1)	Pr(Bank Credit) (2)	Pr(Microcredit) (3)	Pr(Arrears loan) (4)	Pr(Arrears bill) (5)
<i>A. By June 2018</i>					
Treatment	0.005 (0.012)	0.064 (0.043)	-0.001 (0.036)	-0.077** (0.034)	-0.018 (0.038)
Number of Observations	417	417	417	417	417
Number of schools	250	250	250	250	250
R-squared	0.31	0.41	0.38	0.31	0.37
Mean in Control	0.98	0.56	0.27	0.19	0.26
<i>B. By June 2019</i>					
Treatment	0.033** (0.017)	0.014 (0.041)	-0.007 (0.004)	-0.028 (0.033)	0.028 (0.037)
Number of Observations	417	417	417	417	417
Number of schools	250	250	250	250	250
R-squared	0.30	0.40	0.30	0.29	0.32
Mean in Control	0.94	0.54	0.01	0.14	0.22

NOTE: Teachers' credit and default outcomes measured in June 2018 and June 2019. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%; †† 5%; ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include sex, type of contract, total hours teaching, experience, degree in social sciences, and postgraduate studies.

A Appendix

Table A.1: Financial Literacy Lessons in Student Workbooks by Grade

9th grade	10th grade	11th grade
1. Needs and resources 1.1. Wants vs. needs 1.2. Opportunity cost 1.3. Savings vs. credit, expenditure vs. investment 1.4. Economic agents	1. Financial products and services 1.1. Financial system 1.2. Saving vs. Investment 1.3. Assets and liabilities 1.4. Financial future and capacity to pay 1.5. Adequate usage of financial products and services	1. Responsible financial consumer 1.1. Capacity to pay 1.2. Overindebtedness 1.3. Financial consumer's rights 1.4. Protection of consumer rights 1.5. The State and financial stability
2. Budgeting 2.1. Financial plan 2.2. Income and expenses 2.3. Budgeting 2.4. Usefulness of budgets		2. Information 2.1. Transparency in financial contracts 2.2. Consumers' responsibilities

Table A.2: Exposure to the Treatment during 2016, by Grade

	# Sessions	# Weeks	# Hours
9th grade	8	16	32
10th grade	5	12	24
11th grade	7	8	16

NOTE: The numbers above reflect the suggested guidelines provided by the MINEDU to all HGE teachers in treatment schools during the first year of the pilot, 2016.

Table A.3: Hours of Exposure to Financial Education in School-Based Programs Targeting Children and Youth

Paper	Grade at baseline	Age at baseline	Time (hours)
Bruhn et al. (2016)	11	16	72-144
Frisancho (2021)	9-11	15	16-32
Batty et al. (2020)	4	10	20
Becchetti et al. (2013)	12	17	16
Becchetti and Pisani (2012)	12	17	16
Supanantarook et al. (2016)	5-6	12	16
Alan and Ertac (2018)	3	9	16
Hinojosa et al. (2009)	4-10	13	15
Bover et al. (2018)	9	15	10
Luhrmann et al. (2018)	7-8	13-15	4.5
Batty et al. (2015)	4-5	9	4

NOTE: Experimental studies targeting high school students are highlighted in **bold** font.

Table A.4: Balance check in the Endline Sample: Student characteristics

Variable	Control mean	T-C	N
Male	0.498 (0.500)	0.010 (0.013)	19487
Age	15.125 (1.204)	0.018 (0.021)	14149
Works	0.402 (0.490)	-0.004 (0.011)	16795
Ratio of household members to bedrooms	1.849 (0.995)	-0.000 (0.018)	16584
Lives with both parents	0.598 (0.490)	0.007 (0.010)	16773
Asset index	-0.024 (0.994)	-0.033 (0.030)	16868
High level of parental supervision	0.760 (0.427)	0.013 (0.007)*	16000
Has dinner with parents 7 days a week	0.327 (0.469)	-0.004 (0.008)	16914
Truancy in the past 2 weeks	0.140 (0.347)	0.001 (0.006)	16447
Student engagement (scale) - Baseline	0.026 (0.881)	0.007 (0.015)	15237
Impulsiveness	0.012 (0.878)	0.028 (0.013)**	14480
Conscientiousness	0.018 (0.884)	-0.006 (0.015)	13120
Self-control	0.012 (0.879)	0.002 (0.015)	14049
Time inconsistency: hyperbolic	0.125 (0.331)	-0.004 (0.004)	15142
Risk averse	0.708 (0.455)	0.006 (0.006)	15884
No previous exposure to financial education	0.373 (0.484)	-0.017 (0.009)*	15884
Financial literacy raw score (0-15)	8.071 (2.918)	0.089 (0.082)	17055
GPA 2015 (0-20)	13.741 (1.471)	-0.044 (0.041)	17723
Financial autonomy (0-100)	40.875 (12.959)	0.482 (0.207)**	16166
Has a savings account	0.137 (0.343)	0.002 (0.005)	15900
Prepares a personal budget	0.564 (0.496)	-0.014 (0.007)*	15216
Compares prices before shopping	0.043 (0.202)	0.002 (0.004)	15210
Bargains	0.938 (0.241)	-0.000 (0.005)	15210
Talks to parents/tutors about family finance	0.712 (0.453)	-0.001 (0.006)	15441
Helps family with budgeting	0.683 (0.465)	0.006 (0.007)	15405

NOTE: Data from the baseline survey and exam for the sample of students present at the exit survey and exam. Test for joint covariates orthogonality $p - value = 0.5269$. Significance levels (* 10%; ** 5%; *** 1%) captured through OLS estimation accounting for clustered (school) standard errors. Standard errors (deviations) of coefficients (control means) are in parentheses.

Table A.5: Balance check in the Baseline Sample: Student characteristics

Variable	Control mean	T-C	N
Male	0.497 (0.500)	0.010 (0.013)	20619
Age	15.159 (1.221)	0.006 (0.021)	16599
Works	0.401 (0.490)	-0.008 (0.011)	20097
Ratio of household members to bedrooms	1.853 (0.999)	0.006 (0.017)	19812
Lives with both parents	0.588 (0.492)	0.003 (0.009)	20057
Asset index	-0.000 (1.000)	-0.023 (0.029)	20191
High level of parental supervision	0.755 (0.430)	0.007 (0.006)	19141
Has dinner with parents 7 days a week	0.321 (0.467)	-0.001 (0.007)	20246
Truancy in the past 2 weeks	0.156 (0.363)	-0.001 (0.006)	19647
Student engagement (scale) - Baseline	-0.001 (0.883)	0.014 (0.014)	18169
Impulsiveness	-0.003 (0.879)	0.026 (0.013)**	17261
Conscientiousness	-0.002 (0.883)	0.006 (0.014)	15590
Self-control	-0.001 (0.887)	-0.000 (0.014)	16738
Time inconsistency: hyperbolic	0.126 (0.332)	-0.006 (0.004)*	18082
Risk averse	0.706 (0.456)	0.009 (0.006)*	18974
No previous exposure to financial education	0.371 (0.483)	-0.017 (0.009)**	18974
Financial literacy raw score (0-15)	8.029 (2.928)	0.129 (0.077)*	20427
GPA 2015 (0-20)	13.727 (1.483)	-0.034 (0.042)	18228
Financial autonomy (0-100)	40.789 (12.901)	0.424 (0.189)**	19329
Has a savings account	0.137 (0.344)	0.004 (0.005)	19008
Prepares a personal budget	0.565 (0.496)	-0.012 (0.007)*	18165
Compares prices before shopping	0.044 (0.205)	-0.003 (0.004)	18172
Bargains	0.938 (0.241)	0.005 (0.005)	18172
Talks to parents/tutors about family finance	0.709 (0.454)	-0.003 (0.006)	18446
Helps family with budgeting	0.679 (0.467)	0.006 (0.007)	18394

NOTE: Data from the baseline survey and exam for the sample of students present at baseline. Test for joint covariates orthogonality $p - value = 0.5144$. Significance levels (* 10%; ** 5%; *** 1%) captured through OLS estimation accounting for clustered (school) standard errors. Standard errors (deviations) of coefficients (control means) are in brackets.

Table A.6: Balance check: Teacher characteristics

Variable	Control mean	T-C	N
Male	0.577 (0.495)	-0.086 (0.048)	453
Age	46.755 (11.028)	-0.176 (1.077)	432
Undefined contract teacher	0.637 (0.482)	0.021 (0.046)	435
Workload (hours)	0.797 (0.404)	-0.039 (0.043)	379
Years of teaching experience	17.177 (10.217)	0.297 (1.100)	401
Degree in Social Sciences	0.632 (0.484)	0.041 (0.050)	393
Higher education	0.332 (0.472)	0.051 (0.046)	426
Teaches in 9th grade	0.531 (0.500)	0.053 (0.037)	453
Teaches in 10th grade	0.526 (0.501)	0.008 (0.036)	453
Teaches in 11th grade	0.488 (0.501)	0.016 (0.035)	453

NOTE: Data comes from the exit survey and exam. Test for joint covariates orthogonality p -value = 0.5628. Significance levels (* 10%; ** 5%; *** 1%) captured through OLS estimation accounting for clustered (school) standard errors. Standard errors (deviations) of coefficients (control means) are in brackets.

Table A.7: Determinants of Attrition between Baseline and Endline Survey

	All (1)	9th (2)	10th (3)	11th (4)
10th grade	-0.007 (0.016)			
11th grade	-0.020 (0.017)			
Male	0.005 (0.009)	-0.011 (0.015)	-0.008 (0.015)	0.026* (0.015)
Works	0.013 (0.009)	-0.004 (0.014)	0.033** (0.017)	0.016 (0.016)
No previous exposure to financial education	-0.007 (0.010)	-0.003 (0.014)	-0.011 (0.015)	-0.011 (0.017)
Ratio of household members to bedrooms	0.004 (0.004)	-0.007 (0.008)	0.013* (0.008)	0.004 (0.008)
Asset index	0.017*** (0.006)	0.005 (0.010)	0.021** (0.008)	0.025** (0.011)
High level of parental supervision	-0.013 (0.010)	-0.015 (0.017)	-0.026 (0.016)	0.005 (0.018)
Lives with both parents	-0.033*** (0.008)	-0.034** (0.015)	-0.022 (0.015)	-0.043*** (0.015)
Has dinner with parents 7 days a week	-0.011 (0.008)	-0.007 (0.013)	-0.013 (0.015)	-0.006 (0.017)
Baseline financial literacy score	-0.010** (0.005)	-0.006 (0.008)	-0.014* (0.008)	-0.004 (0.008)
Treatment	-0.008 (0.026)	-0.082** (0.036)	0.038 (0.038)	0.111*** (0.038)
Tx10th grade	0.035 (0.024)			
Tx11th grade	0.063** (0.028)			
TxMale	0.007 (0.013)	0.030 (0.022)	0.021 (0.021)	-0.026 (0.021)
TxWorks	0.006 (0.012)	0.017 (0.022)	-0.004 (0.021)	0.004 (0.022)
TxNo previous exposure to financial education	0.006 (0.013)	0.005 (0.020)	0.026 (0.021)	-0.012 (0.022)
TxRatio of household members to bedrooms	0.001 (0.006)	0.015 (0.010)	-0.001 (0.012)	-0.008 (0.011)
TxAsset index	-0.016** (0.008)	0.000 (0.015)	-0.024** (0.010)	-0.021* (0.013)
TxHigh level of parental supervision	-0.030** (0.014)	-0.015 (0.024)	-0.025 (0.024)	-0.057** (0.022)
TxLives with both parents	-0.014 (0.013)	0.012 (0.021)	-0.045** (0.021)	-0.014 (0.022)
TxHas dinner with parents 7 days a week	0.007 (0.011)	0.014 (0.020)	-0.005 (0.020)	-0.002 (0.023)
TxBaseline financial literacy score	-0.004 (0.007)	-0.012 (0.010)	-0.001 (0.012)	-0.002 (0.011)
Number of Observations	16311	5560	5323	5428
Number of schools	296	295	295	296
Mean in Control	0.16	0.17	0.16	0.16
Joint significance of interactions				
F-test	1.64	0.83	1.78	1.36
p-value	0.09	0.59	0.07	0.21

NOTE: Financial literacy exam score is standardized by grade relative to the control group in the original experimental sample of 300 schools. * significant at 10%; ** significant at 5%; *** significant at 1%. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools.

Table A.8: Share of Missing Data by Construct and Survey Round

	Financial Literacy (1)	Financial Autonomy (2)	Saves (3)	Keeps a Budget (4)	Saves Before Buying (5)	Compares Prices (6)	Bargains (7)
<i>A. Baseline Survey</i>							
Treatment	-0.008 (0.008)	-0.011 (0.010)	0.000 (.)	-0.007 (0.010)	-0.005 (0.010)	-0.010 (0.011)	-0.010 (0.011)
Number of Observations	22913	22913	22913	22913	22913	22913	22913
Number of schools	296	296	296	296	296	296	296
Mean in Control	0.11	0.16	0.00	0.21	0.19	0.21	0.21
R-squared	0.05	0.07	.	0.05	0.06	0.06	0.06
<i>B. Endline Survey</i>							
Treatment	0.005 (0.008)	0.018 (0.013)	0.000 (.)	-0.001 (0.013)	0.010 (0.013)	0.013 (0.013)	0.013 (0.013)
Number of Observations	22913	22913	22913	22913	22913	22913	22913
Number of schools	296	296	296	296	296	296	296
Mean in Control	0.15	0.26	0.00	0.31	0.27	0.29	0.29
R-squared	0.04	0.06	.	0.06	0.06	0.06	0.06

NOTE: Significance levels (* 10%; ** 5%; *** 1%) captured through OLS estimation accounting for clustered (school) standard errors. Standard errors(deviations) of coefficients(control means) are in parentheses.

Table A.9: Determinants of Financial Literacy and Credit Behavior in the Control Group

	Fin Lit	Pr(Records)	Pr(Credit)	Debt-to-income	Pr(Arrears) loans	Pr(Arrears) non-credit bills
	(1)	(2)	(3)	(4)	(5)	(6)
Age	-0.074*** (0.012)	0.060*** (0.005)	0.017*** (0.003)	1.415*** (0.461)	0.007*** (0.002)	0.018*** (0.003)
10th grade	0.098*** (0.035)	0.038*** (0.009)	-0.003 (0.004)	-0.414 (0.856)	-0.005* (0.003)	-0.008** (0.004)
11th grade	0.162*** (0.041)	0.101*** (0.014)	0.016** (0.007)	0.747 (1.344)	0.001 (0.004)	0.010 (0.006)
Male	0.081*** (0.025)	0.001 (0.007)	-0.011*** (0.004)	-1.201 (0.774)	-0.003 (0.002)	-0.004 (0.003)
Self Control	0.041*** (0.013)	-0.002 (0.004)	-0.001 (0.002)	-1.299 (0.848)	-0.001 (0.001)	-0.003* (0.002)
Patient	0.080*** (0.020)	0.000 (0.007)	0.003 (0.003)	1.870** (0.861)	0.002 (0.002)	0.003 (0.003)
GPA	0.293*** (0.022)	0.012** (0.005)	0.000 (0.002)	0.245 (0.438)	-0.001 (0.001)	-0.001 (0.002)
No Previous Fin Ed.	-0.074*** (0.021)	0.006 (0.009)	0.005 (0.004)	0.825 (1.078)	-0.001 (0.002)	-0.001 (0.003)
Works	-0.017 (0.020)	-0.015* (0.008)	0.000 (0.004)	0.573 (0.868)	0.002 (0.002)	0.003 (0.003)
Asset index	0.060*** (0.016)	0.013** (0.006)	-0.002 (0.002)	-0.395 (0.373)	-0.001 (0.001)	-0.000 (0.002)
Household size	0.003 (0.006)	-0.002 (0.002)	-0.001 (0.001)	-0.009 (0.222)	-0.001 (0.001)	-0.001 (0.001)
High level of parental supervision	0.006 (0.021)	0.000 (0.008)	-0.005 (0.004)	0.864 (0.992)	-0.003 (0.002)	0.005 (0.003)
Lives with both parents	-0.002 (0.021)	-0.007 (0.007)	0.003 (0.003)	1.562* (0.865)	0.003 (0.002)	-0.000 (0.003)
Number of Observations	9563	10723	10723	7993	10723	10723
Number of schools	148	148	148	148	148	148
Mean in Control	0.08	0.14	0.03	2.12	0.01	0.02
R-squared	0.16	0.10	0.03	0.01	0.01	0.03

NOTE: Significance levels (* 10%; ** 5%; *** 1%) captured through OLS estimation accounting for clustered (school) standard errors. Standard errors(deviations) of coefficients(control means) are in parentheses.

Table A.10: Effect on Students' Financial Literacy, Excluding Questions from Teachers' Entry Exam

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
Treatment	0.117*** (0.021)	0.192*** (0.031)	0.053* (0.032)	0.120*** (0.032)
Number of Observations	19487	6634	6496	6357
Number of schools	296	296	296	296
R-squared	0.16	0.26	0.17	0.17
Mean in Control	-0.00	-0.00	-0.00	0.00

NOTE: Students' financial literacy exam score measured at the end of the 2016 academic year, including questions elaborated either by Jump\$start or by the author. Scores are standardized by grade relative to the control group in the original experimental sample of 300 schools. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%). OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control.

Table A.11: Effects on Students' Financial Literacy, ATT

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
Treatment	0.198*** (0.029)	0.214*** (0.042)	0.142*** (0.041)	0.251*** (0.040)
Number of Observations	19487	6634	6496	6357
Number of Schools	296	296	296	296
R-squared	0.227	0.301	0.279	0.227
Mean in Control	-0.005	-0.007	-0.010	0.001

NOTE: Students' financial literacy exam score measured at the end of the 2016 academic year. Scores are standardized by grade relative to the control group in the original experimental sample of 300 schools. School pairs with incomplete survey records for at least one school are excluded from estimation. Effective treatment is defined as a dummy equal to one if at least one of the teachers attended one or more of the training sessions and it is instrumented with random assignment to the treatment group. Stars denote significance levels (* 10%; ** 5%; *** 1%). OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control.

Table A.12: Effects on Students' GPAs by Subject, 2016 Academic Year, ATT

	Global	9th Grade	10th Grade	11th Grade
	(1)	(2)	(3)	(4)
<i>A. Global</i>				
Treatment	-0.018 (0.017)	-0.031 (0.022)	-0.040* (0.021)	0.032 (0.024)
Number of Observations	21335	7134	7080	7121
Number of Schools	296	296	296	296
R-squared	0.854	0.855	0.861	0.874
Mean in Control	-0.026	-0.010	-0.044	-0.023
<i>B. Math</i>				
Treatment	-0.012 (0.023)	-0.033 (0.030)	-0.056* (0.032)	0.068* (0.037)
Number of Observations	21335	7134	7080	7121
Number of Schools	296	296	296	296
R-squared	0.669	0.703	0.698	0.694
Mean in Control	-0.022	-0.009	-0.038	-0.020
<i>C. Verbal</i>				
Treatment	0.039* (0.022)	-0.020 (0.034)	0.073* (0.037)	0.076** (0.034)
Number of Observations	21335	7134	7080	7121
Number of Schools	296	296	296	296
R-squared	0.693	0.728	0.721	0.731
Mean in Control	-0.024	-0.010	-0.042	-0.020
<i>D. History, Geography, and Economics</i>				
Treatment	0.006 (0.025)	0.008 (0.036)	0.009 (0.034)	0.008 (0.043)
Number of Observations	21335	7134	7080	7121
Number of Schools	296	296	296	296
R-squared	0.670	0.712	0.706	0.702
Mean in Control	-0.023	-0.010	-0.039	-0.022

NOTE: Note: Students' grades measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Effective treatment is defined as a dummy equal to one if at least one of the teachers attended one or more of the training sessions and it is instrumented with random assignment to the treatment group. Stars denote significance levels (* 10%; ** 5%; *** 1%). Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at the end of the 2015 academic year is also included as a control.

Table A.13: Effects on Students' Aspirations and Grade Progression, ATT

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Promoted to the next grade, 2016</i>				
Treatment	0.007 (0.011)	0.015 (0.015)	-0.016 (0.015)	0.025* (0.013)
Number of Observations	20648	6806	6854	6988
Number of Schools	296	296	296	296
R-squared	0.077	0.096	0.098	0.100
Mean in Control	0.805	0.772	0.801	0.842
<i>B. Highest expected education degree: University</i>				
Treatment	-0.002 (0.007)	0.008 (0.009)	-0.012 (0.011)	-0.004 (0.011)
Number of Observations	19057	6475	6383	6199
Number of Schools	296	296	296	296
R-squared	0.135	0.147	0.141	0.163
Mean in Control	0.833	0.852	0.840	0.807

NOTE: Students' grade progression and college aspirations measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Effective treatment is defined as a dummy equal to one if at least one of the teachers attended one or more of the training sessions and it is instrumented with random assignment to the treatment group. Stars denote significance levels (* 10%; ** 5%; *** 1%). Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control in the case of students' aspirations.

Table A.14: Effects on Students' Financial Autonomy and Savings Behavior, ATT

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Financial Autonomy</i>				
Treatment	0.021 (0.019)	-0.029 (0.034)	-0.003 (0.030)	0.104***† † † (0.032)
Number of Observations	16696	5541	5606	5511
Number of Schools	296	296	292	296
R-squared	0.156	0.172	0.180	0.194
Mean in Control	-0.007	-0.007	-0.001	-0.008
<i>B. Saves</i>				
Treatment	0.014 (0.013)	0.044**†† (0.019)	-0.026 (0.017)	0.029*†† (0.017)
Number of Observations	22913	7724	7643	7546
Number of Schools	296	296	296	296
R-squared	0.075	0.096	0.115	0.092
Mean in Control	0.361	0.353	0.377	0.355

NOTE: Students' financial autonomy and savings behavior measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Effective treatment is defined as a dummy equal to one if at least one of the teachers attended one or more of the training sessions and it is instrumented with random assignment to the treatment group. Stars denote significance levels (* 10%; ** 5%; *** 1%). Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control.

Table A.15: Effects on Students' Budgeting and Shopping Habits, ATT

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Keeps a Budget</i>				
Treatment	0.006 (0.009)	0.020 (0.015)	-0.008 (0.013)	0.003 (0.014)
Number of Observations	15672	5122	5275	5225
Number of Schools	296	294	294	296
R-squared	0.063	0.092	0.075	0.096
Mean in Control	0.642	0.634	0.639	0.652
<i>B. Saves before buying something that cannot be afforded</i>				
Treatment	0.017***†† (0.006)	0.015* (0.008)	0.025***†† (0.008)	0.018**† (0.009)
Number of Observations	16537	5499	5531	5469
Number of Schools	296	296	292	296
R-squared	0.049	0.079	0.078	0.065
Mean in Control	0.928	0.926	0.920	0.937
<i>C. Compares prices before shopping</i>				
Treatment	0.015* (0.009)	0.016 (0.015)	0.002 (0.016)	0.029**† (0.014)
Number of Observations	16053	5297	5384	5337
Number of Schools	296	296	292	296
R-squared	0.046	0.064	0.076	0.068
Mean in Control	0.452	0.456	0.463	0.439
<i>D. Bargains before shopping</i>				
Treatment	0.008 (0.008)	-0.009 (0.014)	0.009 (0.016)	0.033**† (0.014)
Number of Observations	16053	5297	5384	5337
Number of Schools	296	296	292	296
R-squared	0.056	0.073	0.091	0.072
Mean in Control	0.560	0.540	0.565	0.574

NOTE: Students' budgeting and shopping habits measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Effective treatment is defined as a dummy equal to one if at least one of the teachers attended one or more of the training sessions and it is instrumented with random assignment to the treatment group. Stars denote significance levels (* 10%; ** 5%; *** 1%). Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control.

Table A.16: Heterogeneous Treatment Effects on Students' Financial Literacy Score

	FinLit Score at Baseline			Sex		Socioeconomic Status		
	I	II	III	Female	Male	I	II	III
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treatment	0.171*** (0.037)	0.165*** (0.028)	0.136*** (0.030)	0.165*** (0.027)	0.157*** (0.025)	0.120*** (0.035)	0.143*** (0.030)	0.240*** (0.032)
Number of Observations	6142	5607	5248	9517	9530	5713	5631	5370
Number of Schools	294	296	290	288	280	280	296	258
R-squared	0.138	0.112	0.173	0.258	0.229	0.246	0.260	0.252
Mean in Control	-0.446	0.057	0.553	-0.013	0.001	-0.109	0.045	0.139

NOTE: Students' financial literacy exam score measured at the end of the 2016 academic year. Scores are standardized by grade relative to the control group in the original experimental sample of 300 schools. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%). OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control.

Table A.17: Heterogeneous Treatment Effects on Students' Credit and Delinquency Outcomes by June 2019

	Score at Baseline			Sex		Socioeconomic Status		
	I	II	III	Female	Male	I	II	III
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>A. Probability to have credit records</i>								
Treatment	-0.021** (0.010)	-0.036***† † † (0.011)	-0.006 (0.013)	-0.024**† † (0.009)	-0.014 (0.010)	-0.044***† † † (0.013)	-0.016 (0.011)	-0.001 (0.011)
Number of Observations	4830	4379	4392	7448	7631	4696	4499	4144
Number of Schools	294	296	288	286	280	272	296	244
R-squared	0.066	0.073	0.068	0.060	0.048	0.078	0.062	0.053
Mean in Control	0.189	0.210	0.206	0.206	0.210	0.203	0.188	0.215
<i>B. Probability to have a loan</i>								
Treatment	-0.004 (0.004)	-0.002 (0.004)	-0.008 (0.005)	-0.001 (0.004)	-0.005 (0.004)	-0.018***† † † (0.005)	0.002 (0.005)	0.002 (0.004)
Number of Observations	4830	4379	4392	7448	7631	4696	4499	4144
Number of Schools	294	296	288	286	280	272	296	244
R-squared	0.049	0.052	0.055	0.039	0.032	0.045	0.044	0.050
Mean in Control	0.043	0.037	0.043	0.051	0.039	0.054	0.042	0.029
<i>C. Debt/income ratio</i>								
Treatment	-2.027** (0.978)	0.309 (1.608)	-0.614 (0.596)	-2.127***† † † (0.675)	-0.709 (0.981)	-2.425† † (1.501)	-1.195 (1.098)	-0.268 (0.736)
Number of Observations	3740	3567	3799	5453	5547	3732	3717	3491
Number of Schools	292	292	280	282	278	270	294	234
R-squared	0.049	0.072	0.076	0.028	0.030	0.034	0.043	0.028
Mean in Control	3.585	3.173	2.836	4.073	2.967	4.946	3.870	1.487
<i>D. Probability to have a loan in arrears</i>								
Treatment	-0.002 (0.002)	0.002 (0.002)	-0.004* (0.002)	0.000 (0.002)	0.001 (0.002)	-0.008***† † † (0.003)	0.001 (0.003)	0.003 (0.003)
Number of Observations	4830	4379	4392	7448	7631	4696	4499	4144
Number of Schools	294	296	288	286	280	272	296	244
R-squared	0.035	0.036	0.036	0.024	0.023	0.023	0.035	0.027
Mean in Control	0.014	0.011	0.012	0.014	0.012	0.016	0.010	0.011
<i>E. Probability to have a non-credit bill in arrears</i>								
Treatment	-0.002 (0.005)	-0.000 (0.004)	-0.003 (0.004)	-0.007***† † (0.003)	0.004 (0.003)	-0.008*† † (0.005)	0.001 (0.004)	0.003 (0.004)
Number of Observations	4830	4379	4392	7448	7631	4696	4499	4144
Number of Schools	294	296	288	286	280	272	296	244
R-squared	0.039	0.040	0.049	0.035	0.030	0.043	0.046	0.040
Mean in Control	0.040	0.028	0.031	0.037	0.035	0.038	0.033	0.030

NOTE: Students' credit and default outcomes measured in June 2019. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. Effective treatment is defined as a dummy equal to one if at least one of the teachers attended one or more of the training sessions and it is instrumented with random assignment to the treatment group. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week.

Table A.18: Effects on Teachers' Financial Literacy,
ATT

Financial Literacy	
	(1)
Treatment	0.460*** (0.119)
Number of Observations	417
Number of Schools	250
R-squared	0.372
Mean in Control	0.025

NOTE: Teachers' financial literacy exam score is measured at the end of the 2016 academic year. Scores are standardized relative to the control group in the original experimental sample with 282 schools with teacher exit survey and exam records. School pairs with incomplete survey records for at least one school are excluded from estimation. Effective treatment is defined as a dummy equal to one if the teacher taught at least one lesson in the classroom and it is instrumented with random assignment to the treatment group. Stars denote significance levels (* 10%; ** 5%; *** 1%). OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include sex, type of contract, total hours teaching, experience, degree in social sciences, and postgraduate studies.

Table A.19: Effects on Teachers' Financial Autonomy and Savings Behavior, ATT

	Financial Autonomy	Savings		
	(1)	Total (2)	Formal (3)	Informal (4)
Treatment	0.176*†† (0.106)	0.118***††† (0.038)	0.195***††† (0.055)	0.109***†† (0.047)
Number of Observations	347	334	376	334
Number of Schools	214	214	232	214
R-squared	0.330	0.402	0.315	0.413
Mean in Control	0.017	0.839	0.638	0.770

NOTE: Teachers' financial autonomy and savings behavior measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Effective treatment is defined as a dummy equal to one if the teacher taught at least one lesson in the classroom and it is instrumented with random assignment to the treatment group. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%; †† 5%; ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include sex, type of contract, total hours teaching, experience, degree in social sciences, and postgraduate studies.

Table A.20: Effects on Teachers' Budgeting and Shopping Habits, ATT

	Pr(Budgeting)	Saves before buying	Compare	Bargain
	(1)	(2)	(3)	(4)
Treatment	-0.017 (0.027)	0.068 (0.052)	0.107** (0.053)	-0.084 (0.055)
Number of Observations	331	290	315	315
Number of Schools	212	190	204	204
R-squared	0.426	0.380	0.433	0.421
Mean in Control	0.920	0.740	0.551	0.564

NOTE: Teachers' budgeting and shopping habits measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Effective treatment is defined as a dummy equal to one if the teacher taught at least one lesson in the classroom and it is instrumented with random assignment to the treatment group. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%; †† 5%; ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include sex, type of contract, total hours teaching, experience, degree in social sciences, and postgraduate studies.

Table A.21: Determinants of the Probability to Teach the Financial Education Lessons

	Pr(cover most lessons) (1)	Pr(cover some lessons) (2)
Sex	0.002 (0.059)	0.034 (0.063)
Age	-0.002 (0.002)	0.001 (0.003)
Staff contract	0.050 (0.084)	0.055 (0.087)
Teaching burden (more than 25h)	-0.076 (0.072)	0.003 (0.072)
Experienced teacher	-0.109 (0.069)	0.004 (0.086)
Degree in social sciences	-0.042 (0.057)	0.014 (0.068)
Average students' initial GPA	0.054 (0.181)	-0.086 (0.206)
Average students' initial financial literacy score	0.031 (0.311)	0.103 (0.349)
Arequipa	-0.082 (0.090)	-0.092 (0.131)
Junin	0.367 (0.104)	0.326 (0.084)
Piura	0.098 (0.090)	0.177 (0.088)
Puno	-0.035 (0.085)	-0.153 (0.122)
San Martin	0.194 (0.136)	0.369 (0.071)
Number of Observations	240	240
Number of schools	144	144
R-squared	0.11	0.14

NOTE: Significance levels (* 10%; ** 5%; *** 1%). OLS estimates, standard errors clustered at the school level are reported in parentheses. Sample of teachers in the treatment group. Based on teachers' self report, covering most lessons implies covering at least 50% of the material in the workbooks, while covering some lessons implies covering at least one lesson of the curriculum.

Table A.22: Effects on Students' Credit and Delinquency Outcomes by June 2019
Sample EQUIFAX 2018

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Probability to have credit records</i>				
Treatment	-0.025***†† (0.009)	-0.061* (0.035)	-0.036** (0.017)	-0.019* (0.011)
Number of Observations	9028	543	2035	6117
Number of Schools	296	176	270	296
R-squared	0.040	0.187	0.088	0.048
Mean in Control	0.257	0.218	0.228	0.276
<i>B. Probability to have a loan</i>				
Treatment	-0.009**† (0.004)	0.000 (0.021)	-0.018** (0.008)	-0.007 (0.005)
Number of Observations	9028	543	2035	6117
Number of Schools	296	176	270	296
R-squared	0.033	0.233	0.082	0.042
Mean in Control	0.062	0.052	0.058	0.066
<i>C. Debt/income ratio</i>				
Treatment	-1.780**† (0.902)	-1.086 (1.343)	1.729 (1.841)	-2.767** (1.210)
Number of Observations	6482	303	1295	4506
Number of Schools	294	130	244	290
R-squared	0.023	0.187	0.096	0.035
Mean in Control	4.874	0.935	3.323	5.107
<i>D. Probability to have a loan in arrears</i>				
Treatment	0.000 (0.002)	0.007 (0.010)	0.002 (0.006)	-0.001 (0.003)
Number of Observations	9028	543	2035	6117
Number of Schools	296	176	270	296
R-squared	0.014	0.238	0.065	0.024
Mean in Control	0.019	0.015	0.015	0.020
<i>E. Probability to have a non-credit bill in arrears</i>				
Treatment	-0.002 (0.004)	-0.001 (0.015)	0.002 (0.008)	-0.001 (0.004)
Number of Observations	9028	543	2035	6117
Number of Schools	296	176	270	296
R-squared	0.023	0.170	0.059	0.031
Mean in Control	0.053	0.041	0.040	0.059

NOTE: Effect on credit outcomes restricting to the EQUIFAX 2018 sample. Students' credit and default outcomes measured in June 2019. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week.

B Online Appendix

B.1 Additional Figures and Tables

Table B.1: Psychometric Properties of the Students' Financial Literacy Exam

Item	Difficulty	Discriminatory	Difficulty	Discriminatory	Difficulty	Discriminatory
1	-2.526***	1.106***	-2.404***	1.406***	-2.404***	1.406***
2	-0.639***	0.863***	-1.025***	0.907***	-1.025***	0.907***
3	-0.360***	1.360***	-0.678***	1.174***	-0.678***	1.174***
4	-0.761***	0.905***	-1.039***	0.914***	-1.039***	0.914***
5	0.567***	0.704***	-0.080***	1.063***	-0.080***	1.063***
6	0.597***	1.555***	0.773***	0.492***	0.773***	0.492***
7	-6.114***	-0.285***	-0.782***	1.606***	-0.782***	1.606***
8	-0.229***	0.951***	-0.990***	1.719***	-0.990***	1.719***
9	4.933***	0.224***	0.117***	0.737***	0.117***	0.737***
10	0.147***	1.468***	2.085***	0.338***	2.085***	0.338***
11	0.070	0.913***	-0.068	0.731***	-0.068	0.731***
12	-0.079***	1.014***	-0.863***	1.773***	-0.863***	1.773***
13	0.501***	1.061***	-0.560***	1.614***	-0.560***	1.614***
14	-0.138***	1.161***	0.121***	1.099***	0.121***	1.099***
15	4.919***	0.278***	1.138***	0.492***	1.138***	0.492***

NOTE: Item-response theory estimates using a two-parameter model with students' baseline data. Significance levels * 10%, ** 5%, *** 1%.

Table B.2: Balance check in the Sample of Students Matched with EQUIFAX Records
by June 2018

Variable	Control mean	T-C	N
Male	0.537 (0.499)	-0.011 (0.013)	7807
Age	16.271 (0.799)	0.013 (0.023)	5543
Works	0.474 (0.499)	-0.014 (0.013)	6586
Ratio of household members to bedrooms	1.818 (0.978)	0.015 (0.023)	6500
Lives with both parents	0.562 (0.496)	0.008 (0.012)	6590
Asset index	-0.119 (0.981)	-0.005 (0.031)	6607
High level of parental supervision	0.718 (0.450)	0.024 (0.010)**	6169
Has dinner with parents 7 days a week	0.293 (0.455)	-0.005 (0.012)	6644
Truancy in the past 2 weeks	0.177 (0.382)	-0.011 (0.009)	6368
Student engagement (scale) - Baseline	-0.009 (0.890)	0.005 (0.022)	5862
Impulsiveness	0.009 (0.881)	0.024 (0.020)	5579
Conscientiousness	-0.002 (0.881)	0.003 (0.021)	5048
Self-control	-0.041 (0.901)	0.039 (0.021)*	5417
Time inconsistency: hyperbolic	0.126 (0.331)	-0.000 (0.007)	5838
Risk averse	0.700 (0.458)	0.004 (0.010)	6182
No previous exposure to financial education	0.364 (0.481)	-0.035 (0.013)***	6173
Financial literacy raw score (0-15)	7.973 (2.776)	0.215 (0.100)**	6708
GPA 2015 (0-20)	13.650 (1.477)	-0.071 (0.048)	7356
Financial autonomy (0-100)	41.114 (13.056)	0.502 (0.304)*	6346
Has a savings account	0.129 (0.335)	0.001 (0.008)	6209
Prepares a personal budget	0.574 (0.495)	-0.008 (0.010)	5982
Compares prices before shopping	0.011 (0.106)	-0.001 (0.002)	6012
Bargains	0.985 (0.123)	0.001 (0.003)	6012
Talks to parents/tutors about family finance	0.720 (0.449)	0.007 (0.010)	6069
Helps family with budgeting	0.688 (0.463)	0.012 (0.010)	6045

NOTE: Data from the baseline survey and exam for the sample of students present at the exit survey and exam. Test for joint covariates orthogonality $p - value = 0.0347$. Significance levels (* 10%; ** 5%; *** 1%) captured through OLS estimation accounting for clustered (school) standard errors. Standard errors (deviations) of coefficients (control means) are in parentheses.

Table B.3: Balance check in the Sample of Students Matched with EQUIFAX Records
by June 2019

Variable	Control mean	T-C	N
Male	0.511 (0.500)	-0.003 (0.013)	13537
Age	15.704 (0.928)	0.000 (0.020)	9722
Works	0.429 (0.495)	-0.005 (0.012)	11581
Ratio of household members to bedrooms	1.837 (0.986)	-0.004 (0.019)	11439
Lives with both parents	0.583 (0.493)	0.010 (0.010)	11594
Asset index	-0.059 (0.990)	-0.022 (0.030)	11643
High level of parental supervision	0.744 (0.436)	0.013 (0.008)*	10934
Has dinner with parents 7 days a week	0.313 (0.464)	-0.013 (0.009)	11676
Truancy in the past 2 weeks	0.157 (0.364)	-0.005 (0.007)	11296
Student engagement (scale) - Baseline	0.017 (0.887)	-0.009 (0.018)	10408
Impulsiveness	0.003 (0.874)	0.029 (0.016)*	9942
Conscientiousness	0.003 (0.885)	-0.004 (0.017)	8957
Self-control	0.004 (0.878)	-0.002 (0.016)	9599
Time inconsistency: hyperbolic	0.129 (0.335)	-0.007 (0.005)	10378
Risk averse	0.706 (0.456)	0.006 (0.007)	10944
No previous exposure to financial education	0.375 (0.484)	-0.027 (0.011)**	10950
Financial literacy raw score (0-15)	8.231 (2.873)	0.153 (0.088)*	11787
GPA 2015 (0-20)	13.700 (1.480)	-0.055 (0.043)	12622
Financial autonomy (0-100)	40.961 (12.928)	0.648 (0.232)***	11190
Has a savings account	0.129 (0.335)	-0.003 (0.006)	10984
Prepares a personal budget	0.569 (0.495)	-0.011 (0.008)	10569
Compares prices before shopping	0.016 (0.126)	-0.001 (0.003)	10607
Bargains	0.977 (0.151)	0.002 (0.003)	10607
Talks to parents/tutors about family finance	0.714 (0.452)	0.002 (0.008)	10703
Helps family with budgeting	0.684 (0.465)	0.008 (0.008)	10688

NOTE: Data from the baseline survey and exam for the sample of students present at the exit survey and exam. Test for joint covariates orthogonality $p - value = 0.1737$. Significance levels (* 10%; ** 5%; *** 1%) captured through OLS estimation accounting for clustered (school) standard errors. Standard errors (deviations) of coefficients (control means) are in parentheses.

Table B.4: Effects on Students' GPAs by Subject in the Total Population of Students in the Experimental Sample of Schools, 2016 Academic Year

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Global</i>				
Treatment	-0.002 (0.011)	-0.007 (0.015)	-0.025 (0.015)	0.025 (0.017)
Number of Observations	54077	18611	17927	17539
Number of Schools	298	298	298	298
R-squared	0.881	0.888	0.886	0.883
Mean in Control	-0.000	-0.000	-0.000	0.000
<i>B. Math</i>				
Treatment	0.001 (0.017)	0.007 (0.025)	-0.045** (0.022)	0.036 (0.024)
Number of Observations	54077	18611	17927	17539
Number of Schools	298	298	298	298
R-squared	0.678	0.707	0.697	0.678
Mean in Control	-0.000	-0.000	0.000	-0.000
<i>C. Verbal</i>				
Treatment	0.022 (0.016)	-0.005 (0.025)	0.012 (0.026)	0.066***†† (0.025)
Number of Observations	54077	18611	17927	17539
Number of Schools	298	298	298	298
R-squared	0.691	0.727	0.713	0.699
Mean in Control	0.000	0.000	0.000	-0.000
<i>D. History, Geography, and Economics</i>				
Treatment	0.003 (0.020)	0.019 (0.030)	-0.005 (0.028)	-0.003 (0.032)
Number of Observations	54077	18611	17927	17539
Number of Schools	298	298	298	298
R-squared	0.663	0.699	0.694	0.675
Mean in Control	-0.000	-0.000	-0.000	-0.000

NOTE: Students' grades measured at the end of the 2016 academic year in the universe of students attending schools in the experimental sample. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%; †† 5%; ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include grade and sex as controls. The value of the dependent variable at the end of the 2015 academic year is also included as a control.

Table B.5: Effects on Students' GPAs by Subject in the Total Population of Students in the Experimental Sample of Schools, 2017 Academic Year

	Global (1)	9th Grade (2)	10th Grade (3)
<i>A. Global</i>			
Treatment	0.013 (0.014)	0.018 (0.018)	0.009 (0.015)
Number of Observations	32827	16171	16584
Number of Schools	298	298	298
R-squared	0.861	0.868	0.865
Mean in Control	0.000	0.000	0.000
<i>B. Math</i>			
Treatment	0.032* (0.019)	0.044* (0.026)	0.023 (0.025)
Number of Observations	32827	16171	16584
Number of Schools	298	298	298
R-squared	0.673	0.690	0.693
Mean in Control	0.000	0.000	0.000
<i>C. Verbal</i>			
Treatment	0.030 (0.021)	0.010 (0.025)	0.052* (0.029)
Number of Observations	32827	16171	16584
Number of Schools	298	298	298
R-squared	0.700	0.731	0.716
Mean in Control	0.000	-0.000	0.000
<i>D. History, Geography, and Economics</i>			
Treatment	0.026 (0.027)	0.013 (0.038)	0.041 (0.039)
Number of Observations	32827	16171	16584
Number of Schools	298	298	298
R-squared	0.682	0.716	0.689
Mean in Control	0.000	0.000	-0.000

NOTE: Students' grades measured at the end of the 2016 academic year in the universe of students attending schools in the experimental sample. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%; †† 5%; ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include grade and sex as controls. The value of the dependent variable at the end of the 2015 academic year is also included as a control.

Table B.6: Effects on Students' Financial Literacy
Sensitivity Analysis with Respect to the Inclusion of Controls

	Global			9th Grade			10th Grade			11th Grade		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Treatment	0.175*** (0.026)	0.158*** (0.023)	0.157*** (0.023)	0.158*** (0.038)	0.172*** (0.033)	0.169*** (0.032)	0.134*** (0.036)	0.115*** (0.034)	0.113*** (0.033)	0.234*** (0.034)	0.199*** (0.032)	0.200*** (0.032)
Number of Observations	19487	19487	19487	6634	6634	6634	6496	6496	6496	6357	6357	6357
Number of Schools	296	296	296	296	296	296	296	296	296	296	296	296
R-squared	0.101	0.221	0.230	0.143	0.296	0.304	0.157	0.274	0.281	0.143	0.220	0.230
Mean in Control	-0.005	-0.005	-0.005	-0.007	-0.007	-0.007	-0.010	-0.010	-0.010	0.001	0.001	0.001
Baseline Level as Control	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Other Controls	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes

NOTE: Students' financial literacy exam score measured at the end of the 2016 academic year. Scores are standardized by grade relative to the control group in the original experimental sample of 300 schools. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels Stars denote significance levels (* 10%; ** 5%; *** 1%). OLS estimates, standard errors clustered at the school level are reported in parentheses. Specifications with controls include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control.

Table B.7: Effects on Students' GPAs by Subject, 2016 Academic Year
Sensitivity Analysis with Respect to the Inclusion of Controls

	Global			9th Grade			10th Grade			11th Grade		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>A. Global</i>												
Treatment	0.091* (0.047)	-0.014 (0.014)	-0.014 (0.014)	-0.047 (0.064)	-0.026 (0.017)	-0.025 (0.018)	0.104 (0.064)	-0.033* (0.017)	-0.032* (0.017)	0.212*** (0.074)	0.025 (0.020)	0.025 (0.019)
Number of Observations	21335	21335	21335	7134	7134	7134	7080	7080	7080	7121	7121	7121
Number of Schools	296	296	296	296	296	296	296	296	296	296	296	296
R-squared	0.273	0.851	0.854	0.469	0.852	0.855	0.408	0.858	0.861	0.375	0.872	0.874
Mean in Control	-0.026	-0.026	-0.026	-0.010	-0.010	-0.010	-0.044	-0.044	-0.044	-0.023	-0.023	-0.023
<i>B. Math</i>												
Treatment	0.076*† (0.041)	-0.009 (0.019)	-0.009 (0.019)	-0.046 (0.058)	-0.025 (0.024)	-0.026 (0.024)	0.077 (0.058)	-0.045* (0.026)	-0.045* (0.026)	0.194***††† (0.064)	0.055* (0.030)	0.054* (0.030)
Number of Observations	21335	21335	21335	7134	7134	7134	7080	7080	7080	7121	7121	7121
Number of Schools	296	296	296	296	296	296	296	296	296	296	296	296
R-squared	0.211	0.665	0.669	0.381	0.700	0.703	0.315	0.695	0.698	0.299	0.690	0.694
Mean in Control	-0.022	-0.022	-0.022	-0.009	-0.009	-0.009	-0.038	-0.038	-0.038	-0.020	-0.020	-0.020
<i>C. Verbal</i>												
Treatment	0.094***† (0.044)	0.031* (0.018)	0.031* (0.018)	-0.032 (0.062)	-0.019 (0.027)	-0.016 (0.027)	0.123** (0.061)	0.058* (0.030)	0.057* (0.030)	0.189***††† (0.068)	0.061** (0.027)	0.060** (0.027)
Number of Observations	21335	21335	21335	7134	7134	7134	7080	7080	7080	7121	7121	7121
Number of Schools	296	296	296	296	296	296	296	296	296	296	296	296
R-squared	0.239	0.687	0.693	0.414	0.722	0.728	0.368	0.714	0.721	0.322	0.725	0.731
Mean in Control	-0.024	-0.024	-0.024	-0.010	-0.010	-0.010	-0.042	-0.042	-0.042	-0.020	-0.020	-0.020
<i>D. History, Geography, and Economics</i>												
Treatment	0.088***† (0.044)	0.004 (0.020)	0.005 (0.020)	-0.042 (0.062)	0.005 (0.029)	0.007 (0.029)	0.102* (0.060)	0.007 (0.028)	0.007 (0.028)	0.199***††† (0.070)	0.005 (0.035)	0.006 (0.034)
Number of Observations	21335	21335	21335	7134	7134	7134	7080	7080	7080	7121	7121	7121
Number of Schools	296	296	296	296	296	296	296	296	296	296	296	296
R-squared	0.243	0.663	0.670	0.415	0.706	0.712	0.363	0.698	0.706	0.339	0.694	0.702
Mean in Control	-0.023	-0.023	-0.023	-0.010	-0.010	-0.010	-0.039	-0.039	-0.039	-0.022	-0.022	-0.022
Baseline Level as Control	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Other Controls	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes

NOTE: Students' grades measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. Specifications with controls include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week.

Table B.8: Effects on Students' GPAs by Subject, 2017 Academic Year
Sensitivity Analysis with Respect to the Inclusion of Controls

	Global			9th Grade			10th Grade		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<i>A. Global</i>									
Treatment	0.074 (0.050)	0.006 (0.016)	0.007 (0.015)	-0.010 (0.066)	0.011 (0.019)	0.015 (0.019)	0.149** (0.066)	0.003 (0.018)	0.003 (0.019)
Number of Observations	12582	12582	12582	6112	6112	6112	6422	6422	6422
Number of Schools	296	296	296	296	296	296	296	296	296
R-squared	0.334	0.825	0.827	0.481	0.833	0.837	0.423	0.840	0.842
Mean in Control	-0.029	-0.029	-0.029	-0.012	-0.012	-0.012	-0.045	-0.045	-0.045
<i>B. Math</i>									
Treatment	0.086* (0.046)	0.031 (0.021)	0.031 (0.021)	0.015 (0.062)	0.040 (0.027)	0.042 (0.027)	0.147**†† (0.062)	0.026 (0.028)	0.025 (0.028)
Number of Observations	12582	12582	12582	6112	6112	6112	6422	6422	6422
Number of Schools	296	296	296	296	296	296	296	296	296
R-squared	0.273	0.669	0.671	0.396	0.692	0.695	0.362	0.701	0.703
Mean in Control	-0.025	-0.025	-0.025	-0.008	-0.008	-0.008	-0.041	-0.041	-0.041
<i>C. Verbal</i>									
Treatment	0.072 (0.046)	0.043* (0.022)	0.043** (0.022)	-0.013 (0.060)	-0.003 (0.026)	0.003 (0.026)	0.149**†† (0.060)	0.087***†† (0.030)	0.086***†† (0.030)
Number of Observations	12582	12582	12582	6112	6112	6112	6422	6422	6422
Number of Schools	296	296	296	296	296	296	296	296	296
R-squared	0.312	0.686	0.692	0.450	0.724	0.733	0.403	0.719	0.724
Mean in Control	-0.037	-0.037	-0.037	-0.018	-0.018	-0.018	-0.056	-0.056	-0.056
<i>D. History, Geography, and Economics</i>									
Treatment	0.040 (0.052)	0.004 (0.027)	0.005 (0.027)	-0.073 (0.066)	-0.027 (0.034)	-0.023 (0.034)	0.150**†† (0.070)	0.036 (0.035)	0.035 (0.035)
Number of Observations	12582	12582	12582	6112	6112	6112	6422	6422	6422
Number of Schools	296	296	296	296	296	296	296	296	296
R-squared	0.296	0.675	0.679	0.445	0.709	0.714	0.378	0.694	0.698
Mean in Control	-0.026	-0.026	-0.026	-0.010	-0.010	-0.010	-0.041	-0.041	-0.041
Baseline Level as Control	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Other Controls	No	No	Yes	No	No	Yes	No	No	Yes

NOTE: Students' grades measured at the end of the 2017 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. Specifications with controls include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week.

Table B.9: Effects on Students' Aspirations and Grade Progression
Sensitivity Analysis with Respect to the Inclusion of Controls

	Global			9th Grade			10th Grade			11th Grade		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>A. Promoted to the next grade, 2016</i>												
Treatment	0.007 (0.009)	0.005 (0.009)	0.005 (0.009)	0.012 (0.012)	0.012 (0.012)	0.012 (0.012)	-0.012 (0.012)	-0.013 (0.012)	-0.013 (0.012)	0.022**† (0.010)	0.019* (0.010)	0.019* (0.010)
Number of Observations	20648	20648	20648	6806	6806	6806	6854	6854	6854	6988	6988	6988
Number of Schools	296	296	296	296	296	296	296	296	296	296	296	296
R-squared	0.043	0.077	0.077	0.072	0.096	0.096	0.068	0.098	0.098	0.071	0.100	0.100
Mean in Control	0.805	0.805	0.805	0.772	0.772	0.772	0.801	0.801	0.801	0.842	0.842	0.842
<i>B. Highest expected education degree: University</i>												
Treatment	-0.002 (0.006)	-0.003 (0.006)	-0.002 (0.005)	0.001 (0.008)	-0.000 (0.008)	0.006 (0.008)	-0.007 (0.010)	-0.008 (0.009)	-0.009 (0.009)	-0.004 (0.010)	-0.001 (0.009)	-0.003 (0.009)
Number of Observations	19057	19057	19057	6475	6475	6475	6383	6383	6383	6199	6199	6199
Number of Schools	296	296	296	296	296	296	296	296	296	296	296	296
R-squared	0.026	0.108	0.135	0.039	0.120	0.147	0.045	0.116	0.141	0.055	0.140	0.163
Mean in Control	0.833	0.833	0.833	0.852	0.852	0.852	0.840	0.840	0.840	0.807	0.807	0.807
Baseline Level as Control	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Other Controls	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes

NOTE: Students' grade progression and college aspirations measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%). OLS estimates, standard errors clustered at the school level are reported in parentheses. Specifications with controls include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control in the case of students' aspirations.

Table B.10: Effects on Students' Financial Autonomy and Savings Behavior
Sensitivity Analysis with Respect to the Inclusion of Controls

	Global			9th Grade			10th Grade			11th Grade		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>A. Financial Autonomy</i>												
Treatment	0.030* (0.016)	0.018 (0.015)	0.016 (0.015)	-0.019 (0.026)	-0.015 (0.027)	-0.023 (0.027)	0.006 (0.027)	-0.003 (0.024)	-0.003 (0.024)	0.112***††† (0.028)	0.087***††† (0.026)	0.083***††† (0.026)
Number of Observations	16696	16696	16696	5541	5541	5541	5606	5606	5606	5511	5511	5511
Number of Schools	296	296	296	296	296	296	292	292	292	296	296	296
R-squared	0.023	0.150	0.156	0.055	0.161	0.172	0.051	0.173	0.180	0.053	0.190	0.195
Mean in Control	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.001	-0.001	-0.001	-0.008	-0.008	-0.008
<i>B. Saves</i>												
Treatment	0.010 (0.011)	0.012 (0.010)	0.011 (0.010)	0.036**†† (0.016)	0.035**†† (0.015)	0.035**†† (0.015)	-0.021 (0.015)	-0.020 (0.014)	-0.021 (0.014)	0.020† (0.014)	0.024*†† (0.014)	0.023*† (0.014)
Number of Observations	22913	22913	22913	7724	7724	7724	7643	7643	7643	7546	7546	7546
Number of Schools	296	296	296	296	296	296	296	296	296	296	296	296
R-squared	0.050	0.072	0.075	0.072	0.093	0.097	0.088	0.111	0.115	0.073	0.089	0.092
Mean in Control	0.361	0.361	0.361	0.353	0.353	0.353	0.377	0.377	0.377	0.355	0.355	0.355
Baseline Level as Control	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Other Controls	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes

NOTE: Students' financial autonomy and savings behavior measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. Specifications with controls include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control.

Table B.11: Effects on Students' Budgeting and Shopping Habits
Sensitivity Analysis with Respect to the Inclusion of Controls

	Global			9th Grade			10th Grade			11th Grade		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>A. Keeps a Budget</i>												
Treatment	0.004 (0.008)	0.005 (0.007)	0.005 (0.007)	0.015 (0.012)	0.012 (0.012)	0.016 (0.012)	−0.006 (0.011)	−0.006 (0.011)	−0.007 (0.011)	−0.002 (0.012)	0.005 (0.012)	0.002 (0.012)
Number of Observations	15672	15672	15672	5122	5122	5122	5275	5275	5275	5225	5225	5225
Number of Schools	296	296	296	294	294	294	294	294	294	296	296	296
R-squared	0.018	0.058	0.063	0.054	0.087	0.093	0.036	0.071	0.075	0.044	0.092	0.096
Mean in Control	0.642	0.642	0.642	0.634	0.634	0.634	0.639	0.639	0.639	0.652	0.652	0.652
<i>B. Saves before buying something that cannot be afforded</i>												
Treatment	0.013***†† (0.005)	0.013***†† (0.005)	0.013***†† (0.005)	0.012* (0.007)	0.011 (0.007)	0.012* (0.007)	0.019***†† (0.007)	0.019***†† (0.007)	0.019***†† (0.007)	0.015***† (0.007)	0.015***† (0.007)	0.014*† (0.007)
Number of Observations	16537	16537	16537	5499	5499	5499	5531	5531	5531	5469	5469	5469
Number of Schools	296	296	296	296	296	296	292	292	292	296	296	296
R-squared	0.037	0.044	0.049	0.067	0.074	0.079	0.063	0.072	0.079	0.056	0.060	0.065
Mean in Control	0.928	0.928	0.928	0.926	0.926	0.926	0.920	0.920	0.920	0.937	0.937	0.937
<i>C. Compares prices before shopping</i>												
Treatment	0.013* (0.007)	0.013* (0.007)	0.012* (0.007)	0.011 (0.012)	0.010 (0.012)	0.013 (0.012)	0.004 (0.013)	0.005 (0.013)	0.002 (0.012)	0.023*† (0.012)	0.023***† (0.012)	0.023***† (0.011)
Number of Observations	16053	16053	16053	5297	5297	5297	5384	5384	5384	5337	5337	5337
Number of Schools	296	296	296	296	296	296	292	292	292	296	296	296
R-squared	0.042	0.043	0.046	0.058	0.061	0.064	0.071	0.072	0.076	0.064	0.065	0.068
Mean in Control	0.452	0.452	0.452	0.456	0.456	0.456	0.463	0.463	0.463	0.439	0.439	0.439
<i>D. Bargains before shopping</i>												
Treatment	0.007 (0.007)	0.006 (0.007)	0.006 (0.007)	−0.003 (0.011)	−0.006 (0.012)	−0.007 (0.011)	0.006 (0.013)	0.006 (0.013)	0.007 (0.012)	0.027***† (0.011)	0.027***† (0.011)	0.026***† (0.011)
Number of Observations	16053	16053	16053	5297	5297	5297	5384	5384	5384	5337	5337	5337
Number of Schools	296	296	296	296	296	296	292	292	292	296	296	296
R-squared	0.050	0.052	0.056	0.065	0.068	0.073	0.086	0.087	0.091	0.070	0.071	0.073
Mean in Control	0.560	0.560	0.560	0.540	0.540	0.540	0.565	0.565	0.565	0.574	0.574	0.574
Baseline Level as Control	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Other Controls	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes

NOTE: Students' budgeting and shopping habits measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. Specifications with controls include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week.

Table B.12: Effects on Students' Credit and Delinquency Outcomes by June 2018
Sensitivity Analysis with Respect to the Inclusion of Controls

	Global		9th Grade		10th Grade		11th Grade	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>A. Probability to have credit records</i>								
Treatment	-0.009 (0.010)	-0.008 (0.010)	-0.044 (0.029)	-0.049* (0.029)	-0.032** (0.016)	-0.031** (0.015)	0.002 (0.011)	0.003 (0.011)
Number of Observations	9028	9028	543	543	2035	2035	6117	6117
Number of Schools	296	296	176	176	270	270	296	296
R-squared	0.040	0.063	0.222	0.241	0.070	0.091	0.050	0.062
Mean in Control	0.227	0.227	0.155	0.155	0.190	0.190	0.249	0.249
<i>B. Probability to have a loan</i>								
Treatment	-0.001 (0.003)	-0.001 (0.003)	-0.017** (0.009)	-0.018** (0.009)	-0.009* (0.006)	-0.009 (0.005)	0.005 (0.004)	0.005 (0.004)
Number of Observations	9028	9028	543	543	2035	2035	6117	6117
Number of Schools	296	296	176	176	270	270	296	296
R-squared	0.023	0.030	0.184	0.207	0.071	0.080	0.031	0.038
Mean in Control	0.031	0.031	0.022	0.022	0.032	0.032	0.032	0.032
<i>C. Debt/income ratio</i>								
Treatment	-0.231 (0.243)	-0.264 (0.242)	-0.116 (0.458)	-0.020 (0.371)	-0.101 (0.154)	-0.079 (0.144)	-0.102 (0.365)	-0.132 (0.358)
Number of Observations	6482	6482	303	303	1295	1295	4506	4506
Number of Schools	294	294	130	130	244	244	290	290
R-squared	0.025	0.028	0.133	0.163	0.086	0.096	0.037	0.041
Mean in Control	1.260	1.260	0.406	0.406	0.434	0.434	1.505	1.505
<i>D. Probability to have a loan in arrears</i>								
Treatment	0.001 (0.001)	0.001 (0.001)			0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)
Number of Observations	9028	9028			2035	2035	6117	6117
Number of Schools	296	296			270	270	296	296
R-squared	0.023	0.025			0.101	0.106	0.031	0.035
Mean in Control	0.005	0.005			0.004	0.004	0.006	0.006
<i>E. Probability to have a non-credit bill in arrears</i>								
Treatment	0.005** (0.002)	0.006**† (0.002)	-0.005 (0.007)	-0.005 (0.007)	0.008* (0.004)	0.008* (0.004)	0.006** (0.003)	0.007** (0.003)
Number of Observations	9028	9028	543	543	2035	2035	6117	6117
Number of Schools	296	296	176	176	270	270	296	296
R-squared	0.017	0.020	0.147	0.160	0.058	0.062	0.023	0.026
Mean in Control	0.019	0.019	0.011	0.011	0.013	0.013	0.021	0.021
Controls	No	Yes	No	Yes	No	Yes	No	Yes

NOTE: Students' credit and default outcomes measured in June 2018. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. Specifications with controls include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week.

Table B.13: Effects on Students' Credit and Delinquency Outcomes by June 2019
Sensitivity Analysis with Respect to the Inclusion of Controls

	Global		9th Grade		10th Grade		11th Grade	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>A. Probability to have credit records</i>								
Treatment	-0.021***†† (0.008)	-0.021***†† (0.008)	-0.066***† † † (0.016)	-0.065***† † † (0.016)	-0.005 (0.009)	-0.006 (0.009)	-0.020** (0.010)	-0.021** (0.010)
Number of Observations	15424	15424	2024	2024	6199	6199	7120	7120
Number of Schools	296	296	272	272	296	296	296	296
R-squared	0.024	0.043	0.087	0.091	0.039	0.044	0.042	0.047
Mean in Control	0.209	0.209	0.157	0.157	0.164	0.164	0.263	0.263
<i>B. Probability to have a loan</i>								
Treatment	-0.004 (0.003)	-0.004 (0.003)	-0.016** (0.008)	-0.016** (0.008)	0.001 (0.003)	0.001 (0.003)	-0.005 (0.005)	-0.005 (0.005)
Number of Observations	15424	15424	2024	2024	6199	6199	7120	7120
Number of Schools	296	296	272	272	296	296	296	296
R-squared	0.019	0.026	0.068	0.079	0.031	0.033	0.035	0.039
Mean in Control	0.045	0.045	0.039	0.039	0.029	0.029	0.061	0.061
<i>C. Debt/income ratio</i>								
Treatment	-1.217**† (0.577)	-1.230**† (0.566)	-2.380 (1.597)	-2.293 (1.511)	0.005 (0.731)	-0.018 (0.739)	-2.345** (1.039)	-2.267** (0.972)
Number of Observations	11264	11264	1367	1367	4436	4436	5304	5304
Number of Schools	294	294	244	244	290	290	292	292
R-squared	0.014	0.015	0.087	0.097	0.035	0.038	0.031	0.032
Mean in Control	3.474	3.474	3.843	3.843	2.255	2.255	4.486	4.486
<i>D. Probability to have a loan in arrears</i>								
Treatment	0.000 (0.001)	0.000 (0.001)	-0.003 (0.004)	-0.002 (0.004)	0.004* (0.002)	0.004* (0.002)	-0.001 (0.002)	-0.001 (0.002)
Number of Observations	15424	15424	2024	2024	6199	6199	7120	7120
Number of Schools	296	296	272	272	296	296	296	296
R-squared	0.008	0.010	0.055	0.059	0.024	0.024	0.019	0.020
Mean in Control	0.013	0.013	0.012	0.012	0.007	0.007	0.019	0.019
<i>E. Probability to have a non-credit bill in arrears</i>								
Treatment	-0.001 (0.002)	-0.001 (0.002)	-0.009 (0.006)	-0.009 (0.006)	0.003 (0.003)	0.003 (0.003)	-0.002 (0.004)	-0.002 (0.004)
Number of Observations	15424	15424	2024	2024	6199	6199	7120	7120
Number of Schools	296	296	272	272	296	296	296	296
R-squared	0.012	0.021	0.053	0.057	0.027	0.029	0.025	0.029
Mean in Control	0.036	0.036	0.024	0.024	0.020	0.020	0.053	0.053
Controls	No	Yes	No	Yes	No	Yes	No	Yes

NOTE: Students' credit and default outcomes measured in June 2019. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. Specifications with controls include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week.

Table B.14: Effects on Students' Credit and Delinquency Outcomes by June 2019, Piura
Sensitivity Analysis with Respect to the Inclusion of Controls

	Global		9th Grade		10th Grade		11th Grade	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>A. Probability to have credit records</i>								
Treatment	-0.059***†† (0.023)	-0.059***†† (0.022)	-0.155***† † † (0.040)	-0.149***† † † (0.036)	-0.055*† (0.029)	-0.054*† (0.028)	-0.035 (0.026)	-0.037 (0.025)
Number of Observations	3486	3486	494	494	1405	1405	1587	1587
Number of Schools	56	56	56	56	56	56	56	56
R-squared	0.046	0.070	0.119	0.132	0.062	0.066	0.060	0.067
Mean in Control	0.254	0.254	0.236	0.236	0.197	0.197	0.311	0.311
<i>B. Probability to have a loan</i>								
Treatment	-0.021***†† (0.008)	-0.020***†† (0.008)	-0.063***† † † (0.022)	-0.056***†† (0.022)	-0.026***† † † (0.008)	-0.023***†† (0.007)	-0.011 (0.014)	-0.012 (0.013)
Number of Observations	3486	3486	494	494	1405	1405	1587	1587
Number of Schools	56	56	56	56	56	56	56	56
R-squared	0.015	0.028	0.062	0.079	0.029	0.035	0.029	0.044
Mean in Control	0.071	0.071	0.074	0.074	0.051	0.051	0.089	0.089
<i>C. Debt/income ratio</i>								
Treatment	-2.846***†† (0.930)	-2.975***†† (0.934)	-7.797***† † † (2.721)	-6.783***† † † (2.265)	-3.353***†† (1.199)	-3.122***†† (1.141)	-2.230 (1.715)	-2.573 (1.821)
Number of Observations	2481	2481	312	312	935	935	1204	1204
Number of Schools	56	56	50	50	54	54	56	56
R-squared	0.011	0.019	0.070	0.123	0.064	0.070	0.019	0.027
Mean in Control	5.107	5.107	6.596	6.596	3.359	3.359	6.235	6.235
<i>D. Probability to have a loan in arrears</i>								
Treatment	0.001 (0.004)	0.001 (0.004)	-0.013 (0.012)	-0.007 (0.009)	-0.005 (0.005)	-0.005 (0.005)	0.007 (0.007)	0.006 (0.007)
Number of Observations	3486	3486	494	494	1405	1405	1587	1587
Number of Schools	56	56	56	56	56	56	56	56
R-squared	0.007	0.012	0.037	0.068	0.016	0.018	0.023	0.030
Mean in Control	0.018	0.018	0.023	0.023	0.012	0.012	0.021	0.021
<i>E. Probability to have a non-credit bill in arrears</i>								
Treatment	0.000 (0.006)	0.001 (0.006)	-0.010 (0.013)	-0.009 (0.015)	-0.007 (0.009)	-0.007 (0.009)	0.011 (0.008)	0.012 (0.008)
Number of Observations	3486	3486	494	494	1405	1405	1587	1587
Number of Schools	56	56	56	56	56	56	56	56
R-squared	0.009	0.019	0.043	0.062	0.020	0.023	0.021	0.027
Mean in Control	0.040	0.040	0.027	0.027	0.027	0.027	0.056	0.056
Controls	No	Yes	No	Yes	No	Yes	No	Yes

NOTE: Subsample of students in Piura. Students' credit and default outcomes measured in June 2019. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. Specifications with controls include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week.

Table B.15: Effect on Teachers' Financial Literacy
Sensitivity Analysis with Respect to the Inclusion of Controls

	Financial Literacy	
	(1)	(2)
Treatment	0.324*** (0.105)	0.320*** (0.100)
Number of Observations	417	417
Number of Schools	250	250
R-squared	0.304	0.367
Mean in Control	0.025	0.025
Controls	No	Yes

NOTE: Teachers' financial literacy exam score is measured at the end of the 2016 academic year. Scores are standardized relative to the control group in the original experimental sample with 282 schools with teacher exit survey and exam records. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%). OLS estimates, standard errors clustered at the school level are reported in parentheses. Specifications with controls include sex, type of contract, total hours teaching, experience, degree in social sciences, and postgraduate studies.

Table B.16: Effects on Teachers' Financial Autonomy and Savings Behavior
Sensitivity Analysis with Respect to the Inclusion of Controls

	Financial Autonomy		Total Savings		Formal Savings		Informal Savings	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treatment	0.105† (0.091)	0.130† (0.095)	0.097***† † † (0.034)	0.087***† † (0.035)	0.157***† † † (0.047)	0.140***† † (0.048)	0.080*† † (0.041)	0.080*† † (0.042)
Number of Observations	347	347	334	334	376	376	334	334
Number of Schools	214	214	214	214	232	232	214	214
R-squared	0.306	0.330	0.380	0.410	0.289	0.313	0.404	0.422
Mean in Control	0.017	0.017	0.839	0.839	0.638	0.638	0.770	0.770
Controls	No	Yes	No	Yes	No	Yes	No	Yes

NOTE: Teachers' financial autonomy and savings behavior measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, † † 5%, † † † 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. Specifications with controls include sex, type of contract, total hours teaching, experience, degree in social sciences, and postgraduate studies.

Table B.17: Effects on Teachers' Budgeting and Shopping Habits
Sensitivity Analysis with Respect to the Inclusion of Controls

	Pr(Budgeting)		Saves before buying		Compare		Bargain	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treatment	0.006 (0.024)	-0.013 (0.025)	0.045 (0.048)	0.053 (0.050)	0.090* (0.049)	0.081 (0.051)	-0.063 (0.050)	-0.064 (0.052)
Number of Observations	331	331	290	290	315	315	315	315
Number of Schools	212	212	190	190	204	204	204	204
R-squared	0.381	0.426	0.366	0.383	0.397	0.439	0.410	0.432
Mean in Control	0.920	0.920	0.740	0.740	0.551	0.551	0.564	0.564
Controls	No	Yes	No	Yes	No	Yes	No	Yes

NOTE: Teachers' budgeting and shopping habits measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. Specifications with controls include sex, type of contract, total hours teaching, experience, degree in social sciences, and postgraduate studies.

Table B.18: Effects on Teachers' Credit and Delinquency Outcomes
Sensitivity Analysis with Respect to the Inclusion of Controls

	Pr(Records)		Pr(Loan)		Total Debt		Pr(Arrears loan)		Pr(Arrears bill)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>A. By June 2018</i>										
Treatment	0.007 (0.012)	0.005 (0.012)	0.035 (0.044)	0.039 (0.043)	422.593 (490.015)	269.565 (471.423)	-0.075** (0.034)	-0.077** (0.034)	-0.028 (0.039)	-0.018 (0.038)
Number of Observations	417	417	417	417	417	417	417	417	417	417
Number of Schools	250	250	250	250	250	250	250	250	250	250
R-squared	0.298	0.305	0.327	0.414	0.336	0.433	0.294	0.310	0.345	0.366
Mean in Control	0.981	0.981	0.626	0.626	4016.365	4016.365	0.194	0.194	0.257	0.257
<i>B. By June 2019</i>										
Treatment	0.032** (0.016)	0.033** (0.017)	0.011 (0.041)	0.010 (0.041)	649.604 (606.212)	466.988 (587.136)	-0.022 (0.032)	-0.028 (0.033)	0.022 (0.037)	0.028 (0.037)
Number of Observations	417	417	417	417	417	417	417	417	417	417
Number of Schools	250	250	250	250	250	250	250	250	250	250
R-squared	0.278	0.304	0.329	0.391	0.279	0.356	0.268	0.293	0.304	0.321
Mean in Control	0.937	0.937	0.549	0.549	3619.894	3619.894	0.141	0.141	0.223	0.223
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

NOTE: Teachers' credit and default outcomes measured in June 2018 and June 2019. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. Specifications with controls include sex, type of contract, total hours teaching, experience, degree in social sciences, and postgraduate studies.

Table B.19: Effects on Students' Financial Literacy
Sample Equifax June 2019

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
Treatment	0.152*** (0.023)	0.150*** (0.044)	0.101*** (0.034)	0.197*** (0.032)
Number of Observations	13537	1749	5502	6196
Number of Schools	296	266	296	296
R-squared	0.230	0.329	0.292	0.232
Mean in Control	-0.038	-0.216	-0.018	0.006

NOTE: Effect on survey outcomes restricting to the EQUIFAX 2019 sample. Students' financial literacy exam score measured at the end of the 2016 academic year. Scores are standardized by grade relative to the control group in the original experimental sample of 300 schools. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%). OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control.

Table B.20: Effects on Students' GPAs by Subject, 2016 Academic Year
Sample Equifax June 2019

	Global	9th Grade	10th Grade	11th Grade
	(1)	(2)	(3)	(4)
<i>A. Global</i>				
Treatment	-0.006 (0.015)	-0.022 (0.023)	-0.033* (0.018)	0.025 (0.020)
Number of Observations	15308	1995	6140	7092
Number of Schools	296	272	296	296
R-squared	0.859	0.836	0.864	0.874
Mean in Control	-0.081	-0.232	-0.084	-0.023
<i>B. Math</i>				
Treatment	0.004 (0.021)	-0.028 (0.033)	-0.041 (0.027)	0.052* (0.030)
Number of Observations	15308	1995	6140	7092
Number of Schools	296	272	296	296
R-squared	0.670	0.673	0.694	0.695
Mean in Control	-0.077	-0.238	-0.078	-0.020
<i>C. Verbal</i>				
Treatment	0.050**†† (0.020)	-0.031 (0.036)	0.068** (0.030)	0.059** (0.027)
Number of Observations	15308	1995	6140	7092
Number of Schools	296	272	296	296
R-squared	0.701	0.704	0.726	0.732
Mean in Control	-0.080	-0.239	-0.083	-0.020
<i>D. History, Geography, and Economics</i>				
Treatment	0.004 (0.023)	-0.024 (0.038)	0.010 (0.028)	0.006 (0.034)
Number of Observations	15308	1995	6140	7092
Number of Schools	296	272	296	296
R-squared	0.672	0.685	0.714	0.702
Mean in Control	-0.072	-0.203	-0.075	-0.022

NOTE: Effect on survey outcomes restricting to the EQUIFAX 2019 sample. Students' grades measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at the end of the 2015 academic year is also included as a control.

Table B.21: Effects on Students' GPAs by Subject, 2017 Academic Year
Sample Equifax June 2019

	Global	9th Grade	10th Grade
	(1)	(2)	(3)
<i>A. Global</i>			
Treatment	0.006 (0.018)	0.014 (0.028)	0.003 (0.019)
Number of Observations	7241	1559	5550
Number of Schools	296	260	296
R-squared	0.822	0.811	0.841
Mean in Control	-0.135	-0.254	-0.088
<i>B. Math</i>			
Treatment	0.033 (0.024)	0.044 (0.037)	0.030 (0.029)
Number of Observations	7241	1559	5550
Number of Schools	296	260	296
R-squared	0.671	0.674	0.701
Mean in Control	-0.128	-0.238	-0.086
<i>C. Verbal</i>			
Treatment	0.058** (0.027)	-0.023 (0.037)	0.084***†† (0.031)
Number of Observations	7241	1559	5550
Number of Schools	296	260	296
R-squared	0.689	0.700	0.720
Mean in Control	-0.136	-0.263	-0.092
<i>D. History, Geography, and Economics</i>			
Treatment	0.021 (0.030)	-0.034 (0.043)	0.033 (0.034)
Number of Observations	7241	1559	5550
Number of Schools	296	260	296
R-squared	0.683	0.703	0.702
Mean in Control	-0.113	-0.201	-0.074

NOTE: Effect on survey outcomes restricting to the EQUIFAX 2019 sample. Students' grades measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at the end of the 2015 academic year is also included as a control.

Table B.22: Effects on Students' Aspirations and Grade Progression
Sample Equifax June 2019

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Promoted to the next grade, 2016</i>				
Treatment	0.003 (0.009)	-0.002 (0.023)	-0.013 (0.013)	0.019* (0.010)
Number of Observations	14822	1839	5938	6959
Number of Schools	296	270	296	296
R-squared	0.094	0.172	0.103	0.100
Mean in Control	0.801	0.687	0.791	0.843
<i>B. Highest expected education degree: University</i>				
Treatment	-0.004 (0.006)	0.010 (0.019)	-0.011 (0.010)	-0.004 (0.009)
Number of Observations	13242	1703	5404	6044
Number of Schools	296	262	296	296
R-squared	0.140	0.183	0.148	0.168
Mean in Control	0.813	0.774	0.831	0.809

NOTE: Effect on survey outcomes restricting to the EQUIFAX 2019 sample. Students' grade progression and college aspirations measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%). Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control in the case of students' aspirations.

Table B.23: Effects on Students' Financial Autonomy and Savings Behavior
Sample Equifax June 2019

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Financial Autonomy</i>				
Treatment	0.036**† (0.017)	−0.009 (0.049)	0.020 (0.026)	0.080***† † † (0.026)
Number of Observations	11674	1388	4742	5382
Number of Schools	296	248	292	296
R-squared	0.165	0.225	0.181	0.198
Mean in Control	−0.025	−0.083	−0.018	−0.008
<i>B. Saves</i>				
Treatment	−0.001 (0.011)	0.013 (0.020)	−0.017 (0.015)	0.014 (0.014)
Number of Observations	15424	2024	6199	7120
Number of Schools	296	272	296	296
R-squared	0.079	0.132	0.121	0.097
Mean in Control	0.370	0.315	0.387	0.371

NOTE: Effect on survey outcomes restricting to the EQUIFAX 2019 sample. Students' financial autonomy and savings behavior measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control.

Table B.24: Effects on Students' Budgeting and Shopping Habits
Sample Equifax June 2019

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Keeps a Budget</i>				
Treatment	0.001 (0.008)	0.032 (0.024)	-0.007 (0.012)	0.001 (0.012)
Number of Observations	11000	1269	4481	5092
Number of Schools	296	244	294	296
R-squared	0.065	0.144	0.076	0.098
Mean in Control	0.642	0.609	0.638	0.652
<i>B. Saves before buying something that cannot be afforded</i>				
Treatment	0.009* (0.005)	0.000 (0.013)	0.013* (0.007)	0.014*† (0.007)
Number of Observations	11544	1383	4673	5335
Number of Schools	296	252	292	296
R-squared	0.052	0.148	0.081	0.066
Mean in Control	0.931	0.931	0.922	0.937
<i>C. Compares prices before shopping</i>				
Treatment	0.014* (0.008)	0.041* (0.023)	0.003 (0.013)	0.018 (0.011)
Number of Observations	11235	1321	4544	5207
Number of Schools	296	246	290	296
R-squared	0.053	0.124	0.087	0.069
Mean in Control	0.444	0.412	0.458	0.440
<i>D. Bargains before shopping</i>				
Treatment	0.016** (0.007)	0.017 (0.023)	0.009 (0.013)	0.030***†† (0.011)
Number of Observations	11235	1321	4544	5207
Number of Schools	296	246	290	296
R-squared	0.061	0.133	0.102	0.073
Mean in Control	0.564	0.527	0.565	0.573

NOTE: Effect on survey outcomes restricting to the EQUIFAX 2019 sample. Students' budgeting and shopping habits measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control.

Table B.25: Effects on Students' Financial Literacy, ATT (Coverage)

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
Treatment	0.254*** (0.036)	0.256*** (0.054)	0.194*** (0.052)	0.277*** (0.049)
Number of Observations	17707	6157	5892	5658
Number of Schools	291	273	268	263
R-squared	0.230	0.303	0.286	0.234
Mean in Control	-0.005	-0.007	-0.010	0.001

NOTE: Students' financial literacy exam score measured at the end of the 2016 academic year. Scores are standardized by grade relative to the control group in the original experimental sample of 300 schools. School pairs with incomplete survey records for at least one school are excluded from estimation. Effective treatment is defined as a dummy equal to one if at least one teacher in the grade declares to have partially or fully covered the curriculum in the classroom. Stars denote significance levels (* 10%; ** 5%; *** 1%). OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control.

Table B.26: Effects on Students' GPAs by Subject, 2016 Academic Year, ATT (Coverage)

	Global	9th Grade	10th Grade	11th Grade
	(1)	(2)	(3)	(4)
<i>A. Global</i>				
Treatment	-0.013 (0.022)	-0.038 (0.029)	-0.022 (0.028)	0.037 (0.030)
Number of Observations	19359	6609	6400	6350
Number of Schools	291	273	268	263
R-squared	0.856	0.861	0.865	0.876
Mean in Control	-0.026	-0.010	-0.044	-0.023
<i>B. Math</i>				
Treatment	-0.015 (0.029)	-0.060 (0.041)	-0.050 (0.041)	0.055 (0.044)
Number of Observations	19359	6609	6400	6350
Number of Schools	291	273	268	263
R-squared	0.675	0.711	0.708	0.704
Mean in Control	-0.022	-0.009	-0.038	-0.020
<i>C. Verbal</i>				
Treatment	0.041 (0.028)	-0.036 (0.045)	0.109** (0.048)	0.046 (0.042)
Number of Observations	19359	6609	6400	6350
Number of Schools	291	273	268	263
R-squared	0.697	0.740	0.731	0.734
Mean in Control	-0.024	-0.010	-0.042	-0.020
<i>D. History, Geography, and Economics</i>				
Treatment	0.040 (0.032)	0.007 (0.048)	0.078* (0.044)	0.039 (0.053)
Number of Observations	19359	6609	6400	6350
Number of Schools	291	273	268	263
R-squared	0.677	0.723	0.719	0.707
Mean in Control	-0.023	-0.010	-0.039	-0.022

NOTE: Students' grades measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Effective treatment is defined as a dummy equal to one if at least one teacher in the grade declares to have partially or fully covered the curriculum in the classroom. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at the end of the 2015 academic year is also included as a control.

Table B.27: Effects on Students' Aspirations and Grade Progression, ATT (Coverage)

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Promoted to the next grade, 2016</i>				
Treatment	0.011 (0.013)	0.012 (0.020)	-0.012 (0.018)	0.038**†† (0.016)
Number of Observations	18761	6323	6200	6238
Number of Schools	291	273	268	263
R-squared	0.075	0.095	0.105	0.102
Mean in Control	0.805	0.772	0.801	0.842
<i>B. Highest expected education degree: University</i>				
Treatment	-0.000 (0.009)	0.013 (0.012)	-0.010 (0.015)	-0.000 (0.014)
Number of Observations	17342	6015	5798	5529
Number of Schools	291	273	268	263
R-squared	0.139	0.154	0.144	0.172
Mean in Control	0.833	0.852	0.840	0.807

NOTE: Students' grade progression and college aspirations measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Effective treatment is defined as a dummy equal to one if at least one teacher in the grade declares to have partially or fully covered the curriculum in the classroom. Stars denote significance levels (* 10%; ** 5%; *** 1%). OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control in the case of students' aspirations.

Table B.28: Effects on Students' Financial Autonomy and Savings Behavior, ATT (Coverage)

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Financial Autonomy</i>				
Treatment	0.044*† (0.024)	-0.014 (0.041)	0.042 (0.040)	0.150***† † † (0.037)
Number of Observations	15245	5148	5147	4912
Number of Schools	291	273	265	263
R-squared	0.163	0.181	0.190	0.207
Mean in Control	-0.007	-0.007	-0.001	-0.008
<i>B. Saves</i>				
Treatment	0.035**† (0.016)	0.065***†† (0.025)	0.003 (0.023)	0.034*† (0.020)
Number of Observations	20742	7123	6898	6721
Number of Schools	291	273	268	263
R-squared	0.077	0.099	0.119	0.103
Mean in Control	0.361	0.353	0.377	0.355

NOTE: Students' financial autonomy and savings behavior measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Effective treatment is defined as a dummy equal to one if at least one teacher in the grade declares to have partially or fully covered the curriculum in the classroom. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week.

Table B.29: Effects on Students' Budgeting and Shopping Habits, ATT (Coverage)

	Global (1)	9th Grade (2)	10th Grade (3)	11th Grade (4)
<i>A. Keeps a Budget</i>				
Treatment	0.010 (0.011)	0.025 (0.018)	0.009 (0.017)	-0.025† (0.017)
Number of Observations	14331	4766	4854	4661
Number of Schools	291	271	266	263
R-squared	0.065	0.098	0.077	0.104
Mean in Control	0.642	0.634	0.639	0.652
<i>B. Saves before buying something that cannot be afforded</i>				
Treatment	0.022***† † † (0.006)	0.011 (0.011)	0.030***† † † (0.010)	0.016**† (0.008)
Number of Observations	15111	5120	5084	4869
Number of Schools	291	273	265	263
R-squared	0.051	0.081	0.077	0.095
Mean in Control	0.928	0.926	0.920	0.937
<i>C. Compares prices before shopping</i>				
Treatment	0.019* (0.011)	0.009 (0.018)	0.003 (0.020)	0.037**† (0.017)
Number of Observations	14676	4936	4952	4753
Number of Schools	291	273	265	263
R-squared	0.048	0.065	0.078	0.076
Mean in Control	0.452	0.456	0.463	0.439
<i>D. Bargains before shopping</i>				
Treatment	0.009 (0.010)	-0.015 (0.018)	0.009 (0.020)	0.032**† (0.016)
Number of Observations	14676	4936	4952	4753
Number of Schools	291	273	265	263
R-squared	0.059	0.075	0.097	0.082
Mean in Control	0.560	0.540	0.565	0.574

NOTE: Students' budgeting and shopping habits measured at the end of the 2016 academic year. School pairs with incomplete survey records for at least one school are excluded from estimation. Effective treatment is defined as a dummy equal to one if at least one teacher in the grade declares to have partially or fully covered the curriculum in the classroom. Stars denote significance levels (* 10%; ** 5%; *** 1%) based on unadjusted p-values. Daggers denote significance levels († 10%, †† 5%, ††† 1%) based on FDR q-values. OLS estimates, standard errors clustered at the school level are reported in parentheses. All specifications include a set of dummy variables that correspond to the matched-pair of schools and the following set of controls: grade, sex, currently working, received financial education lessons in the past, ratio of household members to bedrooms, asset index, high level of parental supervision, lives with both parents, and has dinner with parents each day of the week. The value of the dependent variable at baseline is also included as a control.

B.2 Financial Literacy Exams

B.2.1 Students

NINTH GRADE

1. Rebecca has saved S/ 10,000 in a moneybox at home. Her plan is to enroll in an English course next year and she needs all of the money she saved. Which is the safest place for her money?
 - (a) A closet in her bedroom
 - (b) A bank savings account
 - (c) In the house of a close friend
 - (d) Buying jewelry that she can sell later
2. Under which of the following circumstances would it be financially beneficial to you to borrow money to buy something now and repay it with future income?
 - (a) When you want to give tickets to your parents to travel to Europe
 - (b) When you want to purchase a videogame
 - (c) When you want to buy a motorcycle that would help you to get a job delivering pizza
 - (d) When you want to buy fashion clothes
3. David just found a job with a take-home pay of S/ 2,000 per month. He must pay S/ 1000 for rent and S/ 150 for groceries each month. He also spends S/ 250 per month on transportation and S/ 300 in movie outings and restaurants. How many months will it take him to accumulate savings of S/ 600.
 - (a) 1 month
 - (b) 2 months
 - (c) 3 months
 - (d) 4 months
4. Jose and Manolo work together in the finance department of the same company and earn the same pay. Manolo spends his free time taking work-related classes to improve his computer skills; while Jose spends his free time socializing with friends and working out at a fitness center. After five years, what is likely to be true?
 - (a) Jose will make more because he is more social
 - (b) Jose will make more because Manolo is likely to be laid off
 - (c) Manolo will make more money because he is more valuable to his company
 - (d) Jose and Manolo will continue to make the same money
5. The parents of Rachel told her to get groceries for the week at the supermarket. They gave her a shopping list and S/ 300. At the supermarket, she realized that the total amount she had to pay was S/ 315. Which of the following is the best solution to the problem that Rachel is facing?
 - (a) Give back everything and go back home without any groceries
 - (b) Ask for a discount
 - (c) Leave the chocolate ice cream that was included in the shopping list
 - (d) Borrow S/ 15 from a stranger in the line
6. Ana is mother of two children who attend to primary school; one is 6 and the other 9 years old. Ana is the only one who takes care of the children and has some issues managing her budget. Her friend suggested her to classify her needs by primary and secondary in order to take better financial decisions. Which of these is a secondary need at Ana's home?
 - (a) Buy groceries for the month
 - (b) Pay the rent
 - (c) Buy a TV

- (d) Buy school supplies and uniforms
7. Julio is a house painter. He has been asked to paint a house the next Monday at 8am, but he was planning to help his brother painting his house at the same time the same day. Julio decides to refuse the offer and help his brother. What is the opportunity cost of helping his brother?
- The amount he would have earned if he have accepted the offer
 - A little bit more than the amount he would have earned for painting the house
 - A little bit less than the amount he would have earned for painting the house
 - Julio does not have an opportunity cost for helping his brother
8. In town Q, quinoa is produced but there are no roads that connect this town with the capital of the region, which impedes the transport of the product. Besides affecting the firms that produce quinoa, this problem handicaps the families of Q because the growth of this economic activity creates more and better employment. In your opinion, who is responsible of building a new road that connects town Q to the capital of the region?
- The State because it is responsible of facilitating the infrastructure that is needed to foster economic activities
 - Quinoa firms because they are responsible of assuming the cost of the means that would benefit them directly
 - The inhabitants of town Q because fostering the economic activity triggers the town development
 - The banks of Q. Otherwise, the firms would not be able to pay the loans they have with the banks
9. Which of the following is **NOT** a role that families play in the economy?
- Establish regulatory measures to economic activities
 - Consumption of goods and services offered in the market
 - Be employed by the firms that produce goods and services
 - Require a minimum quality of the goods and services they consume
10. Angelica receives a take-home pay of S/. 1,500 monthly. She has decided to save S/. 100 monthly. Based on this scheme, what should she look for in her monthly plan?
- Her monthly expenditures should not be higher than S/. 1,400
 - Her monthly expenditures should not be higher than S/. 1,500
 - Look for an increase of S/ 100 in her income
 - Her savings should not be higher than S/. 1,500 ?
11. Which of the following is an example of saving?
- Raul is going to buy a car in two years from now. To achieve this, he saves a fraction of his monthly income
 - Raul is going to buy a car in six months from now. To achieve this, he asks for a loan in the bank
 - Raul recently bought a car. To face any emergency, he has purchased an insurance in a financial institution
 - Raul bought a car and rents it to other person. With this, he gets an additional income to spend with his family
12. Mauricio's parents give him S/ 40 weekly. From Monday through Friday he spends S/ 10 in transportation, S/ 7.5 in groceries and S/ 3 in school supplies. On Friday evenings, Mauricio gives Math lessons to his friend and receives S/ 10. How much money left does he have to go out and have fun with his friends on the weekend?
- S/. 29.5
 - S/. 9.5
 - S/. 19.5
 - S/. 40
13. Norma has elaborated a monthly budget in the following way:
Which is the error in Norma's budget?

Total INCOME	S/ 1800
Total EXPENDITURES	S/ 1700
SAVINGS	S/ 200

- (a) Her income is greater than her expenditures
 - (b) Her savings are too low
 - (c) Her expenditures plus savings are greater than her income
 - (d) Her income plus savings are greater than her expenditures
14. Which of the following is an example of investment?
- (a) Diana is going to open a clothing shop with her savings
 - (b) Diana is going to save one half of her salary in the bank
 - (c) Diana is going to buy an insurance in case of an emergency
 - (d) Diana is going to give her savings to her unemployed sister
15. The Rodriguez and The Vera are families that have lived next to each other for several years and have decided to set up a business together. The total income of The Rodriguez is greater than the total income of The Vera. Can we say that The Rodriguez are in better conditions to invest in a new business?
- (a) Yes, because their income is greater
 - (b) No, because we have to calculate the budget and evaluate how much is left after the expenditures of each family
 - (c) No, The Rodriguez can lose everything tomorrow
 - (d) Yes, The Vera cannot invest as much as The Rodriguez in the new business

TENTH GRADE

1. Rebecca has saved S/ 10,000 in a moneybox at home. Her plan is to enroll in an English course next year and she needs all of the money she saved. Which is the safest place for her money?
 - (a) A closet in her bedroom
 - (b) A bank savings account
 - (c) In the house of a close friend
 - (d) Buying jewelry that she can sell later
2. Under which of the following circumstances would it be financially beneficial to you to borrow money to buy something now and repay it with future income?
 - (a) When you want to give tickets to your parents to travel to Europe
 - (b) When you want to purchase a videogame
 - (c) When you want to buy a motorcycle that would help you to get a job delivering pizza
 - (d) When you want to buy fashion clothes
3. David just found a job with a take-home pay of S/ 2,000 per month. He must pay S/ 1000 for rent and S/ 150 for groceries each month. He also spends S/ 250 per month on transportation and S/ 300 in movie outings and restaurants. How many months will it take him to accumulate savings of S/ 600.
 - (a) 1 month
 - (b) 2 months
 - (c) 3 months
 - (d) 4 months
4. Jose and Manolo work together in the finance department of the same company and earn the same pay. Manolo spends his free time taking work-related classes to improve his computer skills; while Jose spends his free time socializing with friends and working out at a fitness center. After five years, what is likely to be true?
 - (a) Jose will make more because he is more social
 - (b) Jose will make more because Manolo is likely to be laid off
 - (c) Manolo will make more money because he is more valuable to his company
 - (d) Jose and Manolo will continue to make the same money
5. Pierina plans to pursue a Master in Finance. However, she does not have enough money to afford it and cannot wait to save because she would lose a year of studies and the possibility of getting a promotion at her job. Which of the following financial products would be the most adequate so that Pierina can afford her postgraduate studies?
 - (a) Savings account
 - (b) Mortgage loan
 - (c) Studies loan
 - (d) Credit card
6. Which of the following stakeholders does **NOT** belong to the financial intermediation process?
 - (a) People that have savings accounts
 - (b) People that have savings in panderos or juntas
 - (c) Banks
 - (d) The State
7. Marta is 20 years old and has been working in a firm for several months. Overall, she feels satisfied with the labor conditions but contributing monthly to the AFP bothers her. Marta does not understand the usefulness of this contribution since she is very young and would prefer to have that money in her hands. What would you say to Marta?

- (a) Her monthly contribution is necessary to guarantee her own pension when she retires
 - (b) Her monthly contribution is necessary to guarantee the pensions of all the people working in her firm
 - (c) Her monthly contribution is not necessary since she is less than 30 years old and she can decide to stop contributing
 - (d) Her monthly contribution is not necessary and she can ask for a reimbursement
8. Which of the following utilizations of a credit card harms the financial system and the society?
- (a) When people use the credit card to pay for a family emergency
 - (b) When people use the credit card to buy things they will not be able to repay in the future
 - (c) When people use the credit card to buy medicines
 - (d) When people use the credit card to buy home appliances
9. Why is the financial system important for the society?
- (a) Because the banks supply products with better conditions for poor people
 - (b) Because it allows people without purchasing power to consume above their income
 - (c) Because it connects people who save with people who need resources in a secure and efficient way
 - (d) Because it increases the earnings of financial entities
10. Franco has decided to save a monthly amount in a financial entity. He has done some research about the annual interest rate that banks pay and the effective annual interest rate (EAIR). These are the results of his research:

Bank	Annual interest rate	EAIR
El Banquito	1.1%	1.2%
La Casa del Dinero	1.1%	1.8%
Nuestro Dinero	1.4%	1.5%

With this information, which bank should Franco choose to open a savings account?

- (a) El Banquito
 - (b) La Casa del Dinero
 - (c) Nuestro Dinero
 - (d) It doesn't matter, all of them offer the same benefits
11. Which of the following is a passive product?
- (a) Credit card
 - (b) Mortgage loan
 - (c) Savings account
 - (d) Consumption credit
12. Monica has S/. 4,000 and has decided to open a pet clinic. Can we say that Monica's decision is an investment?
- (a) Yes, because she is allocating money to an economic activity with the goal of earning more money
 - (b) Yes, because she is allocating money to an activity that will benefit all the dogs in her neighborhood
 - (c) No, because opening a business is a more active form of saving money
 - (d) No, because the money to open the business comes from a loan
13. Which is of the following is **NOT** a responsible management of personal finance?
- (a) Cristina is indebted with a bank and, in order to pay it, she is borrowing money from other bank
 - (b) Cristina is indebted with a bank and, in order to pay it, she is cutting her monthly expenses
 - (c) Cristina has a mortgage debt that is paying monthly for several years
 - (d) Cristina is saving to invest in a business in the future

14. Which of the following is an example of insurance?
- (a) Sebastian has an insurance against accidents in a financial entity
 - (b) Sebastian is saving in a Municipal Bank because he thinks it is a more trustable and secure entity
 - (c) Sebastian has invested his money in his father's business because he feels more secure
 - (d) Sebastian has bought a safe-deposit box to save his money and avoid any risk
15. Celia needs a loan to buy her sewing machine for her atelier. She has visited 3 banks and this is the information she collected about the interest rate and the effective annual cost rate (EACR):

Bank	Annual rate	EACR
Banco para la Microempresa	9%	10.2%
Banca Amiga	8%	10.5%
Banco La Union	8.5%	9.3%

Where should Celia ask for a loan?

- (a) Banco para la Microempresa
- (b) Banca Amiga
- (c) Banco La Union
- (d) It doesn't matter, all of them offer the same benefits

ELEVENTH GRADE

1. Rebecca has saved S/ 10,000 in a moneybox at home. Her plan is to enroll in an English course next year and she needs all of the money she saved. Which is the safest place for her money?
 - (a) A closet in her bedroom
 - (b) A bank savings account
 - (c) In the house of a close friend
 - (d) Buying jewelry that she can sell later
2. Under which of the following circumstances would it be financially beneficial to you to borrow money to buy something now and repay it with future income?
 - (a) When you want to give tickets to your parents to travel to Europe
 - (b) When you want to purchase a videogame
 - (c) When you want to buy a motorcycle that would help you to get a job delivering pizza
 - (d) When you want to buy fashion clothes
3. David just found a job with a take-home pay of S/ 2,000 per month. He must pay S/ 1000 for rent and S/ 150 for groceries each month. He also spends S/ 250 per month on transportation and S/ 300 in movie outings and restaurants. How many months will it take him to accumulate savings of S/ 600.
 - (a) 1 month
 - (b) 2 months
 - (c) 3 months
 - (d) 4 months
4. Jose and Manolo work together in the finance department of the same company and earn the same pay. Manolo spends his free time taking work-related classes to improve his computer skills; while Jose spends his free time socializing with friends and working out at a fitness center. After five years, what is likely to be true?
 - (a) Jose will make more because he is more social
 - (b) Jose will make more because Manolo is likely to be laid off
 - (c) Manolo will make more money because he is more valuable to his company
 - (d) Jose and Manolo will continue to make the same money
5. Nicolas makes S/. 1,800, spends S/. 1,400 to cover basic needs and allocates S/. 100 to savings. Each month, Nicolas knows that he has S/ 300 remaining to spend on entertainment activities. Today Nicolas visited a music store and saw a guitar that cost S/ 200 and he wants to purchase it because he wants to learn how to play one since he was a kid. What would you tell Nicolas?
 - (a) That he has the purchasing power to buy the guitar
 - (b) That he can buy the guitar but he won't be able to save this month
 - (c) That he should not buy the guitar since it wasn't planned in his budget
 - (d) That he should not buy the guitar because it will mess up his finances
6. Credit cards are useful for people since it allows them to satisfy needs during seasons in which they don't have enough purchasing power and enable them to pay for those things later. Which one of these is another benefit of using a credit card responsibly?
 - (a) Having a good credit history, which facilitates the access to better credits
 - (b) Having an important savings level, which helps to cover unexpected expenses
 - (c) Having an intangible fund in case of an unemployment spell
 - (d) Having access to plastic money, which avoids the necessity of having money in the pocket
7. Piero earns S/. 1,200 monthly, of which he spends at least S/. 1,000 to satisfy basic needs. Recently, he saw a TV that he likes, but is very expensive. Piero has found out that he can access to an immediate loan without paperwork, but has to pay S/ 400 monthly for 12 months. What would you recommend to Piero?

- (a) To not accept the loan, because at this moment he has not the purchasing power to pay it
 - (b) He can accept the loan, but he will have to look for another job or ask for a raise
 - (c) To not accept the loan, since a TV is not a good investment
 - (d) He can accept the loan because his income is greater than the monthly payment
8. Melisa needs to send an amount of money to her uncle that lives abroad. She saw in the newspaper that there is a bank that offers international transfers with a flat rate of S/ 2 for any transferred amount. When Melisa went to the bank, she was informed that the flat rate is valid only for those who are indebted with the bank. She looked again the newspaper and noticed that this condition is not specified. Do you think that Melisa's rights as a financial customer are being violated?
- (a) Yes, since the bank is using misleading advertising by omitting important information
 - (b) Yes, since the bank is offering a preferential treatment to those who have an account
 - (c) No, since she doesn't have an account, she simply cannot access the special offer
 - (d) No, because she is being informed that the actual rate S/. 10 and not S/. 2
9. In which situation, is it advisable to make the minimum payment of a credit card?
- (a) Always, to have more cash available
 - (b) In case of an emergency that impedes to make the full monthly payment
 - (c) In a month in which one wants to treat oneself
 - (d) In a month in which one has extra income
10. Three months ago, Brenda got a credit card at a bank. She made sure to read all the contract before signing it. Since then, she has been very responsible with the credit card. However, in her current monthly account, there is a purchase of an insurance that she never asked or authorized. She knows that her rights as consumer have been violated and she wants to present a complaint. Which is the best way to do it?
- (a) Presenting the complaint to the financial entity directly
 - (b) Presenting the complaint to the National Institute of Defense of the Competition and Protection of the Intellectual Property (INDECOPI)
 - (c) Presenting the complaint to the Superintendence of Banks and Insurances (SBS)
 - (d) Presenting the complaint to the Association of Banks of Peru (ASBANC)
11. A year ago, Rodrigo got a loan from bank A and this month he will finish paying it without having any delay in his monthly payments. Rodrigo needs another loan, so he approached to bank B. The bank B checked his credit history by verifying Rodrigo's status in a risk central. When Rodrigo noticed that he was found in the central risk system, he got worried and thought that he wouldn't get the loan from bank B. What would you say to Rodrigo?
- (a) To not worry because if he paid his previous loan to bank A without problems, he has a good credit history which will help him to get the loan from bank B
 - (b) That he has to complain in INDECOPI because he should not be reported in the risk central
 - (c) To not worry because bank B does not use the information of the risk central. They just check it to fulfill the paperwork
 - (d) That bank A made a mistake and that he has to ask them to erase his information from the risk central
12. Select which one of these institutions is in charge of the regulation and supervision of financial entities, insurances and the private pensions system:
- (a) Superintendence of Banks and Insurances (SBS)
 - (b) National Institute of Defense of the Competition and Protection of the Intellectual Property (INDECOPI)
 - (c) Central Bank of Peru (BCRP)
 - (d) Association of Banks of Peru (ASBANC)

13. After several years of saving under the mattress, Susana opened a savings account in the bank. For her bad luck, the bank broke a few months after and she does not know what to do because she is afraid of losing the S/ 30,000 that she had in her account. What would you tell Susana?
- (a) To not worry, because the State will give her back her money
 - (b) To not worry, because her savings are secured with the Secure Deposit Fund (FSD)
 - (c) That she took a risk and pitifully she lost her savings
 - (d) That not everything is lost because she can recover 20
14. Roberto is moving and he is looking for an apartment to rent for the next two years. Recently, he found a place that he likes, but he can afford it with his current salary and savings. Given this, Roberto thinks that each month he could use his credit card to pay the rent. What would you tell Roberto?
- (a) That he won't be able to make it, because the withdrawal of cash is limited using a credit card
 - (b) That what he thinks is not advisable since he does not have enough purchasing power and getting indebted using a credit card is very expensive
 - (c) To do it because the purpose of a credit card is to cover expenses that are not affordable with the monthly income
 - (d) To do it because he won't have to pay interests
15. Alberto has done some purchases with his credit card that were over his purchasing power. The bank that gave him the credit card has blocked it and do not want to give him another loan. Alberto knows that he has a lot of debts but he does not understand the reason of not being able to get another loan because, according to him, he is the only one who is being injured. What would you tell Alberto?
- (a) That the irresponsible use of the credit card also injures the firms, since they won't be able to receive the payment for the products that Alberto acquired
 - (b) That the irresponsible use of the credit card also injures the financial system, since the bank has done some expenses that won't be able to recover
 - (c) That the irresponsible use of the credit card also injures his children because they will have less opportunities due to the debts he has
 - (d) That he is right, nobody, besides him, is injured in this situation

B.2.2 Teachers

1. Rebecca has saved S/ 10,000 in a moneybox at home. Her plan is to enroll in an English course next year and she needs all of the money she saved. Which is the safest place for her money?
 - (a) A closet in her bedroom
 - (b) A bank savings account
 - (c) In the house of a close friend
 - (d) Buying jewelry that she can sell later
2. Under which of the following circumstances would it be financially beneficial to you to borrow money to buy something now and repay it with future income?
 - (a) When you want to give tickets to your parents to travel to Europe
 - (b) When you want to purchase a videogame
 - (c) When you want to buy a motorcycle that would help you to get a job delivering pizza
 - (d) When you want to buy fashion clothes
3. David just found a job with a take-home pay of S/ 2,000 per month. He must pay S/ 1000 for rent and S/ 150 for groceries each month. He also spends S/ 250 per month on transportation and S/ 300 in movie outings and restaurants. How many months will it take him to accumulate savings of S/ 600.
 - (a) 1 month
 - (b) 2 months
 - (c) 3 months
 - (d) 4 months
4. Jose and Manolo work together in the finance department of the same company and earn the same pay. Manolo spends his free time taking work-related classes to improve his computer skills; while Jose spends his free time socializing with friends and working out at a fitness center. After five years, what is likely to be true?
 - (a) Jose will make more because he is more social
 - (b) Jose will make more because Manolo is likely to be laid off
 - (c) Manolo will make more money because he is more valuable to his company
 - (d) Jose and Manolo will continue to make the same money
5. Julio is a house painter. He has been asked to paint a house the next Monday at 8am, but he was planning to help his brother painting his house at the same time the same day. Julio decides to refuse the offer and help his brother. What is the opportunity cost of helping his brother?
 - (a) The amount he would have earned if he have accepted the offer
 - (b) A little bit more than the amount he would have earned for painting the house
 - (c) A little bit less than the amount he would have earned for painting the house
 - (d) Julio does not have an opportunity cost for helping his brother
6. Which of the following is **NOT** a role that families play in the economy?
 - (a) Establish regulatory measures to economic activities
 - (b) Consumption of goods and services offered in the market
 - (c) Be employed by the firms that produce goods and services
 - (d) Require a minimum quality of the goods and services they consume
7. Mauricio's parents give him S/ 40 weekly. From Monday through Friday he spends S/ 10 in transportation, S/ 7.5 in groceries and S/ 3 in school supplies. On Friday evenings, Mauricio gives Math lessons to his friend and receives S/ 10. How much money left does he have to go out and have fun with his friends on the weekend?
 - (a) S/. 29.5
 - (b) S/. 9.5

- (c) S/. 19.5
(d) S/. 40
8. The Rodriguez and The Vera are families that have lived next to each other for several years and have decided to set up a business together. The total income of The Rodriguez is greater than the total income of The Vera. Can we say that The Rodriguez are in better conditions to invest in a new business?
- (a) Yes, because their income is greater
(b) No, because we have to calculate the budget and evaluate how much is left after the expenditures of each family
(c) No, The Rodríguez can lose everything tomorrow
(d) Yes, The Vera cannot invest as much as The Rodriguez in the new business
9. Pierina plans to pursue a Master in Finance. However, she does not have enough money to afford it and cannot wait to save because she would lose a year of studies and the possibility of getting a promotion at her job. Which of the following financial products would be the most adequate so that Pierina can afford her postgraduate studies?
- (a) Savings account
(b) Mortgage loan
(c) Studies loan
(d) Credit card
10. Which of the following utilizations of a credit card harms the financial system and the society?
- (a) When people use the credit card to pay for a family emergency
(b) When people use the credit card to buy things they will not be able to repay in the future
(c) When people use the credit card to buy medicines
(d) When people use the credit card to buy home appliances
11. Franco has decided to save a monthly amount in a financial entity. He has done some research about the annual interest rate that banks pay and the effective annual interest rate (EAIR). These are the results of his research:

Bank	Annual interest rate	EAIR
El Banquito	1.1%	1.2%
La Casa del Dinero	1.1%	1.8%
Nuestro Dinero	1.4%	1.5%

With this information, which bank should Franco choose to open a savings account?

- (a) El Banquito
(b) La Casa del Dinero
(c) Nuestro Dinero
(d) It doesn't matter, all of them offer the same benefits
12. Which of the following is an example of insurance?
- (a) Sebastian has an insurance against accidents in a financial entity
(b) Sebastian is saving in a Municipal Bank because he thinks it is a more trustable and secure entity
(c) Sebastian has invested his money in his father's business because he feels more secure
(d) Sebastian has bought a safe-deposit box to save his money and avoid any risk
13. Nicolas makes S/. 1,800, spends S/. 1,400 to cover basic needs and allocates S/. 100 to savings. Each month, Nicolas knows that he has S/ 300 remaining to spend on entertainment activities. Today Nicolas visited a music store and saw a guitar that cost S/ 200 and he wants to purchase it because he wants to learn how to play one since he was a kid. What would you tell Nicolas?

- (a) That he has the purchasing power to buy the guitar
 - (b) That he can buy the guitar but he won't be able to save this month
 - (c) That he should not buy the guitar since it wasn't planned in his budget
 - (d) That he should not buy the guitar because it will mess up his finances
14. Three months ago, Brenda got a credit card at a bank. She made sure to read all the contract before signing it. Since then, she has been very responsible with the credit card. However, in her current monthly account, there is a purchase of an insurance that she never asked or authorized. She knows that her rights as consumer have been violated and she wants to present a complaint. Which is the best way to do it?
- (a) Presenting the complaint to the financial entity directly
 - (b) Presenting the complaint to the National Institute of Defense of the Competition and Protection of the Intellectual Property (INDECOPI)
 - (c) Presenting the complaint the Superintendence of Banks and Insurances (SBS)
 - (d) Presenting the complaint to the Association of Banks of Peru (ASBANC)
15. Roberto is moving and he is looking for an apartment to rent for the next two years. Recently, he found a place that he likes, but he can afford it with his current salary and savings. Given this, Roberto thinks that each month he could use his credit card to pay the rent. What would you tell Roberto?
- (a) That he won't be able to make it, because the withdrawal of cash is limited using a credit card
 - (b) That what he thinks is not advisable since he does not have enough purchasing power and getting indebted using a credit card is very expensive
 - (c) To do it because the purpose of a credit card is to cover expenses that are not affordable with the monthly income
 - (d) To do it because he won't have to pay interests

B.3 Normalization of GPAs

Using raw GPAs as a performance measure poses several problems since they are not comparable across schools due to differential school quality, grade inflation, grading criteria, among other reasons. To deal with this issue, we construct *school quality normalized* GPAs [Frisancho et al., 2016]. For each subject i in grade g and school s , we define the adjustment factor, A_{igs} :

$$A_{igs} = \frac{\overline{\text{GPA}}_{igs}}{\overline{\text{Exam Score}}_{gs}} \div \frac{\overline{\text{GPA}}_{ig}}{\overline{\text{Exam Score}}_g} \quad (\text{B.1})$$

where $\overline{\text{GPA}}_{igs}$ is the average GPA for subject i in grade g and school s . Similarly, $\overline{\text{Exam Score}}_{gs}$ is the average score in the baseline financial literacy exam for grade g in school s . $\overline{\text{GPA}}_{ig}$ and $\overline{\text{Exam Score}}_g$ are the average GPA for subject j and exam scores for all students in the same grade, irrespective of the school.

The ratio in the numerator in (B.1) should go up if the school is inflating grades relative to its true quality, for example. If the average GPA in math at grade g and school s is 8/10 but the average exam score for these students is only 5/10, grade g in school s is worse than the raw GPAs suggest. After all, since all students in the same grade take the same baseline financial literacy exam and are graded with the same objective criteria, $\overline{\text{Exam Score}}_{gs}$ should be a good proxy for the quality of the school on a unique scale. The ratio in the denominator in (B.1) is just a constant for all the students in the same grade and it takes the adjustment factor by subject to a common scale.

Define the school quality normalized GPA in subject i for student n in grade g and school s as:

$$\text{GPAnorm}_{nigs} = 100 \left(\frac{\widetilde{\text{GPA}}_{nigs}}{\widetilde{\text{GPA}}_{ig}^{\max}} \right)$$

where:

$$\widetilde{\text{GPA}}_{nigs} = \left(\frac{\text{GPA}_{nigs}}{A_{igs}} \right)$$

and $\widetilde{\text{GPA}}_{ig}^{\max}$ is just the maximum $\widetilde{\text{GPA}}_{nigs}$ in a given grade. Notice that this normalization penalizes grade inflation through a higher A_{igs} .